THE RELATIONSHIP BETWEEN KNOWLEDGE, VALUES, SKILLS, ATTITUDE AND SUSTAINABLE PRACTICES TOWARDS WATER CONSERVATION PRACTICES DURING ABLUTION

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DIPLOMA IN INTERNATIONAL BUSSINESS
DEPARTMENT

DECEMBER 2019

POLITEKNIK SULTAN SALAHUDDIN

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A project report submitted in partial fulfillment of the requirement for the award of Diploma in International Business

COMMERCE DEPARTMENT

DECEMBER 2019

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We declare that the work in this final year project paper was carried out in accordance with the regulation of Polytechnic. It is original and is the result of our own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any diploma or qualification.

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ACKNOWLEDGEMENT

In the name of Allah S.W.T Most Beneficent and Most Merciful, Praise and thanks to Allah S.W.T for giving us the strength and patience to complete this study and final report. A special gratitude we give to the head of the project, Dr. Murugadas A/L Ramdas for his full guidance and insight throughout this final report and project.

Also, a big appreciation to our project supervisors, Mr Azizi Mursidy Bin Zainol Abidin and Datin Seri Dr Zainah binti Othman for giving us a lot of guidance, attention, encouragement, and helped to coordinate our project especially to complete this final report and project.

Furthermore, our sincere appreciation and big thanks are dedicated to all the respondents for their valuable feedback. Their willingness to answer the questionnaire in the time given a big meaning and much helpful for us to run this project accordingly. Without their participation, our project cannot be completed smoothly.

We would like to express our grateful and thankful to our colleagues for their support and encouragement during this study. To all those who had direct and indirect involve in completing this project. Last but not least, our greatest appreciation goes to our beloved family for their endless support also with their love, understanding and priceless motivation have brought us to the success that we have.

ABSTRACT

The need to conserve water when performing ablution is highly encouraged among Muslims. The prophet Muhammad pbuh stressed that it is important to save water even when performing ablution. It takes strong self-discipline for one to avoid leaving the tap running while taking ablution. This study investigates on the elements that make people to save water while taking ablution. When green indicators were posted in Kampung Bukit Cherakah Jaya's mosque, 17 cubic meters of water were saved for three consecutive months. Furthermore, the stickers managed to reduce 44% of water consumption for the month of October until December 2019. Therefore, this study aims to examine the relationship between knowledge, values, skills, attitudes and sustainable practices towards the practice of water conservation during performing ablution after the green stickers were posted. This quantitative approach was conducted using census sampling by distributing 505 questionnaires to the Jemaah of the mosque. As a result, a Cronbach alpha of 0.9 was attained which allowed further analysis. A factor analysis was employed to discern the relationship between the independent and dependent variables. A KMO and Bartlett Test of 0.8 and 0.01 were accomplished indicating that the variables used were fit to be in this study framework. Knowledge, sustainable practices showed positive relationship between the practices of water conservation during ablution. In the future, similar studies should be conducted on other mosques with additional variables that contribute to the water saving attitudes.

Key Words: ablution, water conservation and water consumption.

ABSTRAK

Penjimatan air semasa mengambil wuduk amatlah digalakkan sesama muslim. Rasulullah saw sentiasa menekankan akan kepentingan berjimat cermat walaupun dalam urusan mengambil wuduk. Sesungguhnya seorang muslim yang berupaya mengelakkan pembaziran air dari berlaku dengan tidak membiarkan paip terbuka semasa mengambil wuduk, adalah seorang insan yang sangat baik disiplin dirinya. Kajian ini dilakukan dengan membuat siasatan keatas unsur-unsur yang membuatkan seseorang muslim itu menjimatkan penggunaan air semasa berwuduk. Sebaik sahaja pelekat "Save Ablution H2O Visual Booster" dipelekatkan di Masjid Al-Barokah ini, sebanyak 17 meter padu air telah dapat dijimatkan yang mana melibatkan tempoh selama tiga bulan berturut-turut. Ini merupakan penjimatan penggunaan air sebanyak 44% dari bulan Oktober sehingga Disember 2019. Oleh yang demikian, kajian ini berjaya mencapai tujuan asalnya iaitu mencari hubungan diantara pengetahuan, nilai, kemahiran, sikap dan amalan kelestarian terhadap amalan penjimatan air semasa berwuduk setelah pelekat khusus tersebut digunakan. Pendekatan secara kuantitatif digunakan dengan mengedarkan kajiselidik kepada 505 responden yang terdiri daripada Jemaah masjid. Hasil analisa awal, nilai Cronbach alpha adalah sebanyak 0.9. Lebih banyak analisa telah dijalankan. yang mana nwas attained which allowed further analysis. Analisa faktor digunakan bagi mencari hubungkait pembolehubah bersandar dan tidak bersandar. Nilai KMO dan Ujian Bartlett pula adalah 0.8 dan 0.01, menunjukkan pembolehubah yang digunakan adalah sesuai atau "fit" dengan rangka kerja kajian. Dapatan kajian menunjukkan setelah dijalankan semua analisa, pembolehubah tidak bersandar bagi pengetahuan dan amalan kelestarian mempunyai hubungan positif terhadap amalan penjimatan air semasa berwuduk. Ini juga membuktikan bahawa penggunaan pelekat tersebut memberi kesan kepada Jemaah dalam menjimatkan air semasa berwuduk. Oleh yang demikian, kajian seumpama ini boleh diperluas perlaksanaannya kepada masjid-masjid yang lain.

Kata Kunci: Wuduk, penjimatan air dan penggunaan air

TABLE OF CONTENT

POLITEKNIK SULTAN SALAHUDDIN..... I
ABDUL AZIZ SHAH..... I
DECLARATION OF ORIGINALITY..... II
LETTER OF AUTHORIZATION..... IV
ACKNOWLEDGEMENT..... VI
ABSTRACT..... VII
ABSTRAK..... VIII
TABLE OF CONTENT..... IX
LIST OF TABLES..... XII
LIST OF FIGURES..... XIV
LIST OF ABBREVIATION..... XVI
CHAPTER 1 INTRODUCTION..... 1
1.1 Introduction..... 1
1.2 Background of Study..... 1
1.3 Problem Statement..... 2
1.4 Objectives..... 3
1.5 Hypotheses..... 4
1.6 Scope of The Study..... 4
1.7 Significance of The Study..... 5
1.8 Operational Definitions..... 5
1.9 Conclusions..... 7
CHAPTER 2 LITERATURE REVIEW..... 8
2.1 Introduction..... 8
2.2 The Practice of Sustainable Water Consumption..... 8
2.3 Factors Affecting the Sustainable Water Consumption..... 10
2.3.1 Knowledge on Sustainable Water Consumption..... 10
2.3.2 Values on Sustainable Water Consumption..... 11
2.3.3 Skills on Sustainable Water Consumption..... 13
2.3.4 Attitudes on Sustainable Water Consumption..... 14
2.3.5 Sustainable Practices on Water Consumption..... 15
2.4 Ablution in Islam..... 16

2.5 The Importance of Sustainable Water Consumption.....17
2.6 Conclusion.....19
CHAPTER 3 RESEARCH METHODOLOGY.....21
3.1 Introduction.....21
3.2 Research Sampling and Population.....21
3.3 Research Design.....22
3.4 Location.....23
3.5 Research Procedures.....25
3.6 Research Instruments.....26
3.6.1 Section A: Demography.....30
3.6.2 Section B: Knowledge on Sustainable Water Consumption.....31
3.6.3 Section C: Values on Sustainable Water Consumption.....31
3.6.4 Section D: Skills on Sustainable Water Consumption.....32
3.6.5 Section E: Attitudes on Sustainable Water Consumption.....33
3.6.6 Section F: Sustainable Practices on Sustainable Water Consumption.....34
3.6.7 Section G: Practices of Water Conservation During Ablution.....35
3.7 Instrument Validation.....35
3.7.1 Instrument Reliability.....35
3.7.2 Pilot Study.....36
3.8 Methods of Collecting Data.....37
3.9 Methods of Quantitative Data Analysis.....37
3.9.1 Descriptive Analysis.....37
3.9.2 Inferential Analysis.....38
3.9.4 Correlation Analysis.....38
3.9.4 Multiple Regression Analysis.....39
3.10 Conclusion.....39
CHAPTER 4 DATA ANALYSIS AND RESEARCH FINDINGS.....40
4.1 Introduction.....40
4.2 Descriptive Analysis.....40
4.2.1 Respondent Demographic Profile.....41
4.2.2 Central Tendencies Measurement of Constructs.....44
4.3 Measurement Scale.....47
4.4 Pearson Correlation Coefficient.....57

4.5 Normality of Analyses..... 60
4.6 Factor Analysis..... 64
4.7 Multiple Regression Analysis..... 65
4.8 Summary..... 72
CHAPTER 5 CONCLUSION AND RECOMMENDATION..... 73
5.1 Conclusion..... 73
5.2 Recommendation..... 76
REFERENCES..... 77

LIST OF TABLES

NO	TITTLE	PAGE
3.1	Direction on How to Apply The 'Ablution H2O Saver Visual Booster' Sticker	27
3.2	The Amount of Water Consumed by Jemaah During the Ablution	27
3.3	The Section of The Research Instruments and Its Sources	29
3.4	Section A (Research Instrument)	30
3.5	Types of Knowledge Sub Variable	31
3.6	Types of Values Sub Variables	32
3.7	Types of Skills Sub Variables	33
3.8	Types of Attitudes Sub Variables	33
3.9	Types of Practices Sub Variables	34
4.0	Data of Reliability Cronbach's Alpha	36
4.1	Statistical Summary	44
4.2	ANALYSIS AND RELIABLITY	47
4.3	Pearson Coefficient	57
4.4	Normality of Water Conservation During Ablution	60
4.5	Normality of Knowledge	61
4.6	Normality of Values	62
4.7	Normality of Skills	62
4.8	Normality of Attitudes	63
4.9	Normality of Sustainable Practices	64

4.10	KMO and Bartlett's Test	64
4.11	Model Summary	66
4.12	ANOVA	66
4.13	Coeffients	67
4.14	Coefficients	68
4.15	Variance Inflation Values (VIF)(N=505)	70

LIST OF FIGURES

FIG NO.	TITLE	PAGE
3.1	Conceptual Framework	23
3.2	Al Barokah Mosque Management Committee (Source: Al Barokah Mosque, 2019)	24
3.3	Flow Chart of Research Activities	25
3.4	the Ablution H2O Saver Visual Booster	26
4.1	Gender of the Population	41
4.2	Race of the Population	42
4.3	Age of the Population	42
4.4	Education Level of the Population	43
4.5	Normal Q-Q Plot of Water Conservation During Ablution	60
4.6	Normal Q-Q Plot of Knowledge	61
4.7	Normal Q-Q Plot of Values	61
4.8	Q-Q Plot of Skills	62
4.9	Q-Q Plot of Attitudes	63
4.10	Q-Q Plot of Sustainable Practices	64
4.11	Histogram of Dependent Variable	69
4.12	Normal P-P Plot of Regression Standardized	70

Residual

4.13	Scatterplot of Residual Observed value and Predicted value	71

LIST OF ABBREVIATION

SPSS	Statistical Package for the Social Science

CHAPTER 1 INTRODUCTION

1.1 Introduction

This chapter provide information on research project which is conducted in mosque Kampung Bukit Cherakah, Shah Alam, Selangor. The part in this chapter would be the representation on the background of the study, problems statement, objective, hypothesis, scope of the study, significant of the study and operation definition. The outlined implementation on the requirement of the course and the suitability of the programme in the respective polytechnic.

1.2 Background of Study

The consumption of water in mosque falls under the household security dimension as it contributes to the domestic used. In Malaysia the household data recorded that 211 liters water were used daily (Sobian, 2018). On the other hand, World Health Organization recommended the usage to 165 liters per day (Jye, 2017). Average daily water consumption by a Malaysian was currently 300 liters, which is almost, double the benchmark recommended by the United Nations (Bernama, 2016). Clearly, Malaysia has overused of 45 liters water daily and the major contributor to this amount is domestic water consumption which is categorised/ into 30% of the water used outside the house, 19% used in the toilet, 15% for laundry, 12% for bathing, 9% for food and beverage, 9% leakage and 4% for other domestic uses such as cleaning services (Raduan, et. al 2018). The non-domestic consumption was categorized into three, which are the industrial, public uses of water and commercial. For application of water during ablution, it lies under the non-domestic consumption's category of public uses of water such as shops, offices, schools and hospitals (Anang, et. al 2019).

According to Siwar et al. (2014), as he quotes the Global Water Partnership 2012, the social dimension is eminence to build resilience in community during extreme water event through a hard or soft measure. Dolnicar et. al (2012) recently concluded from a literature review that general attitudes toward the environment are important factors that determine water conservation behavior. However, although they found that pro-environmental behavior is associated with less water use, other studies concluded that people who have positive attitudes toward the environment are not necessarily inclined to conserve or use less water (Gilg and Barr 2006). Furthermore, lack of skills to adopt conservation practices may affect the actual water conservation behavior (Isaac, 2018). A study in Australia has found that people who generally have positive attitudes toward the environment are also more inclined to conserve water (Willis et al. 2011). However, although they found that pro-environmental behavior is associated with less water use, other studies concluded that people who have positive attitudes toward the environment are not necessarily inclined to conserve or use less water (Gilg and Barr 2006)

1.3 Problem Statement

Malaysian Muslim knowledge on ablution is very basic and not detailed. a survey has been done to capture the ablution ritual among Muslim society in Malaysia. Most of Muslims show their understanding of performing ablution procedure. Most of them, practicing more than one time while sweep water on compulsory body as required. Ablution ritual in Malaysia was reflected by the human behaviour and only the ablution performing system will able to control their habit in order to reduce of water usage while practicing the ablution.

The management of Al-Barokah mosque in Kampung Bukit Cherakah Jaya is also facing the same dilemma on this issue (Ahmad et. al., 2019). In September 2019, water conservation during ablution program was introduced by applying a specially designed 'The Ablution H2O Saver' sticker on each ablution points available throughout the mosque. Mohd Fauzi et al, (2020), studied on the amount of water consumed during performing ablution at Al-Barokah mosque in Kampung Bukit

Cherakah Jaya mosque showed that after water conservation stickers' were posted at the mosque, for three consecutive months starting from September 2019 until November 2019, the amount of wastage was reduced to only 11.5 cubic meter compared to 40.48 cubic meter water wastage alone in September.

This study helps by employing a simple measure that is performed by Prophet Muhammad when taking an ablution. When the teachings of Prophet Muhammad pbuh was ignored, a huge amount of water was wasted. Mohd Fauzi et al. (2020) indicated that respondents used seven times amount of water than used by Prophet Muhammad. Therefore, this research is conducted to investigate the use of water conservation sticker and its relationship towards the practice of water conservation.

1.4 Objectives

This study aimed at the determination of the relationship between knowledge, values, attitudes, skills and sustainable practices towards the practice of water conservation during ablution at the Al-Barokah Mosque. These are the main objectives of the research: -

I. To determine the relationship between knowledge towards the practice of water conservation during ablution at Al Barokah mosque.

II. To determine the relationship between value towards the practice of water conservation during ablution at Al Barokah mosque.

III. To determine the relationship between skills towards the practice of water conservation during ablution at Al Barokah mosque.

IV. To determine the relationship between attitude towards the practice of water conservation during ablution at Al Barokah mosque.

V. To determine the relationship between sustainable practices towards the practice of water conservation during ablution at Al Barokah mosque

1.5 Hypotheses

These were the hypotheses developed to answer all research objectives that being mentioned earlier.

H1: There is a significant relationship between knowledge and the practice of water conservation during ablution.

H2: There is a significant relationship between skill and the practice of water conservation during ablution.

H3: There is a significant relationship between value and the practice of water conservation during ablution.

H4: There is a significant relationship between attitude and the practice of water conservation during ablution.

H5: There is a significant relationship between the sustainable practice and the practice of water conservation during ablution.

1.6 Scope of The Study

The scope of this study is water consumptions during ablution activities at Al-Barokah mosque. The Jemaah of the mosque who uses the ablution facilities has seen and understand the content of a special sticker known as “Save Ablution H2O Visual Booster” posted at each ablution points throughout the ablution area. However, although they found that pro-environmental behavior is associated with less water use, other studies concluded that people who have positive attitudes toward the environment are not necessarily inclined to conserve or use less water (Gilg and Barr 2006).

1.7 Significance of The Study

This study is important to be carried out as it has the significance to the institution, the community and the body of knowledge. The implementation of the study opens a lot newer research project that can be explored by the academician and students of this polytechnic. This opportunity should be regarded as the benefit of what the institution will get in the future.

Kampung Bukit Cherakah is a small Malay village that located in the area of Shah Alam. It's surrounding is covered with lush greenery of virgin jungle. Even though some part of this area has been developed for industrial and housing sector, the majority of the area is still how it should be. So, this study is crucial in providing knowledge and skills to the community on how to conduct water conservation and self-water audit.

Research on water conservation especially the household water consumption is still need to be carried out. Ablution is part of household activities that consumed water. So, the study on the water conservation during ablution is crucial as the findings from this research will contribute and provide more understanding to the body of knowledge

1.8 Operational Definitions

These are the terms and its operational definitions.

a) Knowledge

According to Oxford online dictionary, knowledge is facts, information, and skills acquired through experience or education.

b) Values

According to Oxford online dictionary, values are the plural noun to value. It means the regard that something is held to deserve; the importance, worth, or usefulness of something.

c) Attitudes

According to Oxford online dictionary, attitudes are the plural noun of attitude. It means as a settled way of thinking or feeling about something.

d) Skills

According to Oxford online dictionary, skills are the noun of skill. It means the ability to do something well; expertise.

e) Sustainability

According to Oxford online dictionary, sustainability means the ability to be maintained at a certain rate or level.

f) Sustainability Practices

According to Oxford online dictionary, practices are the noun of practice. It means the actual application or use of an idea, belief, or method, as opposed to theories relating to it. So, sustainability practices mean the actual application or use of an idea that need to be maintained at a certain rate.

g) Water

According to Oxford online dictionary, water is a colorless, transparent, odorless liquid that forms the seas, lakes, rivers, and rain is the basis of the fluids of living organisms.

h) Water Consumption

According to Oxford online dictionary, consumption means the action of using up a resource. So, water consumption is the action of using up water resource.

i) Water Conservation

According to Oxford online dictionary, conservation means the prevention of wasteful use of a resource. So, water conservation is the prevention of wasteful use of a water resource.

j) Ablution

According to Mokhtar (2003), Ablution is a cleansing ritual or process using water to be applied on a particular body to cleanse itself before performing the prayer.

1.9 Conclusions

The implementation of this research is made within the problem statement, research objectives and research scope that was mentioned earlier throughout the period of four months starting from December 2019 till March 2020. A Gantt chart has been developed for the purpose of monitoring the planning and implementation of research activities. The Gantt chart of the research is shown in appendix A of the report.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

In this chapter, literature review surveys scholarly articles, books and other sources relevant to the particular area of the ablution in Islam, practices of sustainable water consumption, knowledge on water consumption, values on water consumption, skills on water consumption, attitudes on water consumption, sustainable practice in water consumption and water conservation during ablution.

2.2 The Practice of Sustainable Water Consumption

Water plays a very important role in all areas of sustainable development (UNESCO, 2015 in Uma, 2018). Water provides health, well-being, economy and the environment to humanity. (Uma, 2018). Sustainable water management issues are increasingly important due to global population growth, sudden climate change and water scarcity (Sahin et. al. ,2017) but water demand has not increased because of this reason (Novotny et al., 2010 in Uma, 2018) states that urbanization processes and excessive levels of water consumption have also led to increasing water.

The importance of sustaining water resources has become one of the main concerns in Asian Pacific countries. As a proof, five dimensions of water security elements were drafted in 2013 Asian Pacific Water Forum. Asian Water Development Outlook (2013) state that five dimensions highlighted are economic water security, urban water security, household water security, resilience to water related disaster and environmental security Recommendations on policy actions for the countries' leaders to improve water governance and guidance on investments to increase their countries' water security due to increasing water demand because of the increasing population

were discussed thoroughly in the Asian Water Development Outlook (2013). About 670 million of people in Asia have limited access to water supply. Lack of availability and limited access to water have impedes individual and communities from greater social and economic benefits (Siwar, et. al 2014). Water security elements that touch on social dimension is considered important as it can prepare the community to become resilient towards extreme water event Siwar et. al. (2014).

Sustainable water use practices need to be practiced and this is especially important as the issue of water shortage is becoming more serious today (Uma, 2018). The water shortage phenomenon will provide adverse effects on both developed and developing countries. Thus, an increase in awareness and knowledge of conservation activities is necessary to reduce water consumption (Romano et al., 2013). Environmental behaviour involves all positive actions of the environment including the management of natural resources such as water resources. The practice of sustainable water use can maintain clean water supply for present and future use without compromising water sources by minimizing wastage. So, water conservation behavior or sustainable use of water is an important solution addressing water shortage problems (Adams, 2014; Dixon, Butler & Fewkes, 1999 in Uma, 2018)

To create awareness and to develop sustainable water using practices among Malaysians, the government has implemented various plans and water saving tips through the Ministry of Energy, Water and Communications (KeTTHA) and National Water Service Commission (SPAN). (Uma, 2018). SPAN is conducting campaign to develop water consumption practices among Malaysians. Moreover, (Kelly, et. al 2015) mentioned that awareness on water consumption is limited to simple action. Although respondents were aware of the need to save water however the attitude towards conservation did not reflect the saving behaviour (Kelly, et. al 2015). Even in the United Kingdom, people were not aware of the severity of water scarcity issues within the country (Owen, et. al 2009). Whereas in Malaysia, Suratkon et. al (2014) suggested that much water is wasted during the process of performing ablution. This happened when the tap water was left running. This research was trying to demonstrate the practicality of saving the greywater that running free during performing ablution. On the contrary, research conducted by (Prathapar, et. al 2006),

stressed that the amount of water used in the mosque is only 2 liter per day which is not economical to greywater treatment. Al Mamun et. al (2014) also suggested for the recycle of the ablution wastage. The recommendation was to filter the ablution water for the use of landscaping in the university surrounding.

Johari N. H (2013), on the other hand, through their research investigated the Muslim understanding towards their knowledge on ablution and tool to control behavior when performing ablution. Lack of knowledge in ablution leads to wastage of water when performing ablution (Johari N. H., 2013). Therefore, this research tried to determine the relationship between knowledge, values, attitudes, skills and sustainable practices towards the practice of water conservation among the Jemaah of Kampung Bukit Cherakah Jaya mosque after the green stickers were posted at the mosque.

The practice of sustainable water consumption should be practiced to minimize wastage of water and this practice can also reduce waste disposal and thus maintain a depleted water supply without pollution. So as Malaysians, we need to adopt water conservation measures recommended by both the government to maintaining a good quantity and quality of water for present and future generations.

2.3 Factors Affecting the Sustainable Water Consumption

2.3.1 Knowledge on Sustainable Water Consumption

Abundance of rain every year causes users to overuse water in their daily consumption but unknowingly they have become the primary offender of clean water wastage. One of the wastages referred is by the Muslims who perform ablution and other religious actions. (Raduan, et. al., 2018). In particular, Malaysian Muslims use triple the amount of water that is minimally required to complete a cycle of ablution.

Moreover, they are not mindful of amount of water used as because water is stated as the important element completes the six pillars of ablution. (Raduan, et. al., 2018). Excessive usage of water to perform ablution causes water to flow from the ablution point without any contamination. Nevertheless, knowledge still must be drawn to the method of utilizing the water as per the concept of moderation upheld by Islam.

Knowledge dissemination on water conservation to the consumer is important, as this will allow much efficient water management (Benninghause et. al., 2017 in Uma, 2017). Furthermore, the Selangor Water with the collaboration of Selangor State Agency has continuously launched many water conservation initiatives as part of sharing water conservation knowledge (Star Online, 2019). Values in water conservation among people can be enhanced through early exposure on education and skills of smart water consumption (Uma, 2018).

According to (Johari, 2013), Malaysian Muslims have less knowledge about the right way of taking ablution as they mostly tend to clean the compulsory body parts repeatedly whereby doing it once is enough. This situation causes increase in the liters of water used for ablution up to 9 liters. The correct way of taking ablution was demonstrated by Prophet S.A.W whereby he performed the steps of ablution three times each and any addition to this is considered as an injustice because it causes excessive consumption of water. (Raduan, et. al., 2018).

Muslims generally need a specific amount of water for personal hygiene and ritual purposes. Even though it is a must for Muslims to clean themselves, Islam still educates its followers to maintain a clean environment and selflessly think of all the other living entities that requires clean water source to survive. (Raduan, et. al., 2018). Although Muslims are required to clean themselves before performing any prayers, they do not have the freedom to waste water as they wish as not everyone in this world has access to water supply and water shortage is still a major crisis.

2.3.2 Values on Sustainable Water Consumption

Value is a very important life goal that stays as a guiding principle in one's life which is accepted and learned from parents, home and school environments, peers,

experiences and media. (Calubaquib, 2016). The values that are rooted in the mind of the person will provide a deep motivation and guide in determining behaviour and attitude (Calubaquib, 2016). The values that is being followed by a person can be also related to environment. (Gratani et. al., 2016). Value plays a very important role in solving all environmental problems whereby (Groot and Steg (2008) in Uma,2018) says that environmental issues around is closely related to the value that an individual has. On the other hand, (Stern (2000) in Uma,2018) argues that environmental attitudes and behaviours have a close relationship with the values one has. Then value plays an important role in all the surrounding activities including sustainable water management. Moreover, according to (Liobikiene and Juknys (2016) in Uma,2018) the concept of this value is many used in environmental studies based on the theory in the norm (Value-Belief-Norm Theory). The value of trust is the norm theory for environmental concerns that explains that values have influence the world view of the environment (Gratani et al., 2016).

The concept of the Value-Belief-Norm Theory (VBN) is many used in environmental studies based on value theory belief in the norm. This theory posits relationships between values, beliefs, norms, and behaviours in a causal chain. The writings of (Stern et al., 1999 in Uma, 2018) through the theory of normative beliefs have described three types of environmental values that are the basis of concern: egoistic values, altruistic values and biospheric values. Individuals who have an egoistic value to the environment are always concerned about the environment because they are concerned about the environmental problems. (Uma, 2018). For example, individuals with egoistic values often practice saving money when using water because they fear that water shortages will disrupt their daily activities, as well as personal well-being. While individuals with altruistic values are always concerned about others (Aprile & Fiorillo, 2017 in Uma, 2018). Individuals of biospheric value will care about all species in the world, including humans, plants and animals (Schultz, 2005 in Uma, 2018) as individuals with altruistic values will consider the needs of society and act with caution when using natural resources so that their actions do not adversely affect others, including future generations. (Uma, 2018). Those with high biospheric values will take care of the environment and decide to engage in specific actions for protect the environment. (Uma, 2018).

There are many studies that show value has influenced the practice of sustainable use as well as environmentally friendly behaviour. Studies by (Gatersleben et al., 2010 in Uma, 2018) to the population of the United Kingdom to see the relationship between values materialistic and environmental values of sustainable use practices shows that the people of the United Kingdom have materialistic values and high environmental values and at the same time environmental values has a positive relationship with sustainable consumption practices.

In conclusion, environmental values are very important in determining behaviour environmental practices (Stern, 2000). So, this study was conducted to study the relationship and impact that values of a person create towards water conservation practice.

2.3.3 Skills on Sustainable Water Consumption

Skills are essential for managing the ever-increasing environmental issues of this world (Ernst & Monroe, 2004 in Uma, 2018). Environmental skills are an important aspect of bringing people into sustainability. When skills are linked to water use practices, consumers need to identify problems or issues with water, be aware of water shortages and need to know how to conserve water using savings techniques. (Uma, 2018).

Environmental education is an important tool in providing individuals with the skills to conserve and conserve the environment and thus develop sustainable consumers (Siti Khatijah & Christopher, 2016 in Uma, 2018). Environmental education helps to create awareness in an individual to actively participate in protecting the environment and the skills gained must be practiced in solving the environmental issues including water issues that is becoming one of the major crises across the globe. Individuals need to be given skills in solving environmental problems through environmental education.

Knowing the importance in maintaining the sustainability of water consumption, many researchers has their part in knowing the impact a person's skills give towards water conservation. For example, the study of (Phang et al. (2013) in

Uma, 2018) on the domestic water consumption behaviour of Malaysians shows that only 12 per cent of the population acknowledges water reuse and only 0.5 per cent practice water recycling skills. This indicates that 3R skills when using water are less practiced among Malaysians.

It clearly shows that the level of skills on an individual should be measured in order to measure willingness to practice 3R skills in their daily use of water. This study will determine the relationship and influence of water use skills on sustainable water use practices.

2.3.4 Attitudes on Sustainable Water Consumption

Attitudes on sustainable water consumption relates to behaviour that is based on an individual or groups morality on understanding and implementing the best way in their daily activities to maintain and reserve the available water resources. In other words, it refers to the intrinsic discipline that reveals the system of values adopted by a society (Mohd Zuhdi Marsuki 2002 in Raduan, et. al., 2018). Both understandings are similar in their emphasis on disciplining a man with the aim of molding a noble personality.

The international recommendation of the amount of water consumption is only 165 liters per day while the United Nations standards have put it at 200 liters per day. Humans usually require 80 liters of water a day to meet their basic needs. Five liters of water are used for drinking, 30 liters of water are used for personal hygiene, 25 liters are used for bathing and 20 liters are used for preparing food and beverage. However, the amount of water consumption can reach up to 500 liters per person for city-dwellers (Yang, 2002 in Raduan, et. al., 2018). This means that the rate of consumption of water for personal hygiene alone can reach up to more than 50% of the standard daily water usage for an individual. (Raduan, et. al., 2018). This shows that humans are using excessive amount of water for personal hygiene purposes even when they are aware of the importance of conserving water. Although the people were aware of the need to save water, the attitude towards conservation did not reflect the saving behaviour (Kelly, 2015). Dolnicar, S et. al. (2010) identified that water users has the attitude of saving water only during the period of drought or water shortage.

Moreover, People has the attitude of rarely close the taps while washing their body parts because closing taps, after holding water in the palm, was found not that convenient. (Youssef et. al. (2017). Wastage of water when performing ablution was caused by lack of knowledge and skills in controlling the attitude of the people (Johari, 2013*).*

People who had very positive water conservation and environmental attitudes saved more water than those with moderately positive attitudes. (Anil et. al. 2017). Furthermore, people who actively seek out information on water conservation, and then pay attention to that information, are more likely to report intention to conserve water, although the effects are weak (Clements, J. 2016). In the case of the Al-Barokah Mosque once the green sticker was applied, when comparing the usage of water from September to December 2019, there are reduction of water consumptions (Mohd Fauzi et. al., 2020).

2.3.5 Sustainable Practices on Water Consumption

Population growth, changes in land use, and climate change are putting pressure on existing water resources worldwide and it is not certain that supplies are adequate to meet the increasing demand for water (Bates et al., 2008 in Uma, 2018). Effective water resource management is critical to facilitate sustainable water use. Sustainable water use practices, also known as behavioral reduce water consumption by improving efficiency in the various uses of water (Gleick, 2003 in Uma, 2018). According to efficient water use practices do when people use the minimum amount of water while performing a job. The practice of water use is also defined as behaviour improves water use efficiency, using less water and using the wash water (gray water) for certain works (Novotny et al., 2010 in Uma, 2018).

Various studies conducted to determine the behaviour or the level of water consumption among the population. (Aini et al., (2007) in Uma, 2018) researched on high school students shows that student engagement in sustainable consumption practices is at a moderate level while at the same time sustainable consumption practices are positively related and significant with environmental knowledge.

This means that even though water sources are decreasing on the surface of the earth, humans still do not practice conservation. Water conservation practices need to be injected from the school level so that students can be aware of the importance of water conservation practices. This study looks at the level of sustainable use of water among students and the factors that influence it.

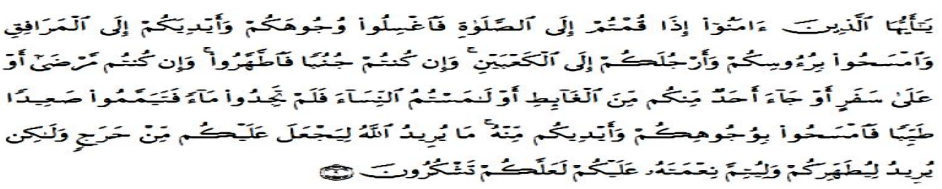
2.4 Ablution in Islam

Ablution or wudhu in Arabic is a cleansing ritual or process using water to be applied on a particular body to cleanse itself before performing the prayer (Mokhtar,2003). The term wudhu is derived from basic Arabic noun called Al-wadhaah which means clean and bright. Al-wudhu is a verb to show the cleansing activity using water (Johari, 2013). Ablution facilities is a place within the mosque area where Muslims who wants to pray cleanse themselves by performing the ablution. These facilities are equipped with several numbers of ablution units. A typical ablution process requires of about 6 to 9 litres of water in volume and from this volume, only half to 2 litres will be applied on the body (Johari,2013). However, in conserving water during ablution is challenging due to human behaviour and this behaviour is different from person to person (Johari, 2013).

In this context, few hadiths of the Prophet Muhammad can shed a light on estimating the amount of water in performing ablution. Hadith complied by Imam Muhammad Al-Bukhari narrated by Anas, the Prophet used to take a bath with one Sa' up to five Muds of water and used to perform ablution with one Mud of water. Another hadith complied by Imam Abi Dawud narrated by Umm Umarah, the Prophet wanted to perform ablution by using a vessel containing 2/3 Muds of water. These two hadiths clearly tell us that the amount of water consumed to perform the ablution is in the range of 2/3 Muds to one Mud. Therefore, the volume measuring units of a Mud are equivalent to 0.54 litres. That is the only amount of water used by the Prophet when he performs ablution. Even though Islam emphasizes on cleanliness and sanctity, however it never allows excessiveness in water usage arbitrarily. (Raduan, et. al.,

2018). It is clear that Muslims can perform complete cycle of ablution and still not waste and conserve water.

A complete and valid ablution must be performed as per the steps revealed in Surah al-Ma'idah verse six:


يَٰٓأَيُّهَا ٱلَّذِينَ ءَامَنُوٓا۟ إِذَا قُمْتُمْ إِلَى ٱلصَّلَوٰةِ فَٱغْسِلُوا۟ وُجُوهَكُمْ وَأَيْدِيَكُمْ إِلَى ٱلْمَرَافِقِ
وَٱمْسَحُوا۟ بِرُءُوسِكُمْ وَأَرْجُلَكُمْ إِلَى ٱلْكَعْبَيْنِ ۚ وَإِن كُنتُمْ جُنُبًا فَٱطَّهَّرُوا۟ ۚ وَإِن كُنتُم مَّرْضَىٰٓ أَوْ
عَلَىٰ سَفَرٍ أَوْ جَآءَ أَحَدٌ مِّنكُم مِّنَ ٱلْغَآئِطِ أَوْ لَٰمَسْتُمُ ٱلنِّسَآءَ فَلَمْ تَجِدُوا۟ مَآءً فَتَيَمَّمُوا۟ صَعِيدًا
طَيِّبًا فَٱمْسَحُوا۟ بِوُجُوهِكُمْ وَأَيْدِيكُم مِّنْهُ ۚ مَا يُرِيدُ ٱللَّهُ لِيَجْعَلَ عَلَيْكُم مِّنْ حَرَجٍ وَلَٰكِن
يُرِيدُ لِيُطَهِّرَكُمْ وَلِيُتِمَّ نِعْمَتَهُۥ عَلَيْكُمْ لَعَلَّكُمْ تَشْكُرُونَ ۝٦

Translated as: O you who have believed, when you rise to [perform] prayer, wash your faces and your forearms to the elbows and wipe over your heads and wash your feet to the ankles. And if you are in a state of janabah, then purify yourselves. But if you are ill or on a journey or one of you comes from the place of relieving himself or you have contacted women and do not find water, then seek clean earth and wipe over your faces and hands with it. Allah does not intend to make difficulty for you, but He intends to purify you and complete His favor upon you that you may be grateful. Based on this verse, perfection in ablution can be achieved by wiping the face, hands up to the elbows, a part of the head and the foot up to the ankle. The washing of these four body parts are also referred to as the obligatory acts of ablution and water must reach them in order for an ablution to be completely performed. (Raduan, et. al., 2018).

2.5 The Importance of Sustainable Water Consumption

Smart consumption of water even during the ablution can tackle issues of water conservation. Water conservation during ablution is not just a religious issue but it is a national obligation especially when there is lack of water resources.

According to report by Bernama (2016) the average daily water consumption by a Malaysian was 211 litres, which is almost double the benchmark recommended by the United Nations (Bernama, 2016) . On serious note, the amount of water consumed by Malaysia is more than recommendation by World Health Organization (WHO) of 165 liters per day (Jye, 2017). So daily, Malaysian has overused almost 45 liters of water (Sobian, 2018, Raduan, et. al., 2018)). The water consumption in mosque including during ablution lies under the non-domestic consumption's category of public uses (Anang, et. al 2019).

The importance of sustaining water resources has become one of the main concerns in Asian Pacific countries. As a proof, five dimensions of water security elements were drafted in 2013 Asian Pacific Water Forum. Asian Water Development Outlook (2013) state that five dimensions highlighted are economic water security, urban water security, household water security, resilience to water related disaster and environmental security Recommendations on policy actions for the countries' leaders to improve water governance and guidance on investments to increase their countries' water security were discussed thoroughly in the Asian Water Development Outlook (2013). Water security elements that touch on social dimension is considered important as it can prepare the community to become resilient towards extreme water event (Siwar et. al. (2014).

Knowledge dissemination on water conservation to the consumer is important, as this will allow much efficient water management (Benninghause et. al., 2017 retrieved from Uma, 2017). Furthermore, as mention earlier, the Selangor Water with the collaboration of Selangor State Agency has continuously launched many water conservation initiatives as part of sharing water conservation knowledge (Star Online, 2019). Values in water conservation among people can be enhanced through early exposure on education and skills of smart water consumption (Uma, 2018).

Although the people were aware of the need to save water, the attitude towards conservation did not reflect the saving behaviour (Kelly, 2015). Furthermore, in measuring public attitudes to water issues, Dolnicar, S et. al. (2010) found that 98% of the respondents agreed on conducting water restrictions only during period of drought or water shortage. According to Youssef et. al. (2017), people seldom close the taps

while the hands are busy washing the body parts because closing taps, after holding water in the palm, was found not that convenient. Wastage of water when performing ablution was caused by lack of knowledge and skills in controlling the attitude of the people (Johari, 2013).

It is a mandatory for Muslims to have the right ethics when dealing with water consumption because it is a part of Muslims' akhlaq. Although Islam put greater emphasis on cleanliness and sanctity, it never allows for excessiveness water usage during ablution (Raduan, et. al 2018). Almost 30-47 percent of treated water is wasted during performing ablution, as half of the water tap flows directly into the drain without any contamination (Zaied, et. al 2016).

Hashim et.al (2016) stated that the wastage of water during ablution would lead to the shortage of water resources if it were not dealt with efficiently. It is imperative to use water efficiently. It is imperative to use water efficiently when performing ablution. This research indicated that respondents used seven times amount of water than used by Prophet Muhammad. A huge amount of water was used when the teachings of Prophet Muhammad was ignored. There are a few solutions from this research to overcome the problem. The use of different water taps instead of pipe, watershed and pipe sensor technology were among the suggestions. Johari et. al (2013), on the other hand, through their research investigated the Muslims understanding towards their knowledge on ablution and tool to control behaviour when performing ablution. The lack of knowledge in ablution leads to wastage of water when performing ablution (Johari, et. al 2013). Therefore, this research tried to educate the villagers by giving them knowledge of water conservation during performing ablution. At the same time, the amount of water used was also measured to ascertain the effectiveness of ablution knowledge that was imparted to them.

2.6 Conclusion

From the review of literature, a gap in the theory has emerged, providing a potential research area. Researchers in the field are yet to investigate the Jemaah preferences in measuring water consumption during ablution. Therefore, the

investigation on Jemaah preferences are important to determine the relationship between knowledge, value, attitude, skills and sustainable practices towards the reduction of water consumption during ablution at Al Barokah mosque.

CHAPTER 3 RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, research methodology discusses on research sampling and population, research design, location of the study, research procedures, research instruments and validation, research data collection and data analysis. Methodology is part of data or information gathering in order to achieve the research objectives (Noraini, 2013).

3.2 Research Sampling and Population

According to Creswell (2014), population refers to a group of individuals that have similar characterization in which prior to this, researcher can make a generalization based on the findings. The population was the congregator or Jemaah of the Al-Barokah mosque at Kampung Bukit Cherakah Jaya. Based on the observation conducted, the number of Jemaah observed in preliminary stage of this research was 1273. They were the Jemaah that used ablution facility are observed throughout five-prayer time in a period of seven days (Suratkon, et. al 2014; Radin, et. al 2016).

Research sampling is a process of selecting research subjects from the group of people that represents the population mentioned earlier. It can be a group of individuals, institutions or places that intended to be studied by the researcher (Noraini, 2013). Random sampling methods are used in the research as each member of the population has equal opportunity to be considered as research sample (Creswell, 2014).

3.3 Research Design

In determination of the relationship between knowledge, value, attitude, skills and sustainable practices towards water conservation during ablution in Al-Barokah mosque, the research investigates the current condition of water consumption performance on the ablution facilities. Given the nature of the proposed research, it is appropriate to conduct an exploratory study. According to Naoum (2007), exploratory research is used when one has limited amount of knowledge about the topic.

It is anticipated that this proposed research will be based on an embedded case study approach. There are three types of case study designs namely; descriptive, analytical and explanatory (Naoum, 2007). Hence it is projected that this research would be embarked on the premise that it is a mixed method strategy research with both qualitative and quantitative data will be gathered from the selected case study.

The research is designed into five stages such as a literature review, developing research proposal, primary research, relationship determination, indicator identification and validation and conclusions and recommendations. The first stage concerned about the understanding of water consumption during ablution in mosque. Thus, a review of relevant theory such as method and key indicators o measure water consumption has been done to enhance the understanding of water consumption during ablution in mosque.

Based on recent activities, research framework was established in second stages. It involved problem statements, need for investigation, research questions, research objectives, scope and limitation, research contribution and outcomes and also research method. The third stages are primary research, which are collecting and analyze the data.

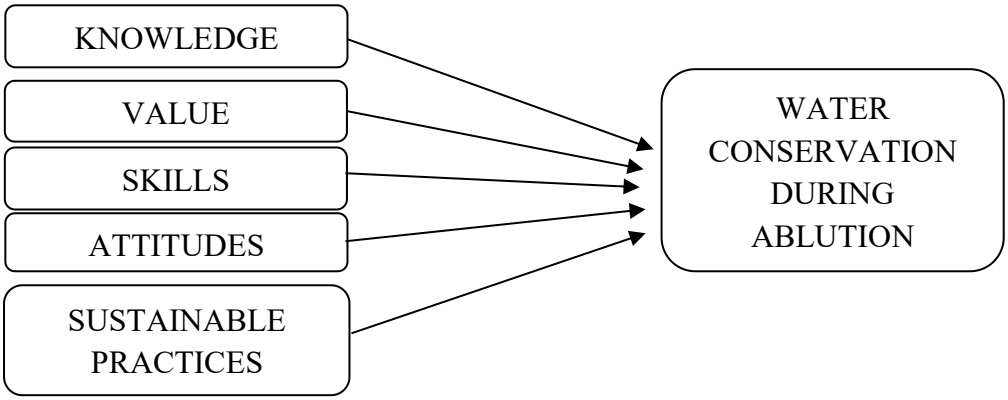


Figure 3.1: Conceptual Framework

3.4 Location

The study is conducted at the area of Al Barokah Mosque Kampong Bukit Cherakah Jaya, Shah Alam, Selangor. The village is one of the small villages in the Bukit Raja borough of Petaling district, under Kapar parliament. It is surrounded by major roads that lead the Town of Meru, Bukit Kapar, Puncak Alam and Shah Alam. The village population is around 150 families (Petaling District Office, 2020). The residents work in the agricultural, fishery, orchard, animal farming and majority in the small-scale industry. There are two religious' schools, the primary and secondary schools.

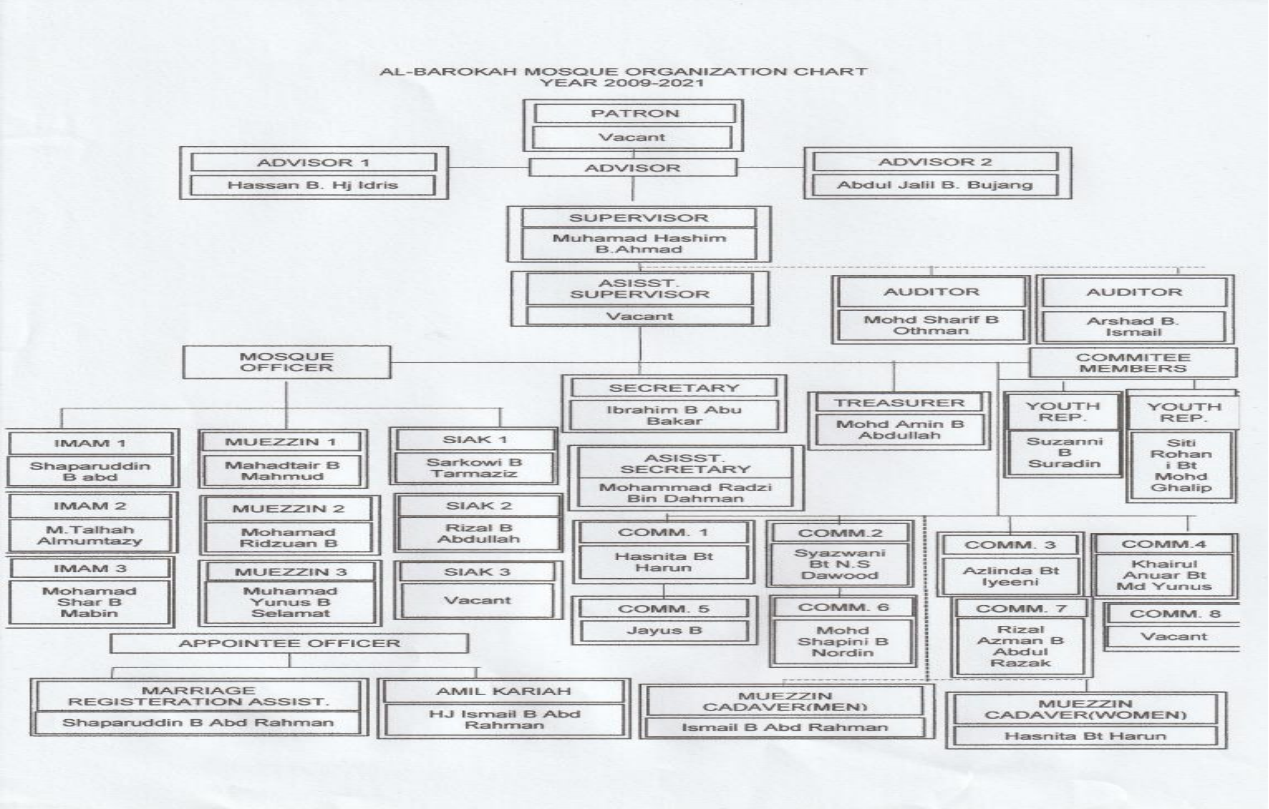


Figure 3.2: Al Barokah Mosque Management Committee (Source: Al Barokah Mosque, 2019)

Masjid Al Barokah is the mosque built on a 2 acres land for the villagers in 1992 (Jabatan Agama Islam Selangor, 2020). It is the only mosque located at Kampong Bukit Cherakah Jaya. It can accommodate about 500 Jemaah during Friday prayer. It has two separated ablution area intended for male and female. There is a total of 20 ablution points where 17 ablution points at the male ablution area and three ablution points at the female ablution area. In addition, there is a pond (Kolah) that also being used for performing ablution.

3.5 Research Procedures

The details about the research procedures were shown in Figure 3.3 below.

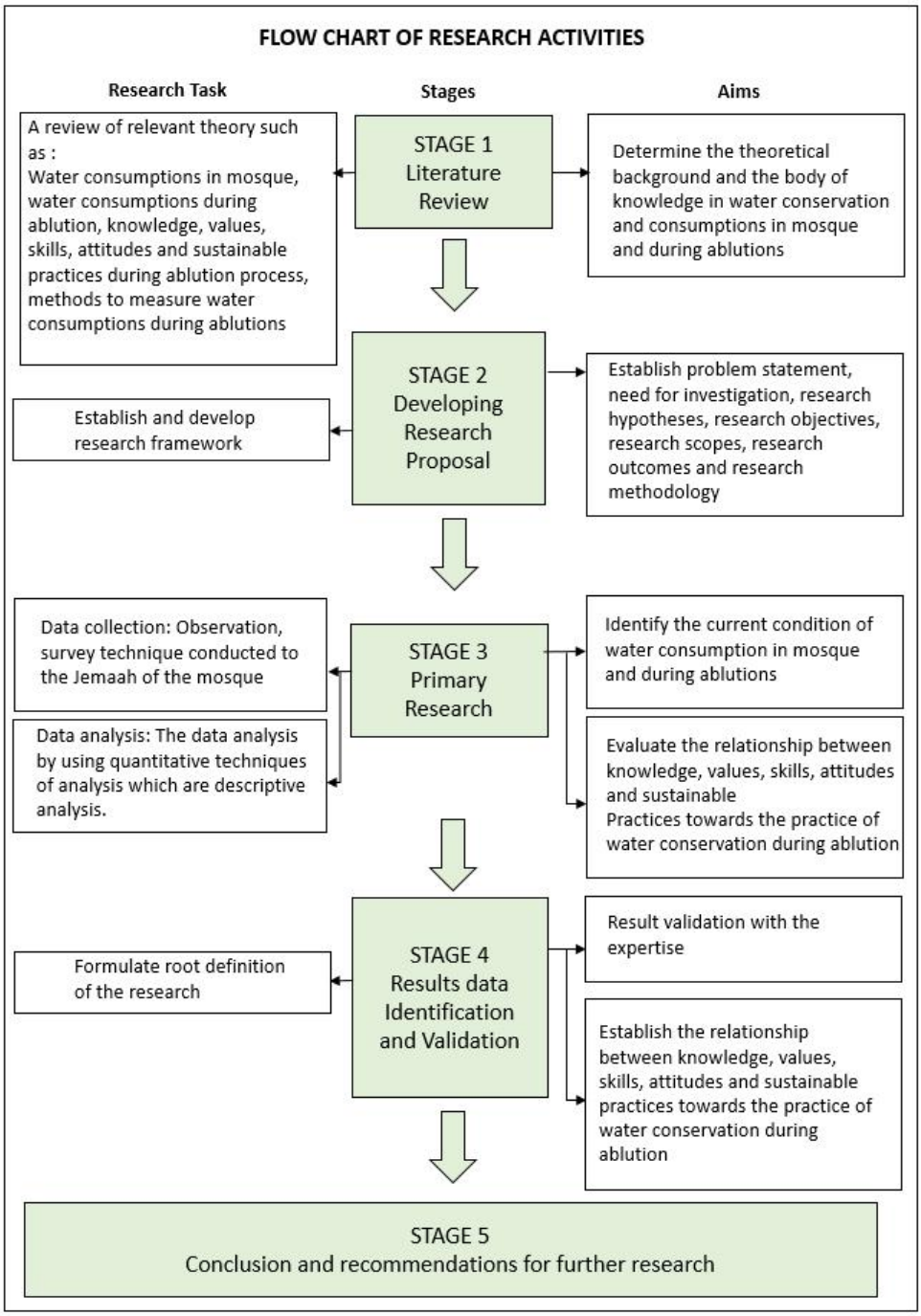


Figure 3.3: Flow Chart of Research Activities

3.6 Research Instruments

The study uses special designed sticker known as "The Ablution H2O Saver Visual Booster" as the main tool that acts as an injection of sustainable water consumption to the Jemaah of the mosque. The sticker as shown in figure 2.2 is self-explanatory, and it educates the Jemaah on how to use water effectively while performing ablution as required by Prophet Muhammad pbuh. The size of the sticker is 175 mm long and 125 mm wide in size and made of 3M Vinyl and Bi-axially Oriented Polypropylene (BOPP) material.

Figure 3.4: The Ablution H2O Saver Visual Booster (Source: Field Work, 2019)

The sticker was posted at the strategic places inside the ablution area, step-by-step direction on how to conduct the procedure is explained in table 3.1.

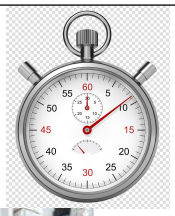
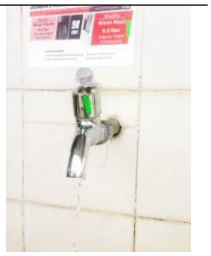
Step 1	Step 2	Step 3	Step 4
Identify all 20 ablution points at the ablution area (male and female) inside the mosque	Apply the sticker on top of each ablution point	Conduct a water measurement to determine the position of minimum flow.	Apply the green tape at the tap position that will provide minimum flow of 500 ml in 90s
		 	

Table 3.1: Direction on How to Apply The 'Ablution H2O Saver Visual Booster' Sticker

Process of Ablution		Time Allocation for Implementing the ablution Process (Zaied 2016) (seconds)	Amount of Water Consumed during Ablution with Full Stream (Liter)	Amount of Water Consumed during Ablution with Small Stream (Liter)
Hand and mouth		14.1	0.47	0.1
Face		17.7	0.74	0.09
arm and elbow				

		12.2	0.37	0.06
Top frontal part of head and ear		22.2	0.75	0.15
From toe to ankle		24.4	1.04	0.14
total		90.7	3.37	0.54

Source: Field work 2019

Table 3.2: The Amount of Water Consumed by Jemaah During the Ablution

Based on the data shown in table 3.2, the amount of water used during ablution in 90.7 second before the reminder is apply is 3.37 litre, compared to 0.54 litre average amount of water after the reminder is applied which is parallel with the research of Al-Mamun in 2014 that mention 1mudd equivalent to 0.544 litre which is in proper manner prescribed hadith Al-Bukhari and Muslim that states the Prophet Muhammad used to performed ablution with 1 mudd of water.

	Aspects Measured and Evaluated	Number and Type of Question	Number of Questions	Item Sources
Section A	Respondent Background	4 Items	1 to 4	Constructed by the researchers
Section B	Knowledge on Water Consumption	15 Items (5 points Likert Scales)	2,6 & 8 1 4,9,10 & 11 7,12,14,15,3 ,5 & 13 3,5 & 13	Al-Shayaa (2004) Rohana et al. (2013) Haron et al. (2005) Saravanan (2013) Uma (2018)
Section C	Values on Water Consumption	10 Items (5 points Likert Scales)	9 4 8 1 & 5 2,3,6 & 10 7	Busse & Menzel (2014) De Groot & Steg (2007) Jamilah et al. (2011) Saravanan (2013) Zimmermann (1996) Uma (2018)
Section D	Skills on Water Consumption	10 Items (5 points Likert Scales)	3 & 9 5 1,2,4,6,7,8 & 10	Dolnicar et al. (2012) Pei Wen & Lamm (2015) Uma (2018)
Section E	Attitudes on Water Consumption	14 Items (5 points Likert Scales)	2,7,8,9 & 11 12,13 & 14 1,5 & 10 3,4 & 6	Jamilah et al. (2011) Ch'ng et al. (2007) Saravanan (2013) Wu et al. (2015)
Section F	Sustainability Practice on Water Consumption	17 Items (5 points Likert Scales)	3,4,5 & 16 1 & 2 11,12,13 & 14 7 & 8 6 & 9 17 10 & 15	Dolnicar et al. (2012) Gilbertson et al. (2011) Ch'ng et al. (2007) Tuan Pah Rokiah et al. (2004) Gorham et al. (2014) Hablemitoglu & Ozmete (2010) Uma (2018)
Section G	Water Conservation During Ablution	19 Items (5 points Likert Scales)	1,2,3,4,5,6,7 ,8,9,10,11,1 2,13,14,15,1 6,17,18 & 19	Constructed by the researchers

Table 3.3: The Section of The Research Instruments and Its Sources

The research instruments applied for the implementation of the research is the questionnaire. The questionnaire was divided into seven sections that are Section A, B, C, D, E, F and G. A total of 85 close-ended questions or items was asked and each question was provided with five answering options. The complete sample of questionnaire is shown in appendix B. Each respondent just has to choose the answer according to likert scale arrangements.

The researcher has chosen and modified the research instruments from previous local and abroad research that was related to this research. Modification of the questionnaire from previous research instruments is needed in order o create new item that was more suitable with the purposes and objectives of the research. Table 3.3 explains the sections of the research instruments and its sources.

3.6.1 Section A: Demography

Section A of the research instrument contained the information of respondent's background. It has four items, which are gender, race, age and education background. Table 3.4 explains the section A of the research instrument.

Section	Variables	Measurement
Section A	Gender	The respondent states their gender by putting down the check mark (√) at the respected box. 1 = Male 2 = Female
	Race	The respondent states their races by putting down the check mark (√) at the respected box. 1 = Malay 2 = Chinese 3 = Indian 4 = others
	Age	The respondent states their age by putting down the check mark (√) at the respected box. There are 10 choices given to the respondent that states their respected age.
	Education Background	The respondent includes their education background by putting down the check mark (√) at the respected box. There are 10 choices given to the respondent that states their respected education background.

Table 3.4: Section A (Research Instrument)

3.6.2 Section B: Knowledge on Sustainable Water Consumption

Instruments in section B measure the level of knowledge on sustainable water consumption of the respondent. The section contains 15 close-ended items with five points likert scale. The likert scale arrangement used in the questionnaire was 1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree", and 5 = "Strongly Agree".

Items in this section were constructed to measure the level of knowledge on concepts related to sustainable practices on water consumption. This item was adopted from Uma (2018) previous research that has been tested its validity and reliability. Overall, based on the pilot test data, the reliability value of the research instruments by Uma (2018) was 0.926. According to Uma (2018), the measurements of knowledge on sustainable water consumption need to emphasize on three types of sub variable such as scientific knowledge, general knowledge and sustainable water consumption knowledge. So, table 3.5 explains on three sub variable which was mentioned earlier that being measured in the section.

No.	Knowledge Sub Variables	Items	Number of Items
1	Scientific Knowledge	4,6,8,9,10,11 & 12	7
2	General Knowledge	1,2,5 & 13	4
3	Sustainable Water Consumption Knowledge	3,7,14 & 15	4
	Total Items		15

(Source: Uma, 2018)

Table 3.5: Types of Knowledge Sub Variable

3.6.3 Section C: Values on Sustainable Water Consumption

Instruments in section C measure the level of values on sustainable water consumption. This section contains 10 statement type questions. It was adapted from three sub variables that related with the values of sustainable water consumption. Seven of these items were written in positive sentences, while the remaining three in negative sentences.

This item was also adopted from Uma (2018) previous research that has been tested its validity and reliability. Overall, based on the pilot test data, the reliability value of the research instruments by Uma (2018) was 0.906. All 10 close-ended items were also having five points likert scale. The likert scale arrangement used in the questionnaire was 1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree", and 5 = "Strongly Agree". So, table 3.6 explains on three sub variable which was mentioned earlier that being measured in the section.

No.	Values Sub Variables	Items	Number of Items
1	Bio spherical Values	2,3 & 8	3
2	Egoistical Values	5,6 & 7	3
3	Altruistic Values	1,4,9 & 10	4
	Total Items		10

(Source: Uma, 2018)

Table 3.6: Types of Values Sub Variables

3.6.4 Section D: Skills on Sustainable Water Consumption

Instruments in section D measure the level of skills on sustainable water consumption. This section also contains 10 statement type questions. It was adapted from two sub variables that related with the skills of sustainable water consumption.

This item was also adopted from Uma (2018) previous research that has been tested its validity and reliability. Overall, based on the pilot test data, the reliability value of the research instruments by Uma (2018) was 0.820. All 10 close-ended items

were also having five points likert scale. The likert scale arrangement used in the questionnaire was 1 = “Strongly Disagree”, 2 = “Disagree”, 3 = “Neutral”, 4 = “Agree”, and 5 = “Strongly Agree”. So, table 3.7 explains on three sub variable which was mentioned earlier that being measured in the section.

No.	Skills Sub Variables	Items	Number of Items
1	Thinking Skills	1,2,3,4,5 & 6	6
2	3R Skills	7,8,9 & 10	4
	Total Items		10

(Source: Uma, 2018)

Table 3.7: Types of Skills Sub Variables

3.6.5 Section E: Attitudes on Sustainable Water Consumption

Instruments in section E measure the level of attitudes on sustainable water consumption of the respondent. The section contains 14 statement type questions with five points likert scale. The likert scale arrangement used in the questionnaire was 1 = “Strongly Disagree”, 2 = “Disagree”, 3 = “Neutral”, 4 = “Agree”, and 5 = “Strongly Agree”.

It was adapted from two sub variables that related with the attitudes of sustainable water consumption. This item was adopted from Uma (2018) previous research that has been tested its validity and reliability. Overall, based on the pilot test data, the reliability value of the research instruments by Uma (2018) was 0.833. According to Uma (2018), two types of attitudes sub variable are the positive and negative attitudes. So, table 3.8 explains on sub variable which was mentioned earlier that being measured in the section.

No.	Attitudes Sub Variables	Items	Number of Items
1	Positive Attitudes	1,2,3,4,5,6,8 & 9	8

2	Negative Attitudes	7,10,11,12,13 & 14	6
	Total Items		14

(Source: Uma, 2018)

Table 3.8: Types of Attitudes Sub Variables

3.6.6 Section F: Sustainable Practices on Sustainable Water Consumption

Instruments in section F measure the level of practices on sustainable water consumption. This section contains 17 statement type questions. It was adapted from three sub variables that related with the practices of sustainable water consumption.

This item was also adopted from Uma (2018) previous research that has been tested its validity and reliability. Overall, based on the pilot test data, the reliability value of the research instruments by Uma (2018) was 0.848. All 17 close-ended items were also having five points likert scale. The likert scale arrangement used in the questionnaire was 1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree", and 5 = "Strongly Agree". So, table 3.9 explains on three sub variable which was mentioned earlier that being measured in the section.

No.	Practices Sub Variables	Items	Number of Items
1	Sustainable Practices	2,3,12,13,14,15 & 17	7
2	Awareness Practices	4,7,8,9,10,11 & 16	7
3	Conservation Practices	1,5 & 6	3
	Total Items		17

(Source: Uma, 2018)

Table 3.9: Types of Practices Sub Variables

3.6.7 Section G: Practices of Water Conservation During Ablution

Instruments in section G measure the level of water consumption practice during ablution, which is the dependent variable of the research. This section contains 19 statement type questions. The researcher constructed these items and has conducted tests for validity and reliability. Overall, based on the pilot test data, the reliability value of the research instruments was 0.804. All 19 close-ended items were also having five points likert scale. The likert scale arrangement used in the questionnaire was 1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree", and 5 = "Strongly Agree".

3.7 Instrument Validation

The instrument validation on all independent variables and dependent variable must be conducted in the way to measure the precision of the research instrument (Noraini, 2013). According to Chua (2006), the instrument that has been proven with high validity value, when it can accurately measure the concepts stated in the hypotheses. In this research, the variables to be validated were knowledge on water consumption, values on water consumption, skills on water consumption, attitudes on water consumption, sustainability practices on water consumption and water conservation during ablution.

3.7.1 Instrument Reliability

The instruments reliability refers to stability of research instrument to provide consistent findings throughout the research (Noraini, 2013 and Sabitha, 2005). Variables that need to be test its reliability were knowledge on water consumption, values on water consumption, skills on water consumption, attitudes on water consumption, sustainability practices on water consumption and water conservation during ablution. A reliable research instrument must have a value of Cronbach's

Alpha of more than 0.7 (Stangor, 1998; Uma, 2018; Hair, 2010; Anderson, 2010 and Black, 2010)

3.7.2 Pilot Study

Pilot study is a questionnaire testing process involving a group of small respondents. According to Sabitha (2005) in Uma (2018), the purpose of pilot study is to test its suitability and accountability to the respondent understanding. By conducting the pilot study, researcher can get a chance to improve or change items that are unsuitable, vague and confusing to the respondent (Uma, 2018, Ahmad Mahdzan, 2007 and Sabitha, 2005).

The pilot study has been conducted at the Polytechnic of Sultan Salahuddin Abdul Aziz Shah Islamic Centering 100 respondents. The respondents were the academic staff and students. Based on the pilot study conducted, all items in the questionnaire can be accepted with the reliability value above than 0.7. Table 4.0 describes the data of reliability Cronbach's Alpha for research instruments lies in between 0.8 to 0.926.

Section	Variable	No of Item	Cronbach's Alpha (Pilot Study)
Section B	Knowledge on sustainable water consumption	15	0.926
Section C	Values on sustainable water consumption	10	0.906
Section D	Skills on sustainable water consumption	10	0.820
Section E	Attitudes on sustainable water consumption	14	0.833
Section F	Sustainable practice on water consumption	17	0.848
Section G	Water conservation during ablution	19	0.804
Total		85	

Table 4.0: Data of Reliability Cronbach's Alpha

3.8 Methods of Collecting Data

The data will be collected using observation and questionnaire technique to determine the current condition of water consumptions during ablution at the mosque performance and evaluate the relationship between facilities performance and congregators satisfaction level. The number of respondents observed in preliminary stage of this research was 1273. The respondents who are the Jemaah that used ablution facility are observed throughout five-prayer time in a period of seven days (Suratkon, et. al 2014; Radin, et. al 2016). The determination of numbers of attendance to the mosque is important as it can be used to justify the amount of water consumed during ablution (Radin, et. al 2016). This method of data collection was also utilized and pioneered by Radin et. al (2016).

3.9 Methods of Quantitative Data Analysis

The analysis methods adopted for the research were descriptive and inferential statistical methods. A descriptive statistical method was used to provide initial view of data gathered during preliminary stage of data collection phase. Meanwhile, the Pearson correlation and linear regression were the analysis conducted under the inferential statistical method. All of these analyses were conducted using the Statistical Package for Social Sciences Software (SPSS) version 23.

3.9.1 Descriptive Analysis

Descriptive analysis was usually conducted to explain on the samples and the population. Comprehensively, it describes the research subject profiles such as gender, races, age and education level. Statistical data such as frequency, percentage, means and standard deviation for each variable were presented in the chapter of data analysis.

3.9.2 Inferential Analysis

The inferential analysis is used to find the relation existed between five independent variables and one dependent variable. The independent variables for the research were knowledge on sustainable water consumption, values on sustainable water consumption, skills on sustainable water consumption, attitudes on sustainable water consumption and practices on sustainable water consumption. While, the water consumption practices during ablution is the dependent variable. The inferential statistical analyses used in the research are Pearson correlation, linear regression and t-test.

3.9.4 Correlation Analysis

The correlation analysis is used to measure the relation between two variables such as independent variable with dependent variable. Linear correlation is measured by the Pearson correlation coefficient (r) with $p < 0.01$. The correlation coefficient ranges from -1 to 1. The value of positive shows positive relations while the value of negative shows negative relations.

The purpose of using the Pearson correlation analysis in the research was to identify the relationship between knowledge on sustainable water consumption, values on sustainable water consumption, skills on sustainable water consumption, attitudes on sustainable water consumption and practices on sustainable water consumption including the dependent variable, which is the water consumption practice during ablution.

The Pearson correlation coefficient analysis is also used to identify the strength of the relationship between independent variable and dependent variable. It means that the analysis will identify the value of the relationship between variables is strong or weak towards positive or negative.

3.9.4 Multiple Regression Analysis

The purpose of multiple regression analysis is to create a relation between each one of the dependent variables with independent variable. It also uses to identify the contribution of the variance of dependent variable towards the variance of independent variable Johnson & Wicherm, 1992 in Uma, 2018). The analysis will highlight the value or R squared in order to identify the contribution of independent variables towards the dependent variable.

3.10 Conclusion

This chapter highlighted clear view of the whole research methodology of the research. Starting from the adoption of quantitative methods as the research design to the implementation of cross-sectional observation by using the questionnaire. Explanation and description of types of analysis has been stated clearly in the chapter.

CHAPTER 4 DATA ANALYSIS AND RESEARCH FINDINGS

4.1 Introduction

This chapter represents the results of the study from the statistical analysis conducted on the collected data and hypotheses testing. The first part in this chapter would be the representation on the characteristic that is knowledge, value, skill, attitude and sustainable practice of the respondent toward the practice of taking ablution is determine by analyzing factor analysis, reliability analysis and the descriptive analysis. The final part of this chapter would be focused on hypothesis testing, correlation testing, multiple regression testing and hierarchical multiple regression.

4.2 Descriptive Analysis

The purpose of descriptive analysis is a branch of analysis, which is focus on summarization and description data that collected from the survey (weier,2008). This part is providing analysis on the demographic characteristic of the respondent that get from the survey. The profile comprising of age, sex, educational qualification, community, marital status, occupation, income and family size of the respondents will help to know their socio-demographic status (Shodganga).

4.2.1 Respondent Demographic Profile

Researches had distributed 505 copies of survey questionnaires and had received 100% responses from respondents. There is no data outlier, thus the researchers fully utilized the 505 copies of survey questionnaires and analyze it.

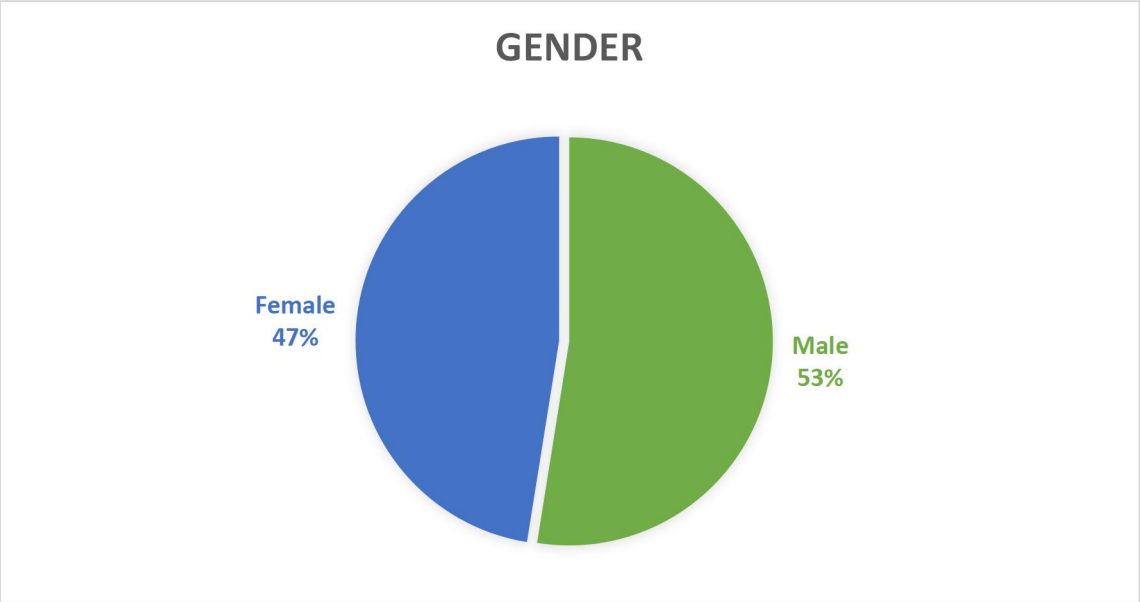


Figure 4.1 shows Gender of the Population

There are 53 percent of male respondent which equivalent to 266 people and 47 percent female respondent which equivalent to 239 people.

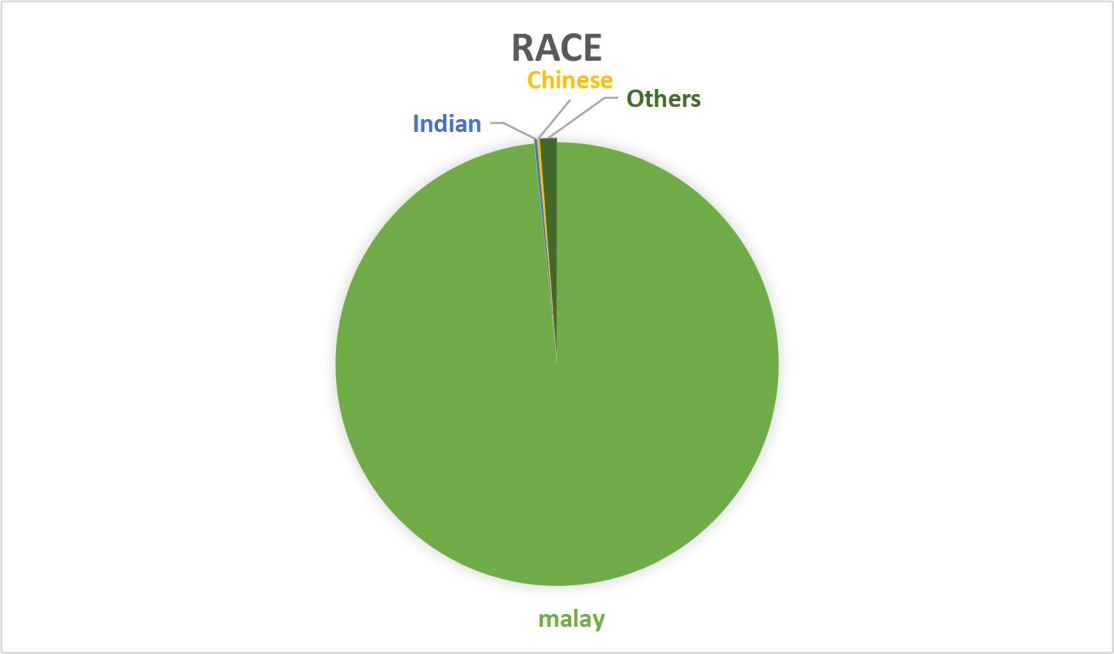


Figure 4.2 shows Race of the Population

98 percent of the respondent is Malay which is 479 respondents. 1 percent of the respondent is another race which is 6 respondents. And 0.2 percent respondent is both Chinese and Indian which each is 1 respondent. The total respondent is 505 people

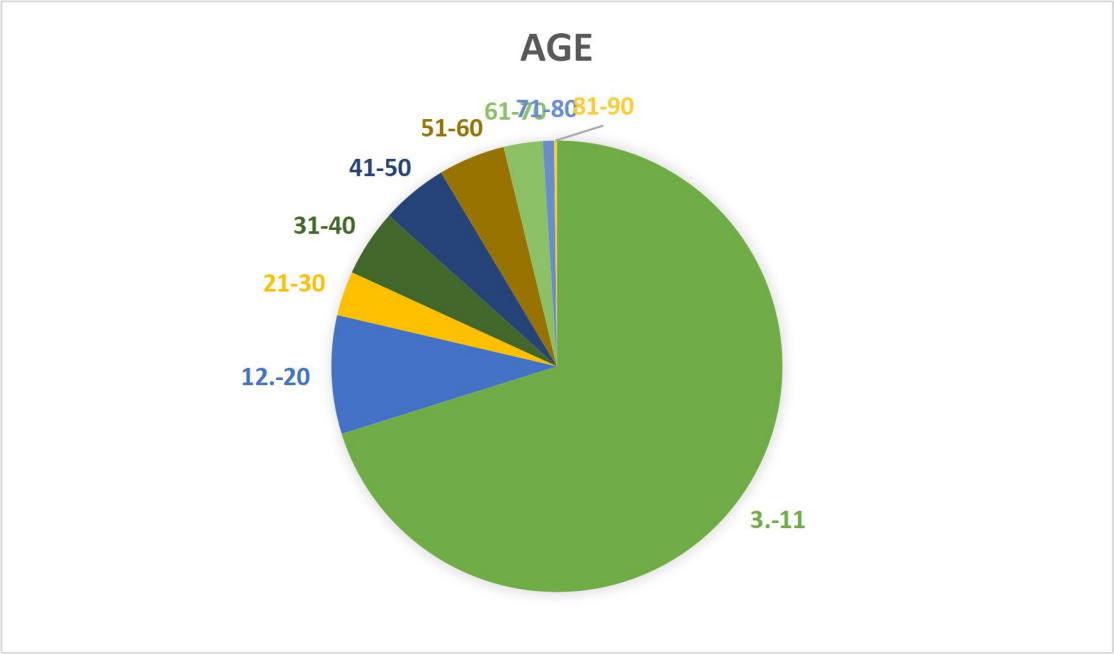


Figure 4.3 shows Age of the Population

The largest average age population of respondents in this study are 3-11 which is 70.3 percent of the respondents continue with 8.5 percent of the respondents from the average of age 12-30. There are 4.8 percent respondents from each average group of respondents that are 31-40, 41-50, 51-60. The respondents from age 21-30 is 3.2 percent and the respondents from age 61-70 is 2.8 percent. The smallest percent of respondents are 71-80 and 81-90 which is 0.8 and 0.2 percent.

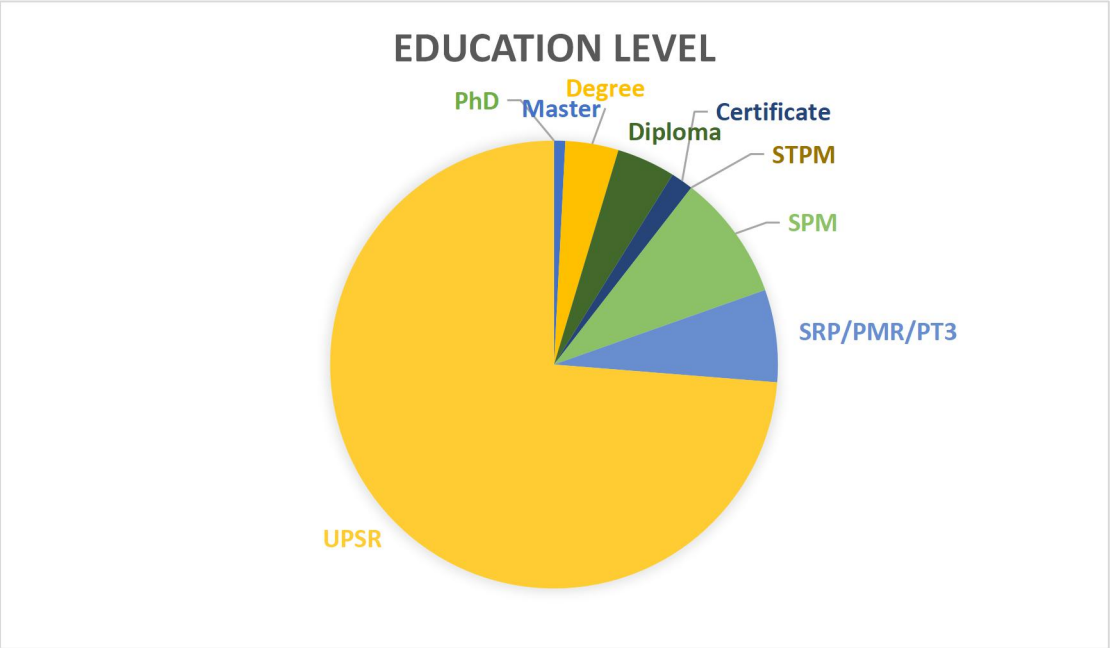


Figure 4.4 shows the Education Level of the Population

PhD	0	0
Master	4	0.8
Degree	19	3
Diploma	21	4
Certificate	8	1
STPM	0	0
SPM	45	8

SRP/PMR/PT3	33	6
UPSR	365	72
No formal Education	10	2

4.2.2 Central Tendencies Measurement of Constructs

Variables	Item	Means	Standard Deviation
Knowledge in Water Usage	B1	3.8767	1.00826
	B2	3.1984	1.29725
	B3	4.1290	1.25721
	B4	4.1153	1.15583
	B5	3.8056	0.95841
	B6	3.9347	1.06051
	B7	3.7097	1.21468
	B8	3.9901	1.22713
	B9	3.9742	1.34420
	B10	3.9980	1.08836
	B11	3.6600	1.5373
	B12	3.6726	1.06996
	B13	3.3889	1.09089
	B14	4.1071	1.10932
	B15	3.6151	1.19633
Values in Water Usage	C1	4.4653	083052
	C2	4.5426	0.74713
	C3	4.3762	.090908
	C4	3.7307	1.26567
	C5	2.9505	1.28927
	C6	3.1901	1.55823
	C7	3.9584	1.15309
	C8	3.8099	1.23583
	C9	3.9722	1.09799
	C10	4.0795	0.99085

Skills in Water Usage	D1	4.0356	1.01317
	D2	3.4792	1.18358
	D3	3.5505	1.14344
	D4	3.7248	1.10621
	D5	3.5476	1.09911
	D6	3.5578	1.14766
	D7	3.5842	1.13098
	D8	2.9485	1.37196
	D9	2.8728	1.33471
	D10	3.5998	1.27994
Attitude in Water Usage	E1	4.0020	1.00297
	E2	4.1307	0.97119
	E3	3.9426	1.01314
	E4	3.8218	0.97586
	E5	4.0913	0.88842
	E6	3.7455	1.17803
	E7	2.6653	1.35726
	E8	3.9564	1.13130
	E9	3.9545	1.08923
	E10	3.0317	1.03844
	E11	3.8752	1.09575
	E12	2.8495	1.39909
	E13	2.3624	1.27607
	E14	2.0614	1.32220
Sustainable Water Using Practices	F1	3.4317	1.27856
	F2	3.4226	1.22877
	F3	3.5644	1.07105
	F4	4.1564	1.05470
	F5	4.0775	1.03699
	F6	4.0119	1.14255
	F7	2.7030	1.34330
	F8	2.0198	1.13896
	F9	2.1329	1.12871
	F10	2.2634	1.22148
	F11	3.7069	1.14662
	F12	3.7703	1.12278
	F13	3.6554	1.13917
	F14	3.7619	1.04219
	F15	3.9004	0.99704
	F16	4.0356	1.02291
	F17	3.7063	1.19568

Water Using Habit in Ablution	G1	3.8000	1.25420
	G2	4.0733	1.09860
	G3	3.9050	1.9964
	G4	3.1446	1.29287
	G5	3.3347	1.14242
	G6	3.2515	1.19445
	G7	3.4742	1.10344
	G8	3.4099	1.12348
	G9	2.8554	1.16194
	G10	3.0317	0.98550
	G11	3.7505	1.10425
	G12	3.8750	1.03426
	G13	3.9107	1.07735
	G14	4.0218	1.01454
	G15	3.9067	1.03951
	G16	3.9563	1.04182
	G17	3.9226	1.00789
	G18	3.6455	1.13175
	G19	3.7564	1.13830

Table 4.1 Statistical Summary

According to (Gravetter and wallnau.,2000) central tendency refers to statistical measure that identify a single value which act as representation of an entire distribution and aim to provide accurate description of the entire collected data. In this study, mean is measuring the central tendency while dispersion is described by standard deviation (Saunders, Lewis & Thornhill, 2009). The Mean or average is probably the most commonly used methods of describing a central tendency. The mean represents the center of gravity of distribution. Each score in a distribution contributes to the determination of mean. It is also known as arithmetic average. Mean is the average of all values in a distribution (Krishnaswamy & Ranganathan, 2006).

As evidence from the table above,

Knowledge in Water Usage

B3 recorded the highest mean value (4.1290) with standard deviation of 1.25721. While B2 has the lowest mean value (3.1984) with standard deviation 1.29725

Values in Water Usage

C2 recorded the highest mean value (4.5426) with standard deviation of 1.25721. While C5 has the lowest mean value (2.9505) with standard deviation 1.29725

Skills in Water Usage

D1 recorded the highest mean value (4.0356) with standard deviation of 1.01317. While D9 has the lowest mean value (2.8728) with standard deviation 1.33471

Attitude in Water Usage

E2 recorded the highest mean value (4.1307) with standard deviation of 0.97119. While E14 has the lowest mean value (2.0614) with standard deviation 1.32220

Sustainable Water Using Practices

F4 recorded the highest mean value (4.1564) with standard deviation of 1.05470. While F8 has the lowest mean value (2.0198) with standard deviation 1.13896

Water Using Habit in Ablution

G2 recorded the highest mean value (4.0733) with standard deviation 1.09860. While G9 has the lowest mean value (2.8554) with standard deviation 1.16194

4.3 Measurement Scale

CONSTRUCT	STATEMENTS	NO OF ITEMS	NO OF ITEM DELETED	CRONBACH ALPHA
Knowledge in Water Usage	1. Water is a renewable resource. 2. Clean and usable water resource is very limited on			

	earth. 3. Humans cannot live without water 4. Polluted water can affect human health. 5. Suruhanjaya Perkhidmatan Air Negara (SPAN) is the governing bodies for water services in Malaysia 6. Rivers, lakes and ponds are the water sources for humans 7. Overlogging will affect the water catchment area 8. Water sources are always polluted by irresponsible human activities. 9. Improper waste disposal from houses and factories into the rivers causes water pollution in Malaysia 10. Humans play vital role in maintaining clean water resources. 11. Most of the rivers in Malaysia are polluted. 12. Sustainable use of	.

	water means meeting the water needs of the present generation without compromising the needs of future generations. 13. World Health Organization (WHO) recommends that everyone can only use up to 165 litres per day 14. Wise use of water can solve the water shortage problem. 15. The concept of "3R" introduced in the recycling program involving "reduce, recycle, reuse" can be used to save water.	15	0.787
Values in Water Usage	1. All living things in this world should enjoy clean water. 2. I feel happy if I see clean rivers, lakes and ponds areas. 3. Water resources (rivers, lakes and ponds) must be taken care for the future generation. 4. Lack of clean water		

	resources will give impact to the society. 5. Contaminated water can be cleaned and used for daily usage. 6. It does bother me if anyone wastes water. 7. I know the habit of wasting water will give big impact to me in the future. 8. Water shortage problem is a big issue for me. 9. Water pollution issue will have a serious effect on me. I wish to know more about the water issues and ways to overcome it.	10 . 0.734
Skills in Water Usage	1. I do save rain water to water my plants. 2. I use rain water to wash my vehicles (car, motorcycle and bicycle) 3. Water collected during shower with a bucket can be used for other purposes. 4. I try to avoid oil spills as it needs a lot water to clean it.	

	5. I water my plants in the morning and in the evening. 6. I use an adjustable water sprayer to water my plants 7. I rinse the plates in a container of water before rinsing in tap water. 8. I clean the toilet with the water I washed the clothes. 9. I collect the water from the washing machine to clean the toilet. 10. I prevent my legs from getting dirty to avoid washing it frequently.	10 . 0.664
Attitude in Water Usage	1. I am willing to take part in water conservation activities. 2. I feel more satisfied if I take in water saving activities. 3. I am willing to encourage others to adopt sustainable water use behaviours (such as water conservation) 4. I can discuss with others about the ways to solve	

	water shortage problems. 5. I can increase my effort to save more water. 6. I am willing to encourage others to reduce the amount of water wasted. 7. Water crisis issue is the government's problem not mine. 8. I will inform the relevant authorities if there is any pipeline leakage in my residential area. 9. I think people will be more respectful of people who practice water conservation. 10. The government's Water Saving Campaigns are not effective. 11. In the event of pipe leakage, I will inform the responsible authorities to take action. 12. Those who are not able to pay their water bills need to have water saving attitude. 13. I do not bother about	14	. 0.636

	water crisis issues as my residential area has not faced water problems. 14. Water has not to be wisely used as it is cheap and paramount.	
Sustainable Water Using Practices	1. I prefer bathing using collected water from a pail compared to using shower. 2. My family and I collect rain water for our daily usage. 3. I always use less amount of water for cleaning purposes. 4. I always make sure that the tap is closed tight to prevent water from dripping. 5. I close the water source when soaping during bathing. 6. I close the water tap while brushing the teeth. 7. I flush the toilet using large amount of water. 8. I open the water tap to the maximum flow while	

	washing hands even though I do not have to do so. 9. I water the plants even if it is rainy season. 10. I have done vandalism to water taps until it breaks. 11. In the case of any water taps stealing activities, I will immediately make a report. 12. I have advice those who wastes water. 13. I have taken part in water saving campaigns. 14. I always read newspapers and books about water issues to increase my knowledge. 15. I implement water saving tips while using water. 16. If any water taps are unclosed, I will immediately close it. 17. I wash fruits in a container of water.	17 . 0.685

Water Using Habit in Ablution	1. Ablution is a part of our eco lifestyle. 2. Ablution is an activity which is blessed by Allah. 3. I am confident that my ablution is always perfect 4. I admit that I have left the water tap running when I was rushing. 5. I will periodically close the water tap during my ablution. 6. I only use a 500ml bottle of water for my ablution. 7. I only need half a cup of water to gargle during ablution. 8. I only need 500ml of water if I do my ablution outside the ablution area. 9. I complete my ablution with 3.37 litres of water while leaving the tap running in normal flow. 10. The amount of water I use for ablution is almost about 3.37 litres. 11. The existence of information sticker at the ablution area.	

	12. The sticker contains the guideline to flow while taking ablution. 13. The sticker has affected and brought the way of doing ablution towards water saving idea. 14. The amount of water used by Rasulullah S.A.W for ablution is stated in this sticker. 15. The information on the sticker has given awareness to me to save more water even during ablution. 16. This sticker is very helpful in the water conservation process. 17. The contain on this sticker is very clearly stated. 18. The color of the sticker is very attractive, 19. The location of the sticker is very accurate in the ablution area.	19	. 0.837

Table 4.2 ANALYSISI AND RELIABILITY

Table 4.2, As rules of thumb, values which A general accepted rule is that α of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level. However, values higher than 0.95 are not necessarily good, since they might be

an indication of redundant (Hulin et al.,2001). This data is shown on table 4.3.1. Based on the table appended all variables that were addressed in the questionnaire achieved reliability of close to 0.7. With the value of knowledge (0.787), values (0.734), skills (0.664), attitude (0.636), sustainable practices (0.685) are fall into acceptable level of reliability and dependent variable water conservation during ablution (0.873) are considered as very good level of reliability.

4.4 Pearson Correlation Coefficient

Correlations							
		IV1	IV2	IV3	IV4	IV5	DV
Knowledge	Pearson Correlation	1	.774**	.442**	.427**	.469**	.608**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	505	505	505	505	505	505
Values	Pearson Correlation	.774**	1	.468**	.434**	.463**	.551**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	505	505	505	505	505	505
Skills	Pearson Correlation	.442**	.468**	1	.496**	.502**	.420**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	505	505	505	505	505	505
Attitudes	Pearson Correlation	.427**	.434**	.496**	1	.574**	.491**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	505	505	505	505	505	505
Sustainable Practice	Pearson Correlation	.469**	.463**	.502**	.574**	1	.680**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	505	505	505	505	505	505
Water conservation during ablution	Pearson Correlation	.608**	.551**	.420**	.491**	.680**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	505	505	505	505	505	505
**. Correlation is significant at the 0.01 level (2-tailed).							

Table 4.3 Pearson Coefficient

Table 4.3 shows that the correlations between independent variable which is knowledge, values, skills, attitudes and sustainable practice towards dependent variable which is water conservation during ablution of mosque user at Kampung Bukit Cherakah, Shah Alam, Selangor. Independent variables have positive linear relationship to dependent variable at significant level 0.05. All value in this probable is less than 0.9 which indicate that there is no multicollinearity problem. The correlation among independent variables is less than 0.9 which is between 0.774 and 0.420.

The correlation coefficient values range from -1 to 1; the strength of the association depends on the absolute value of the correlation coefficient and the direction of the correlation depends on the sign of the correlation (Burns and Bush 2010). According to Burns and Bush (2010) the table below was a rule of thumb about the strength of the association.

Strength of Correlation Coefficient

0.81 – 1.00	Strong
0.61 – 0.80	Moderate
0.41 – 0.60	Weak
0.21 – 0.40	Very weak
0.0 – 0.20	Low/ no

There is a significant relationship between knowledge and water conservation during ablution among the mosque user at Kampung Bukit Cherakah, Shah Alam, Selangor. This is because p-value equal to 0.000 and less than alpha value 0.05. Moreover, the value of correlation coefficient, which is 0.608, falls under coefficient range of +1 or -1. This indicates a moderate correlation between knowledge and water conservation during ablution among mosque user at Kampung Bukit Cherakah, Shah Alam.

There is no significant relationship between values and water conservation during ablution among the mosque user at Kampung Bukit Cherakah, Shah Alam, Selangor. This is because p-value equal to 0.000 and less than alpha value 0.05. Moreover, the value of correlation coefficient, which is 0.551, falls under coefficient range of +1 or -1. This indicates a weak correlation between values and water conservation during ablution among mosque user at Kampung Bukit Cherakah, Shah Alam.

There is no significant relationship between skills and water conservation during ablution among the mosque user at Kampung Bukit Cherakah, Shah Alam, Selangor. This is because p-value equal to 0.000 and less than alpha value 0.05. Moreover, the value of correlation coefficient, which is 0.420, falls under coefficient range of +1 or -1. This indicates a weak correlation between skills and water conservation during ablution among mosque user at Kampung Bukit Cherakah, Shah Alam.

There is no significant relationship between attitudes and water conservation during ablution among the mosque user at Kampung Bukit Cherakah, Shah Alam, Selangor. This is because p-value equal to 0.000 and less than alpha value 0.05. Moreover, the value of correlation coefficient, which is 0.491, falls under coefficient range of +1 or -1. This indicates a weak correlation between attitudes and water conservation during ablution among mosque user at Kampung Bukit Cherakah, Shah Alam.

There is a significant relationship between sustainable practice and water conservation during ablution among the mosque user at Kampung Bukit Cherakah, Shah Alam, Selangor. This is because p-value equal to 0.000 and less than alpha value 0.05. Moreover, the value of correlation coefficient, which is 0.680, falls under coefficient range of +1 or -1. This indicates a moderate correlation between sustainable practices and water conservation during ablution among mosque user at Kampung Bukit Cherakah, Shah Alam.

As evidence from the table above, there is only two variables that moderate level which considering as significant with the determination correlation of 0.608 (knowledge) and 0.680(sustainable practices).

4.5 Normality of Analyses

Table 4.5 below showed the test of normality which indicated that all the variables were a sample of normally distributed population by having the skewness and kurtosis value from negative 1.96 to positive 1.96 (Harlow, 1985). The skewness value provides an indication of the symmetry of the distribution. Kurtosis, on the other hand, provides information about the 'peakedness' of the distribution. (Pallant,2011). If the data falls into the straight line, it is indicated that the data are normally distributed (Wang et al.,2016).

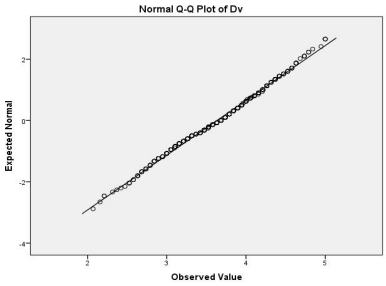


Figure 4.5 shows Normal Q-Q Plot of Water Conservation During Ablution

Variable	Skewness	kurtosis	Sharpiro-wilk
Water conservation during ablution	-1.073	-1.995	0.026

Table 4.4 shows Normality of Water Conservation During Ablution

The figure 4.4 shows the most of the data fall closely to the straight line which means the data are normally distributed. The skewness value is -1.073(<1.96) and kurtosis value is -1.995(>1.96) which indicated that the data are moderately skewed.

As we can see from the table and graph above, the Shapiro-Wilk test is 0.026 ($p<0.05$), means that null hypothesis is rejected, provided the data distribution is normal so further analysis is run using the parametric test.

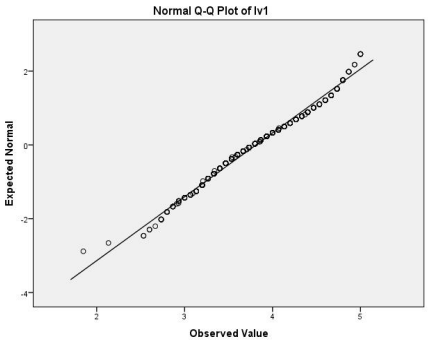


Figure 4.6 shows Normal Q-Q Plot of Knowledge

Variable	Skewness	kurtosis	Sharpiro-wilk
Knowledge	-0.009	-2.447	0.000

Table 4.5 shows Normality of Knowledge

From the table above, the skewness value is -0.009(<-1.96) and kurtosis value is -2.447(>1.96) which indicated that the data are less skewed. The figure 4.5.2 shows the most of the data fall closely to the straight line which means the data are normally distributed.

As we can see from the table and graph above, the Shapiro-Wilk test is 0.000 ($p<0.05$), means that null hypothesis is rejected, provided the data distribution is normal so further analysis is run using the parametric test.

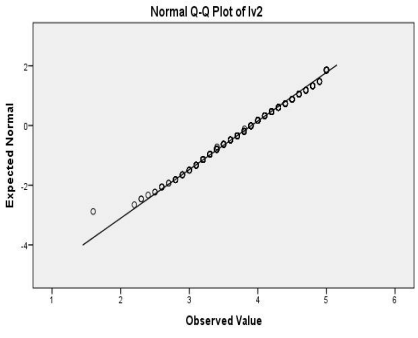


Figure 4.7 shows Normal Q-Q Plot of Values

Variable	Skewness	kurtosis	Sharpiro-wilk
Values	-1.155	1.004	0.000

Table 4.6 shows Normality of Values

From the table above, the skewness value is -1.155(<-1.96) and kurtosis value is 1.004(<1.96) which indicated that the data are highly skewed. The figure 4.5.3 shows the most of the data fall closely to the straight line which means the data are normally distributed.

As we can see from the table and graph above, the Shapiro-Wilk test is 0.000 ($p<0.05$), means that null hypothesis is rejected, provided the data distribution is normal so further analysis is run using the parametric test.

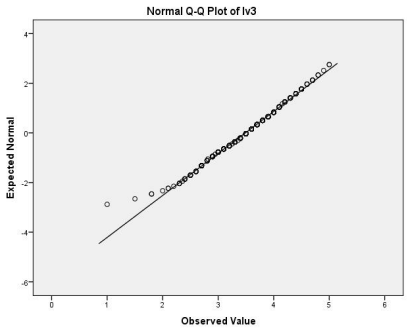


Figure 4.8 shows Q-Q Plot of Skills

Variable	Skewness	kurtosis	Sharpiro-wilk
Skills	-2.431	1.516	0.005

Table 4.7 shows Normality of Skills

From the table above, the skewness value is -2.431(>1.96) and kurtosis value is 1.516(>1.96) which indicated that the data are highly distributed. The figure 4.5.4 shows the most of the data fall closely to the straight line, which means the data are normally distributed.

As we can see from the table and graph above, the Shapiro-Wilk test is 0.005 ($p<0.05$), means that null hypothesis is rejected, provided the data distribution is normal so further analysis is run using the parametric test.

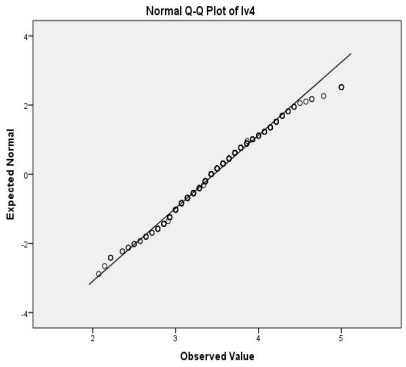


Figure 4.9 shows Q-Q Plot of Attitudes

Variable	Skewness	kurtosis	Sharpiro-wilk
Attitudes	2.660	3.013	0.000

Table 4.8 shows Normality of Attitudes

From the table above, the skewness value is 2.660(>1.96) and kurtosis value is -3.013(>1.96) which means the data are highly skewed. The figure 4.5.1 shows the most of the data fall closely to the straight line, which means the data are normally distributed.

As we can see from the table and graph above, the Shapiro-Wilk test is 0.000 ($p<0.05$), means that null hypothesis is rejected, and provided the data distribution is normal so further analysis is run using the parametric test.

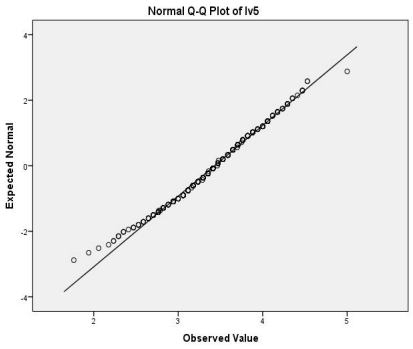


Figure 4.10 shows Q-Q Plot of Sustainable Practices

Variable	Skewness	kurtosis	Sharpiro-wilk
Sustainable practice	-2.174	2.262	0.013

Table 4.9 shows Normality of Sustainable Practices

From the table above, the skewness value is -2.174(>1.96) and kurtosis value is -2.262(>1.96) which indicated that the data are moderately skewed. The figure 4.5.6 shows the most of the data fall closely to the straight line which means the data are normally distributed.

As we can see from the table and graph above, the Shapiro-Wilk test is 0.013 ($p<0.05$), means that null hypothesis is rejected, and provided the data distribution is normal so further analysis is run using the parametric test.

4.6 Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.817
Bartlett's Test of Sphericity	Approx. Chi-Square	1485.487
	df	15
	Sig.	.000

Table 4.10 shows KMO and Bartlett's Test

According to Pallant (2007), sample size and the strength of the relationship among the items or variables are the two main issues to be considered for a set of data is suitable for factor analysis. These values test the appropriateness of using factor analyses. The values of anti-image correlation matrix and KMO are greater than 0.5 and 0.6 implying the presence of significant correlations among variables (constructs) and enabling the factor analysis (especially EFA) to produce distinct and valid factors (Hair et al., 1998).

Based on the table 4.6 this research was analyzed and the result by Kaiser-Meyer-Oklin Measure Of Sampling Adequacy is 0.817 which is near to 1 it means the data in the process gave accurate and reliable result about the factor of water conservation during ablution, The Bartlett's test was significant [x^2(15)=1485.487, p=.000] Source: Cohen 1988

4.7 Multiple Regression Analysis

Regression analysis was used to find the relationship between one dependent variable and one or more independent variables and was popular in many research areas (Hair et al., 1998;).With word reference to (Weier,2008), a multiple regression analysis is an analysis which involves one dependent variable and two or more independent variable. In other words, it is an analysis of association in which the effects of two or more independent variables on single, interval-scaled dependent variable are investigated simultaneously (Zikmund et al.,2010).

According to Zikmund et al. (2010) simple regression analysis and correlations were mathematically the same in many respects; however, the correlation was an interdependence technique and regression was a dependence technique.

The R square ranges from 0 – 1 and this showed how much of the dependent variable was explained by the independent variables. The higher the R square the

stronger the association between the dependent variable and the independent variable. (Shodganga). The regression analysis was conducted to determine the relationship between the five independents variable and the dependent variable. The relationships between sustainable practices, knowledge and value towards water conservation during ablution.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.758[a]	.575	.570	.36666	1.959

a. Predictors: (Constant), IV5, IV2, IV3, IV4, IV1

b. Dependent Variable: DV

Table 4.11 Model Summary

Based on the table above, it shows that the value of correlation coefficient (R value) is 0.575. Independent variable can explain 57.5% of the variation in independent variable. However, it is still left 42.5% unexplained in this study.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.648	5	18.130	134.856	.000[b]
	Residual	67.084	499	.134		
	Total	157.732	504			

a. Dependent Variable: DV

b. Predictors: (Constant), IV5, IV2, IV3, IV4, IV1

Table 4.12 ANOVA

Table 4.12 shows that p-value (Sig. 0.000) is less than alpha value 0.05. The alternative hypothesis as the five independent variables are significantly explains the

variance in water conservation during ablution explained by the independent variables is supported by the data and will be accepted. The table also indicated that there was significant positive influence of the independent variables towards water conservation during ablution (F=134.856, P<0.05).

Table 4.13 Coeffients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.067	.145		.464	.643
	IV1	.302	.046	.312	6.589	.000
	IV2	.066	.043	.072	1.512	.131
	IV3	-.021	.035	-.023	-.620	.535
	IV4	.078	.045	.066	1.745	.082
	IV5	.572	.047	.474	12.283	.000

a. Dependent Variable: DV

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	.817	.137		5.981	.000
	IV5	.821	.039	.680	20.813	.000
2	(Constant)	.168	.135		1.242	.215
	IV5	.611	.040	.507	15.289	.000
	IV1	.359	.032	.370	11.178	.000

Table 4.14 Coeffients

Based on table above, (Coefficient) shows that knowledge, and sustainable practices is significant to predict dependent variable (water conservation during ablution) this is because p-value is less than 0.05(Pallant, 2011).

The absolute value of B(Beta) in table 4.7.3 indicates the order of importance of the independent variable with the highest B value is relatively most important independent variable (Uyanik & Guler.,2013). On examining contributions made by the independent variables in the model to the model, it was found that water conservation during ablution received from the knowledge made the biggest contribution with the value of IV5 (sustainable practices) (Beta=0.507, $P<0.05$) and IV1(knowledge) (Beta=0.370, $P<0.05$).It was followed by the scores received from values, skills and attitude, respectively. The determination coefficient of IV2(Values)(Beta=0.072,$P<0.05$),IV3(skills)(Beta=-0.023,$P<0.05$) and IV4(attitude)(Beta=0.006,$P<0.05$) were found to make the smallest contributions to the model.

Therefore, only 2 variables have made the biggest contribution towards dependent variable which is knowledge and sustainable practices.

Based on the regression analysis results the equation regression was obtained as it is shown below:

IV5(Sustainable Practices) = 0.067 + 0.302 IV1(Knowledge) + 0.066 IV2(Values) - 0.021 IV3 (Skills) + 0.078 IV4 (Attitude)

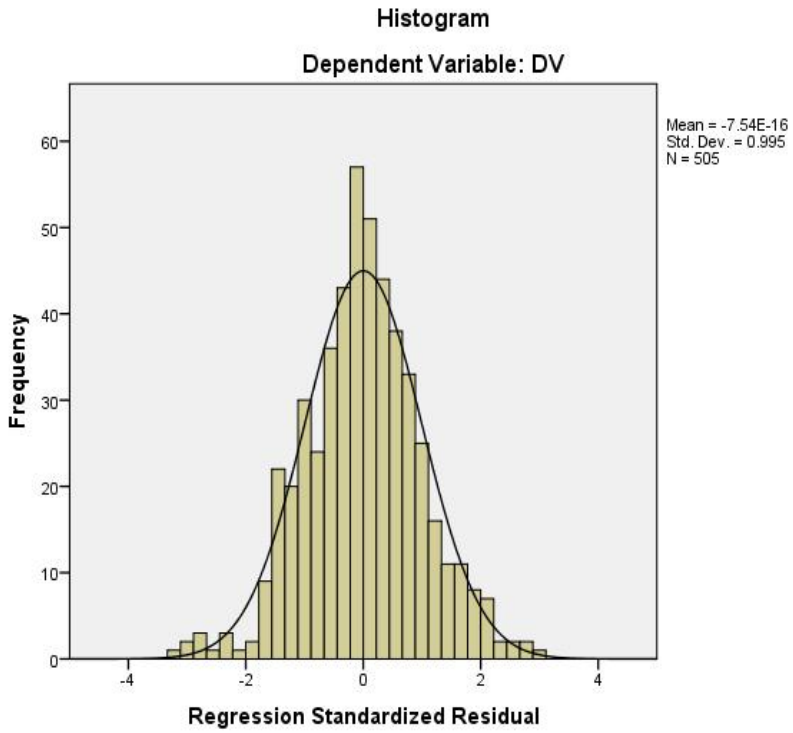


Figure 4.15 Histogram of Dependent Variable

Inspection shape of the histogram provides information about the distribution of scores on the continuous variable The scores are reasonably distributed, with most scores accruing in the center, tapering out towards the extremes(Pallant.,2011).Therefore from figure 4.7.2 : Normal P-P Plot of Regression Standardized Residual above, indicate that scores on each variables are normally distributed.

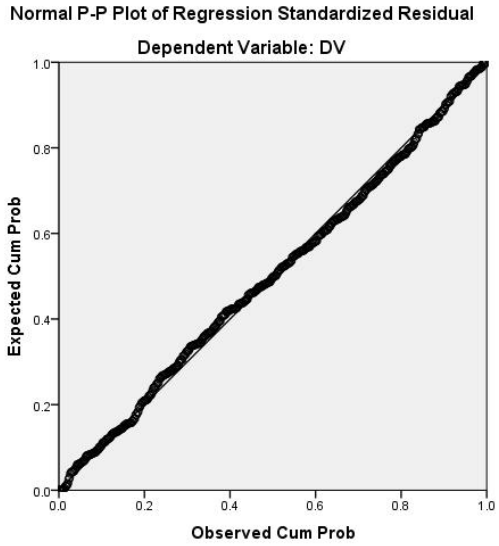


Figure 4.12 Normal P-P Plot of Regression Standardized Residual

Based on the Normal Probability Plot (P-P) above, the dots line is much closer to the straight line. The closer the dots lie to the diagonal line, the closer to normal the residuals are distributed (Open University). The graph above indicates there are no major deviation from normality which means that all the data are normally distributed.

Variables	VIF
Knowledge	2.624
Values	2.670
Skills	1.572
Attitude	1.679
Sustainable Practices	1.750

Table 4.15 Variance Inflation Values (VIF)(N=505)

As for the assumption of multicollinearity, the VIF values of the variable were used to address this assumption. If variance increase factor (VIF) equal or higher than 5, there is a multiple relation between variables and if variance of factor (VIF) are smaller than 5 there is no multiple relations decided (Hair, 2010).

From the table above, it can be seen that VIF values for all variables are smaller than 5 knowledge (2.624), values (2.670), skills (1.572), attitude (1.679) and sustainable practices (1.750) **so** there are no multiple relations in this research.

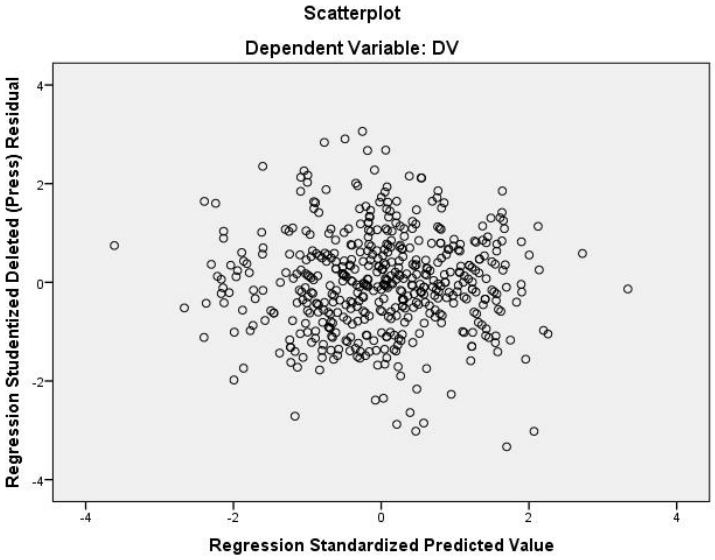


Figure 4.13: Scatterplot of Residual Observed value and Predicted value

Homoscedasticity is the last assumption where the variability in scores for variable X should be similar at all values of variable Y. The findings indicate that the predictors (independent variables) are linearly related to the residual of the criterion (dependent variable). Therefore, the homoscedasticity of the sample is ensured (Students Repo). Therefore, the last assumption is fulfilled,

4.8 Summary

Overall, the level between knowledge, values, skills, attitudes, sustainable practices towards water conservation during ablution is at medium level. There is significant positive relationship between sustainable practices towards water conservation during ablution. There is also linear relationship between knowledge, values, skills, attitudes, and sustainable practices towards water conservation during ablution. For multiple regression, only sustainable practices and knowledge has significant influence towards water conservation during ablution.

CHAPTER 5 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The importance of conserving water in Islam has been stressed many times in the holy Quran and book of Hadith by Rasulullah pbuh. In the chapter of Taharah or cleanliness, the wudu' (ablution) and ghusl (mandatory bath) were two cleansing rituals or process that consumed large amount of water. But, Rasulullah pbuh has set an example by consuming only small amount of water for performing the ablution and it has been documented in lots of hadith. So, this was a proof that Islam is very particular and concerned on preservation of water and its water resources. Wastages of water is condemned by Allah and the consequences is severe.

As a conclusion, the research has made some findings throughout the observation, measurement and survey conducted to the Jemaah of Al-Barokah mosque, Kampung Bukit Cherakah in Shah Alam in order to find the relationship between knowledge, values, skills, attitudes and sustainable practice on water consumption towards water conservation during ablution.

Prior to this, a specially designed sticker that being called as Save Ablution H2O Visual Booster has been applied at the ablution area of the mosque around the month of October 2019. This is done after the Nazir or supervisor of the mosque complaints about large amount of water consumed in the month of September. The purpose of the application of the sticker was to provide some education and reminder to the Jemaah on water conservation during ablution. Up till November, for two months of the application of the sticker, the amount of water consumed has dropped dramatically. This is based on self water audit conducted by referring to the monthly Air Selangor water bills. The researcher also conducted a measurement to the amount of water consumed by the Jemaah while performing the wudu'. The average amount of water consumed was around 3.37 liters per person in average time of 90 seconds. This amount of water consumed was way more than the amount of water recommended by Rasulullah pbuh which was at 0.5 liters.

Due to these circumstances, a survey study was conducted by distributing the questionnaire to 505 Jemaah of the mosque. The independent variables of the study were knowledge on water consumption, values on water consumption, skills on water consumption, attitudes on water consumption and sustainable practice on water consumption. Water conservation during ablution became the dependent variable of the study. There were five objectives of the research with five hypotheses.

Based on the analysis of Pearson correlation. The first objective, which is to find relationship between knowledge towards water conservation during ablution, findings from the data analysis, shows that the relationship is significant. The value of correlation coefficient was 0.608 an indication of a moderate correlation. The second objective, which is to find relationship between values towards water conservation during ablution, findings from the data analysis, shows that the relationship is not significant. The value of correlation coefficient was 0.551 an indication of a weak correlation.

The third objective, which is to find relationship between skills towards water conservation during ablution, findings from the data analysis, shows that the relationship is not significant. The value of correlation coefficient was 0.420 an indication of a weak correlation. The fourth objective, which is to find relationship between attitudes towards water conservation during ablution, findings from the data analysis, shows that the relationship is also not significant. The value of correlation coefficient was 0.491 an indication of a weak correlation.

The fifth objective, which is to find relationship between sustainable practice towards water conservation during ablution, findings from the data analysis, shows that the relationship is significant. The value of correlation coefficient was 0.680 an indication of a moderate correlation.

The data analysis by multiple regressions also suggested that knowledge and sustainable practices is significant to predict dependent variable, which was water conservation during ablution with p-value, is less than 0.05. On examining contributions made by the independent variables in the model to the model, it was found that water conservation during ablution received from the knowledge and

sustainable practices made the biggest contribution with the value of IV5 (sustainable practices) (Beta=0.507, P<0.05) and IV1(knowledge) (Beta=0.370, P<0.05).

Through all this finding, explanation on whether to accept or reject the hypotheses can be made. From the data analysis, it can be accepted that there is relationship between knowledge and sustainable practice towards water conservation during ablution. This involves hypothesis one and five. At the same time, the result from data analysis conducted has rejected hypothesis two, three and four. It is clearly stated that there is no relationship between values, skills and attitudes towards water conservation during ablution.

By this finding it was proven that the application of the "Save Ablution H20 Visual Booster" sticker has brought some impact on the knowledge and sustainable practices towards water conservation during ablution among the Jemaah of the Al-Barokah mosque. In the future, water conservation activity can be easily implemented provided that residents have some knowledge and capable to sustain water.

In the earlier chapter of introduction, it is said that this study is so important to be carried out as it has the significance to the institution, the community and the body of knowledge. So, it can be concluded that the research has indeed opens lots opportunity for new research project in the future. The researchers which also the students of Business Project have learnt many experiences in conducting a research survey and how to gather and analyses research data

The research has also benefitted lot of parties involved such as the residents of Kampung Bukit Cherakah and the Jemaah of Al-Barokah mosque. Kampung Bukit Cherakah is a small Malay village that located in the area of Shah Alam. It's surrounded by lush greenery of virgin jungle. This study has provided knowledge and sustainable practices to the community on how to conduct water conservation during ablution and self-water audit.

Research on water conservation especially the household water consumption is must be continuously carried out. Ablution is part of household activities that consumed water. So, the findings of this study on the water conservation during ablution has contributed and provided more understanding to the body of knowledge.

The research has produced two research papers as highlighted in appendix B and C. Both of this paper has been presented and published in the proceedings of Final Year Project & Postgraduate Competition by MNNF Network and the Journal of International TVET, Academic & Research Conference as shown in appendix C and D. This research has been awarded with Diamond Awards during the Final Year Project & Postgraduate Poster Competition. Furthermore, the innovation inventions of "Save Ablution H2O Visual Booster" Sticker have also been recognized with the Silver Award in the Asian Youth Innovation Competition, Malaysia Technology Expo.

5.2 Recommendation

There are a number of gaps in our knowledge around public involvement in research that follow from our findings, and would benefit from further research, including realist evaluation to extend and further test the theory we have developed here:

1. More opportunities for future research in developing new objective which is to develop indicator for water consumption during ablution of the mosque.

2. Processing the data to get more accurate result or maybe can use other suitable analysis technique in order to get the significance between variables.

3. Research to develop approaches and carry out a full cost–benefit analysis of public involvement in research would be beneficial. Although methodologically challenging, it would be very useful to conduct some longer-term studies which sought to quantify the impact of public involvement on such key indicators as participant recruitment.

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APPENDICES

APPENDIX A	Planning and implementing chart
APPENDIX B	Questionnaire
APPENDIX C	Full paper FYP & Postgraduate Poster Competition, Series 1/2020
APPENDIX D	Full paper International TVET Academic and Research Conference (ITARC) 2020

APPENDIX A

PLANNING AND IMPLEMENTATION CHART

Title: The Relationship between Knowledge, Values, Skills, Attitudes and Sustainability Practices towards Water Conservation Practices during Ablution: A Case Study at Al-Barokah Mosque Kampung Bukit Cherakah Jaya

No	Task	Month: September Year: 2019				
		Week 1 2-8/09/19	Week 2 9-11/09/19	Week 3 16-22/09/19	Week 4 23-29/09/19	Week 5 30/09/19
1	Design Stage of "Save Ablution H2O Visual Booster"					
	-Implementation					
2	Meeting with Jabatan Agama Islam Selangor					
	-Implementation					
3	Application of "Save Ablution H2O Visual Booster"					
	-Implementation					

No	Task	Month: October Year: 2019				
		Week 1 1-6/10/19	Week 2 7-13/10/19	Week 3 14-20/10/19	Week 4 21-27/10/19	Week 5 28-31/10/19
1	Participation in Nature and Environmental Awareness Workshop organized by Malaysia Nature Society (MNS)					
	-Implementation					
2	Poster Presentation in Nature and Environmental Awareness Workshop					
	-Implementation					
3	Participation in The University Putra Malaysia's Nature Sustainability Day at UPM's Mosque					
	-Implementation					
4	Conduct Exhibition on Water Conservation During Ablution in The University Putra Malaysia's Nature Sustainability Day at UPM's Mosque					
	-Implementation					

APPENDIX A

No	Task	Month: December Year: 2019				
		Week 1 2-8/12/19	Week 2 9-15/12/19	Week 3 16-22/12/19	Week 4 23-29/12/19	Week 5 30-31/12/19
1	Briefing on The Implementation of Business Project					
	-Implementation					
2	Formation of Business Project Group and Identification of group members					
	-Implementation					
3	Identification of Business Project Research Area					
	-Implementation					
4	Discussion on Project Title					
	-Implementation					
5	Logbook Updates and Validations					
	-Implementation					
6	Preparation of Research Proposal					
	-Implementation					
	- Identification of Research Problem Statement and Objectives					
	-Implementation					
	- Identification of Research Location					
	-Implementation					
	- Identification of Related Literature					
	-Implementation					
	- Summarization of Literature's					
	-Implementation					
7	Conduct Site Visit to Research Location					
	-Implementation					
	- Observation					
	-Implementation					
	- Facility Audit					
	-Implementation					
	- Measurement of Water Usage during Ablution					
	-Implementation					
	- Stakeholder Interviews					
	-Implementation					
	- Water Audit on Existing Utility					

	Bills from Air Selangor					

8	Submission of Entry for Participation in Final Year Project & Postgraduate Poster Competition in January 2020					
	-Implementation					
9	Preparation for Final Year Project & Postgraduate Poster Competition					
	-Implementation					
10	Water Conservation during Ablution Full Paper Write-Up for The Proceedings of FYP & Postgraduate Poster Competition (FYPPPC) Series 1/2020					

APPENDIX A

No	Task	Month: January Year: 2020				
		Week 1 1-5/01/20	Week 2 6-12/01/20	Week 3 13-19/01/20	Week 4 20-26/01/20	Week 4 27-31/01/20
1	Preparation for Final Year Project & Postgraduate Poster Competition Organized by MNNF Network at The Palace of Golden Horses Hotel					
	-Implementation					
2	Final Year Project & Postgraduate Poster Competition Organized by MNNF Network at The Palace of Golden Horses Hotel					
	-Implementation					
3	Submission of The Water Conservation during Ablution Camera Ready Full Paper for The Proceedings of FYP & Postgraduate Poster Competition (FYPPPC) Series 1/2020					
	-Implementation					
4	Logbook Updates and Validations					
	-Implementation					
5	Literature Review Establishment					
	-Implementation					
6	Special Lectures on Techniques of Developing the Literature Review					
	-Implementation					
7	Questionnaire Development for Quantitative Research					
	-Implementation					
8	Submission of Research Proposal					
	-Implementation					
9	Pilot Study					
	-Implementation					
.0	Briefing on Participation in Malaysia Technology Expo 2020					

	-Implementation					
11	Conducting Questionnaire Survey Distributions at the Al-Barokah Mosque					
	-Implementation					
12	Continuing the Site Visit to Research Location					
	- Observation					
	-Implementation					
	- Water Audit on Existing Utility Bills from Air Selangor					
	-Implementation					
13	Visit the Air Selangor for the Complete Water Utility Bill of the Al-Barokah Mosque					
	-Implementation					
14	Preparation for International TVET, Academic & Research Conference (ITARC) 2020					
	-Implementation					
15	The Relationship between Knowledge, Values, Skills, Attitudes and Sustainable Practices towards The Water Conservation Practice during Ablution: A Case Study at The Al-Barokah Mosque kampung Bukit Cherakah Jaya Full Paper Write-Up for The International TVET, Academic & Research Conference (ITARC) 2020					
	-Implementation					
16	Preparation for Asian Youth Innovation Competition at Malaysia Technology Expo 2020					
	-Implementation					

APPENDIX A

No	Task	Month: February Year: 2020				
		Week 1 3-9/02/20	Week 2 10-16/02/20	Week 3 17-23/02/20	Week 4 24-29/02/20	
1	Preparation for International TVET, Academic & Research Conference (ITARC) 2020					
	-Implementation					
2	Preparation for Asian Youth Innovation Competition at Malaysia Technology Expo 2020					
	-Implementation					
3	Presentation at The International TVET, Academic & Research Conference (ITARC) 2020					
	-Implementation					
4	Participation at The Asian Youth Innovation Competition at Malaysia Technology Expo 2020					
	-Implementation					
5	Submission of The Relationship between Knowledge, Values, Skills, Attitudes and Sustainable Practices towards The Water Conservation Practice during Ablution: A Case Study at The Al-Barokah Mosque kampung Bukit Cherakah Jaya Full Paper for The International TVET, Academic & Research Conference (ITARC) 2020					
	-Implementation					
4	Logbook Updates and Validations					
	-Implementation					
5	Literature Review Establishment					
	-Implementation					
6	Questionnaire Data Analysis					
	-Implementation					
7	Write-Up Completion of The Chapter of Introduction for Business Project Final Report					
	-Implementation					
8	Write-Up Completion of The Chapter of Literature Review for Business Project Final Report					
	-Implementation					
9	Write-Up Completion of The					

	Chapter of Methodology for Business Project Final Report					
	-Implementation					
10	Write-Up Completion of The Chapter of Data Analysis and Findings for Business Project Final Report					
	-Implementation					
11	Write-Up Completion of The Chapter of Conclusion and Recommendations for Business Project Final Report					
	-Implementation					
12	Continuing the Site Visit to Research Location					
	- Water Audit on Existing Utility Bills from Air Selangor					
	-Implementation					

APPENDIX A

No	Task	Month: March Year: 2020				
		Week 1 2-8/03/20	Week 2 9-15/03/20	Week 3 16-22/03/20	Week 4 23-29/03/20	Week 5 30-31/03/20
1	Logbook Updates and Validations					
	-Implementation					
2	Write-Up Draft for The Chapter of Introduction for Business Project Final Report					
	-Implementation					
3	Write-Up Draft for The Chapter of Literature Review for Business Project Final Report					
	-Implementation					
4	Write-Up Draft for The Chapter of Methodology for Business Project Final Report					
	-Implementation					
5	Write-Up Draft for The Chapter of Data Analysis and Findings for Business Project Final Report					
	-Implementation					
4	Write-Up Draft for The Chapter of Conclusion and Recommendations for Business Project Final Report					
	-Implementation					
5	Submission of Write-Up Draft for All Chapters to The Supervisor					
	-Implementation					
6	Development of Video Presentation and PowerPoint Slides					
	-Implementation					
7	Submission of Video Presentation and PowerPoint Slides to the Course Coordinator					
	-Implementation					

APPENDIX A

No	Task	Month: April Year: 2020				
		Week 1 1-5/04/20	Week 2 6-12/04/20	Week 3 13-19/04/20	Week 4 20-26/04/20	Week 5 27-30/04/20
1	Submission of Camera-Ready Full Report of Business Project to The Supervisor					
	-Implementation					
2	Compilation of Final Report, PowerPoint Slides, Video of Presentation, Questionnaire and Raw Data to The Course Coordinator					
	-Implementation					

APPENDIX B

QUESTIONNAIRE RELATED TO KNOWLEDGE, VALUES, ATTITUDES, SKILLS AND SUSTAINABLE PRACTICES TOWARDS WATER CONSERVATION DURING ABLUTION AT THE AL-BAROKAH MOSQUE, KAMPUNG BUKIT CHERAKAH JAYA, SHAH ALAM

Mr./ Mrs./ MS,

Your cooperation is essential to the success of this study. We are a group of students named as below from the Department of Commerce, Politeknik Sultan Salahuddin Abdul Aziz Shah, Shah Alam, Selangor.

STUDENTS NAMES:

Mohd. Aiman Bin Mohd Fauzi	08DPI17F2010
Syahid Irfan Bin Yunus	08DPI17F2002
Jaanavee Devi A/P Sundaresan	08DP17F2014
Fatin Najihah Binti Zainal Abidin	08DPI17F2021

SUPERVISORS NAMES:

Azizi Mursidy Bin Zainol Abidin	azizimursidyz@gmail.com	0199349328
Datin Seri Dr Zainah Binti Othman	othman.zainah@gmail.com	0192219540

We are conducting a study titled: **The relationship between knowledge, values, attitudes, skills and practices of sustainability in water conservation during ablution at Al-Barokah Mosque.** This research was conducted by the semester 5 Diploma in International Business students to understand the level of knowledge of the Muslims users of the mosque on sustainable water usage.

We highly apricate if you could spend your time to answer this questionnaire honestly and prudently. All feedback provided is confidential and is for academic use only. Your engagement and cooperation in answering this questionnaire is much appreciated.

Any questions regarding this study can be directed to the above researchers by e-mail or telephone number.

Thank you for your time and cooperation.

APPENDIX B

SECTION A

(Respondent's Details)

Please tick (/) in the relevant box.

Gender

1.	Male	
2.	Female	

Race

1	Malay	
2	Chinese	
3	Indian	
4	Others	

Age

1	0-17	
2	18-65	
3	66-79	
4	80-99	
5	100 and above	

Education Level

1	PhD	
2	Master	
3	Degree	
4	Diploma	
5	Certificate	
6	STPM	
7	SPM	

8	SRP/PMR/PT3	
9	UPSR	
10	No formal education	

APPENDIX B

SECTION B

INDEPENDENT VARIABLE: FACTORS AFFECTING THE SUSTAINABLE WATER USAGE PRACTICE

B: KNOWLEDGE ABOUT THE SUSTAINABLE WATER USING PRACTICES

INSTRUCTION:

Please tick (/) on the answer option for a statement that describes your water consumption

1	2	3	4	5
STRONGLY DISAGREE	***DISAGREE***	***UNSURE***	***AGREE***	***STRONGLY AGREE***

	Knowledge about water usage **I know that….**	**1**	**2**	**3**	**4**	**5**
B1	Water is a renewable resource.					
B2	Clean and usable water resource is very limited on earth.					
B3	Humans cannot live without water.					
B4	Polluted water can affect human health.					
B5	Suruhanjaya Perkhidmatan Air Negara (SPAN) is the governing bodies for water services in Malaysia.					
B6	Rivers, lakes and ponds are the water sources for humans					
B7	Overlogging will affect the water catchment area.					
B8	Water sources are always polluted by irresponsible human activities.					
B9	Improper waste disposal from houses and factories into the rivers causes water pollution in Malaysia					
B10	Humans play vital role in maintaining clean water resources.					

B11	Most of the rivers in Malaysia are polluted.					
B12	Sustainable use of water means meeting the water needs of the present generation without compromising the needs of future generations.					
B13	World Health Organization (WHO) recommends that everyone can only use up to 165 litres per day.					
B14	Wise use of water can solve the water shortage problem.					
B15	The concept of "3R" introduced in the recycling program involving "reduce, recycle, reuse" can be used to save water.					

APPENDIX B

SECTION C:

INDEPENDENT VARIABLE: VALUES WHILE USING WATER

INSTRUCTION:

Please tick (/) on the answer option for a statement that describes your water consumption

1	2	3	4	5
STRONGLY DISAGREE	***DISAGREE***	***UNSURE***	***AGREE***	***STRONGLY AGREE***

	Values while using water **I know that….**	**1**	**2**	**3**	**4**	**5**
C1	All living things in this world should enjoy clean water.					
C2	I feel happy if I see clean rivers, lakes and ponds areas.					
C3	Water resources (rivers, lakes and ponds) must be taken care for the future generation.					
C4	Lack of clean water resources will give impact to the society.					
C5	Contaminated water can be cleaned and used for daily usage.					
C6	It does bother me if anyone wastes water.					
C7	I know the habit of wasting water will give big impact to me in the future.					
C8	Water shortage problem is a big issue for me.					
C9	Water pollution issue will have a serious effect on me.					
C10	I wish to know more about the water issues and ways to overcome it.					

APPENDIX B

SECTION D

INDEPENDENT VARIABLE: WATER USING SKILLS

INSTRUCTION:

Please tick (/) on the answer option for a statement that describes your water consumption

1	2	3	4	5
STRONGLY DISAGREE	***DISAGREE***	***UNSURE***	***AGREE***	***STRONGLY AGREE***

	Water using skills **I know that….**	**1**	**2**	**3**	**4**	**5**
D1	I do save rain water to water my plants.					
D2	I use rain water to wash my vehicles (car, motorcycle and bicycle)					
D3	Water collected during shower with a bucket can be used for other purposes.					
D4	I try to avoid oil spills as it needs a lot water to clean it.					
D5	I water my plants in the morning and in the evening.					
D6	I use an adjustable water sprayer to water my plants.					
D7	I rinse the plates in a container of water before rinsing in tap water.					
D8	I clean the toilet with the water I washed the clothes.					
D9	I collect the water from the washing machine to clean the toilet.					
D10	I prevent my legs from getting dirty to avoid washing it frequently.					

APPENDIX B

SECTION E:

INDEPENDENT VARIABLE: ATTITUDE WHILE USING WATER

INSTRUCTION:

Please tick (/) on the answer option for a statement that describes your water consumption

1	2	3	4	5
STRONGLY DISAGREE	***DISAGREE***	***UNSURE***	***AGREE***	***STRONGLY AGREE***

	Attitude while using water **I know that….**	**1**	**2**	**3**	**4**	**5**
E1	I am willing to take part in water conservation activities.					
E2	I feel more satisfied if I take in water saving activities.					
E3	I am willing to encourage others to adopt sustainable water use behaviours (such as water conservation)					
E4	I can discuss with others about the ways to solve water shortage problems.					
E5	I can increase my effort to save more water.					
E6	I am willing to encourage others to reduce the amount of water wasted.					
E7	Water crisis issue is the government's problem not mine.					
E8	I will inform the relevant authorities if there is any pipeline leakage in my residential area.					
E9	I think people will be more respectful of people who practice water conservation.					
E10	The government's Water Saving Campaigns are not effective.					

E11	In the event of pipe leakage, I will inform the responsible authorities to take action.					
E12	Those who are not able to pay their water bills need to have water saving attitude.					
E13	I do not bother about water crisis issues as my residential area has not faced water problems.					
E14	Water has not to be wisely used as it is cheap and paramount.					

APPENDIX B

SECTION F:

INDEPENDENT VARIABLE: SUSTAINABLE WATER USING PRACTICES

INSTRUCTION:

Please tick (/) on the answer option for a statement that describes your water consumption

1	2	3	4	5
STRONGLY DISAGREE	***DISAGREE***	***UNSURE***	***AGREE***	***STRONGLY AGREE***

	Sustainable water using practices **I know that….**	**1**	**2**	**3**	**4**	**5**
F1	I prefer bathing using collected water from a pail compared to using shower.					
F2	My family and I collect rain water for our daily usage.					
F3	I always use less amount of water for cleaning purposes.					
F4	I always make sure that the tap is closed tight to prevent water from dripping.					
F5	I close the water source when soaping during bathing.					
F6	I close the water tap while brushing the teeth.					
F7	I flush the toilet using large amount of water.					
F8	I open the water tap to the maximum flow while washing hands even though I do not have to do so.					
F9	I water the plants even if it is rainy season.					
F10	I have done vandalism to water taps until it breaks.					
F11	In the case of any water taps stealing activities, I will immediately make a report.					

F12	I have advice those who wastes water.					
F13	I have taken part in water saving campaigns.					
F14	I always read newspapers and books about water issues to increase my knowledge.					
F15	I implement water saving tips while using water.					
F16	If any water taps are unclosed, I will immediately close it.					
F17	I wash fruits in a container of water.					

SECTION G:

DEPENDENT VARIABLE: WATER USING HABIT DURING ABLUTION AFTER THE APPLICATION OF THE STCIKER

INSTRUCTION:

Please tick (/) on the answer option for a statement that describes your water consumption

1	2	3	4	5
STRONGLY DISAGREE	***DISAGREE***	***UNSURE***	***AGREE***	***STRONGLY AGREE***

NO	**Water using habit during ablution** **I know that….**	1	2	3	4	5
G1	Ablution is a part of our eco lifestyle.					
G2	Ablution is an activity which is blessed by god.					
G3	I am confident that my ablution is always perfect					
G4	I admit that I have left the water tap running when I was rushing.					
G5	I will periodically close the water tap during my ablution.					
G6	I only use a 500ml bottle of water for my ablution.					
G7	I only need half a cup of water to gargle during ablution.					
G8	I only need 500ml of water if I do my ablution outside the ablution area.					
G9	I complete my ablution with 3.37 litres of water while leaving the tap running in normal flow.					

G10	The amount of water I use for ablution is almost about 3.37 litres.					
G11	The existence of information sticker at the ablution area.					
G12	The sticker contains the guideline to flow while taking ablution					
G13	The sticker has affected and brought the way of doing ablution towards water saving idea.					
G14	The amount of water used by Rasulullah S.A.W for ablution is stated in this sticker.					
G15	The information on the sticker has given awareness to me to save more water even during ablution.					
G16	This sticker is very helpful in the water conservation process.					
G17	The contain on this sticker is very clearly stated.					
G18	The color of the sticker is very attractive					
G19	The location of the sticker is very accurate in the ablution area.					

Proceedings: FYP & Postgraduate Poster Competition, Series 1/2020
ISBN NO: XXX-XXX-XXXXX-X-X

Chapter X

Water Conservation during Ablution: A Case Study at Al-Barokah Mosque Kampung Bukit Cherakah Jaya

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Jaanavee Devi a/p Sundaresan
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ABSTRACT

The act of performing ablution involves cleansing certain parts of body with clean water is a compulsory ritual for any Muslim before conducting the daily prayers. Due to this, water wastage is common among the Muslims and little effort has been taken to conserve water when performing the ablution. In this preliminary study, which was conducted at the Al Barokah Mosque Kampong Bukit Cherakah Jaya, Shah Alam, Selangor, it was found that no specific initiative on water conservation during ablution has ever taken place. In spite of the high-water bills for five months, the self-audit on water usage was not carried out. Therefore, the aim of the study is to measure the consumption of water during ablution. This study also aims at educating the Jemaah on how to conduct the water audit. Comparing monthly water utilization bill in order to perform the water audit. A specially designed sticker is made purposely for the implementation of the study. The sticker contains information and procedures on how to consume water as minimum as 500 ml during ablution. These stickers were posted at each ablution point available in the mosque. Green indicators are also being used to indicate the positions of the water taps during ablution. Experiments and observations were conducted to measure and monitor the water consumption for the duration of three months. As a result of the knowledge imparted to the Jemaah, there was a slight reduction in the amount of water used for ablution over three consecutive months. Based on the water audit conducted from the month of October to December, it shows that as much as 17 cubic meters were saved. This project managed to reduce the consumption of water for ablution by 44% during these particular months. To encourage this act of water saving in future, further research on the attitude of Jemaah needs to be conducted to discover the reason behind this behavior so that it can be replicated in other mosques.

Key Words: ablution, water conservation and water consumption.

Proceedings: FYP & Postgraduate Poster Competition, Series 1/2020
ISBN NO: XXX-XXX-XXXXX-X-X

1. INTRODUCTION

The act of performing Ablution or Wudhu is a mandatory religious routine for Muslims and it is repeated several times daily for prayers and other deeds. The ablution action requires the washing of mouth, nose, face, hands, swabbing on head, ears and feet (Johari, et. al 2013). The minimum of water used during ablution is less than a liter, which is in between 0.5 up to 0.68 liters (Al Mamun, et. al 2014; Mustafa al-Khin, 2005 in Hashim, et. al 2016).

If the amount of water used can be minimized to that particular usage, the water consumption can be controlled to the most effective used when performing wudhu. This is in-line with the teaching of Prophet Muhammad that encourages water saving even when performing wudhu. Anas Bin Malik RA narrated:

كَانَ النَّبِىُّ صلى الله عليه وسلم يَغْتَسِلُ بِالصَّاعِ إِلَى خَمْسَةِ أَمْدَادٍ ، وَكَانَ يَتَوَضَّأُ بِالْمُدِّ

Translated as: “The Prophet (may the peace and blessings of Allāh be upon him) would perform ghusl with one sā’ to five mudd of water, and wudū with one mudd of water.” (Sahīh al-Bukhārī, Hadīth no 198).

The effective usage of water during ablution is fundamental to every Muslim. It is crucial for a mosque to sustain its water bills at its lowest in order to maintain its day-to-day operations. Smart consumption of water not only saves the mosque water bill but it will also help solving water conservation issue at national level. Similarly, water conservation is not just a religious issue but it is a national obligation especially when there is lacked of water resources. Countries in Asia and the Pacific have been aware on the importance of sustaining their water resources. Recommendations on policy actions for the countries’ leaders to improve water governance and guidance on investments to increase their countries’ water security were discussed thoroughly in the Asian Water Development Outlook (2013). In the Asia Pacific Water Forum, a comprehensive five dimensions of national water security elements were pointed out. They were the household water security, economic water security, urban water security, resilience to water related disaster and environmental security (Asian Water Development Outlook , 2013).

The consumption of water in mosque falls under the household security dimension as it contributes to the domestic used. In Malaysia the household data recorded that 211 liters water were used daily (Sobian, 2018) . On the other hand, World Health Organization recommended the usage to 165 liters per day (Jye, 2017) . Average daily water consumption by a Malaysian was currently 300 litres, which is almost, double the benchmark recommended by the United Nations (Bernama, 2016) . Clearly, Malaysia has overused of 45 liters water daily and the major contributor to this amount is domestic water consumption which is categorized into 30% of the water used outside the house, 19% used in the toilet, 15% for laundry, 12% for bathing, 9% for food and beverage, 9% leakage and 4% for other domestic uses such as cleaning services (Raduan, et. al 2018). The non-domestic consumption was categorized into three, which are the industrial, public uses of water and commercial. For application of water during ablution, it lies under the non-domestic consumption’s category of public uses of water such as shops, offices, schools and hospitals (Anang, et. al 2019).

According to Siwar et. al (2014) as he quotes the Global Water Partnership 2012, the social dimension is eminence to build resilience in community during extreme water event through a hard or soft measure. Even the head Minister of Selangor has also urged the management of mosque and surau to play a much bigger role in reducing the high rate of water wastage especially during ablution by imposing the water conservation initiatives (Bernama, 2016) . This is because (Asiah, et. al 2015), stipulated that currently there were about 6311 mosques in Malaysia. According to (Ahmad, et. al 2019) in personal communication, agreed that many residents that performed ablution in the mosque, do not know about water conservation. Even when the water bills were high for five months, the

Proceedings: FYP & Postgraduate Poster Competition, Series 1/2020
ISBN NO: XXX-XXX-XXXXX-X-X

mosque committee members were clueless about it (Ahmad, et. al 2019). It was never occurred to them, the amount of water used during ablution was the cause for it.
This shows that Malaysia should take some measure to control the massive use of water. This study helps by employing a simple measure that is performed by Prophet Muhammad when taking a wudhu. Therefore, this research is conducted to discover the usage of water when performing ablution in a mosque.

The objectives of this study are to measure the amount of water used during performing ablution and to develop a self-audit on water conservation during performing ablution for Al Barokah mosque.

There are various concepts and dimensions of water security as (Siwar, et. al 2014) stressed that demand for water is growing each year due to the increased number of populations. Water is a social issue and it is depleted, polluted and mismanaged (Siwar, et. al 2014). About 670 million people in Asia have limited access to water supply. Lack of availability and limited access to water have impedes individual and communities from greater social and economic benefits (Siwar, et. al 2014).

On the other hand, (Kelly, et. al 2015) mentioned that awareness on water consumption is limited to simple action. Although respondents were aware of the need to save water however the attitude towards conservation did not reflect the saving behaviour (Kelly, et. al 2015). Even in the United Kingdom, people were not aware of the severity of water scarcity issues within the country (Owen, et. al 2009). Whereas in Malaysia, Suratkon et. al (2014) suggested that much water is wasted during the process of performing ablution. This happened when the tap water was left running. This research was trying to demonstrate the practicality of saving the greywater that running free during performing ablution. On the contrary, research conducted by (Prathapar, et. al 2006), stressed that the amount of water used in the mosque is only 2 litre per day which is not economical to greywater treatment. Al Mamun et. al (2014) also suggested for the recycle of the ablution wastage. The recommendation was to filter the ablution water for the use of landscaping in the university surrounding.

It is a mandatory for Muslims to have the right ethics when dealing with water consumption because it is a part of Muslims' akhlaq. Although Islam put greater emphasis on cleanliness and sanctity, it never allows for excessiveness water usage during ablution (Raduan, et. al 2018). Almost 30-47 percent of treated water is wasted during performing ablution, as half of the water tap flows directly into the drain without any contamination (Zaied, et. al 2016).

Hashim et. al (2016) stated that the wastage of water during ablution would lead to the shortage of water resources if it were not dealt with efficiently. It is imperative to use water efficiently when performing ablution. This research indicated that respondents used seven times amount of water than used by Prophet Muhammad. A huge amount of water was used when the teachings of Prophet Muhammad was ignored. There are a few solutions from this research as to overcome the problem. The used of different water taps instead of pipe, watershed and pipe sensor technology were among the suggestions. Johari et. al (2013), on the other hand, through their research investigated the Muslim understanding towards their knowledge on ablution and tool to control behavior when performing ablution. The lack of knowledge in ablution leads to wastage of water when performing ablution (Johari, et. al 2013). Therefore, this research tried to educate the villagers by giving them knowledge of water conservation during performing ablution. At the same time, the amount of water used was also measured to ascertain the effectiveness of ablution knowledge that was imparted to them

Proceedings: FYP & Postgraduate Poster Competition, Series 1/2020
ISBN NO: XXX-XXX-XXXXX-X-X

2. METHODOLOGY

2.1 Area of Study: Al Barokah Mosque Kampong Bukit Cherakah Jaya

The study is conducted at the area of Al Barokah Mosque Kampong Bukit Cherakah Jaya, Shah Alam, Selangor. The village is one of the small villages in the Bukit Raja borough of Petaling district, under Kapar parliament. It is surrounded by major roads that lead o the Town of Meru, Bukit Kapar, Puncak Alam and Shah Alam. The village population is around 150 families (Petaling District Office, 2020). The residents work in the agricultural, fishery, orchard, animal farming and majority in the small-scale industry. There are two religious' schools, the primary and secondary schools.

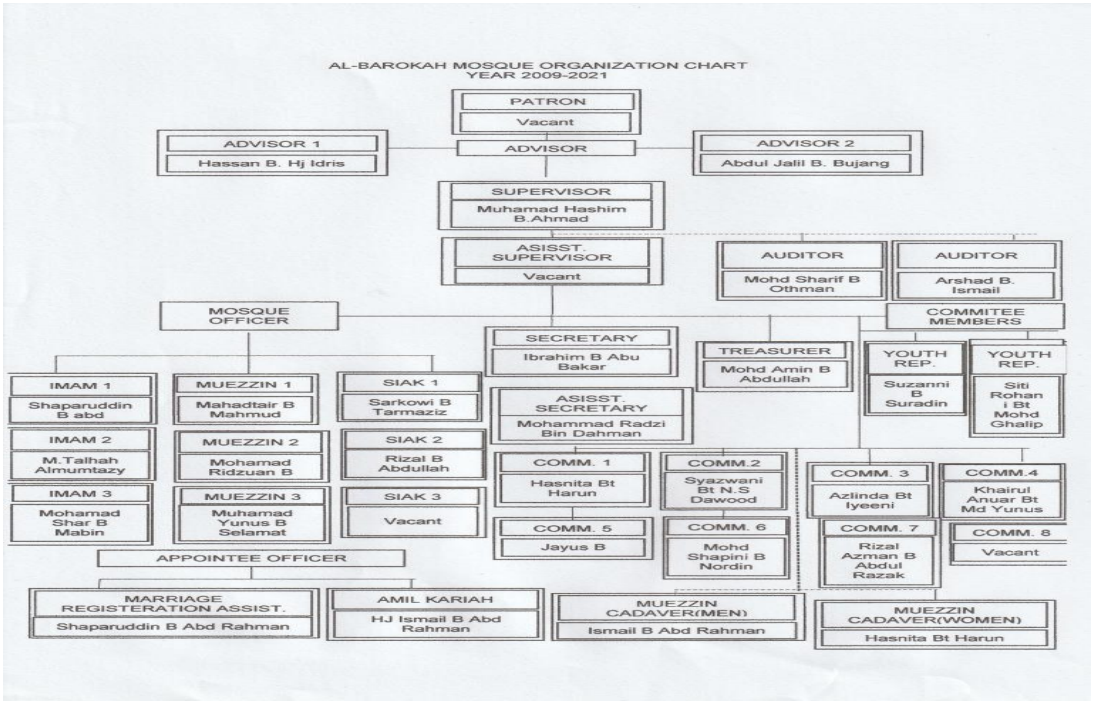

Figure 2.1: Al Barokah Mosque Management Committee (Source: Al Barokah Mosque, 2019)

Masjid Al Barokah is the mosque built on a 2 acres land for the villagers in 1992 (Jabatan Agama Islam Selangor, 2020). It is the only mosque located at Kampong Bukit Cherakah Jaya. It can accommodate about 500 Jemaah during Friday prayer. It has two separated ablution area intended for male and female. There is a total of 20 ablution points where 17 ablution points at the male ablution area and three ablution points at the female ablution area. In addition, there is a pond (Kolah) that also being used for performing ablution. The ratio of the ablution points is about 4% the total mosque capacity of 500 Jemaah, which is lower than the recommended ratio of 5% (Standards Malaysia, 2014) . The mosque is managed by a committee lead by a Supervisor or *Nazir* as shown in figure 2.1.

2.2 The Ablution H2O Saver Visual Booster

The study uses special designed sticker known as "The Ablution H2O Saver Visual Booster" as the main tool that acts as an injection of sustainable water consumption to the Jemaah of the mosque. The sticker as shown in figure 2.2 is self-explanatory, and it educates the Jemaah on how to use water effectively while performing ablution as required by Prophet Muhammad pbuh. The size of the sticker is 175 mm long and 125 mm wide in size and made of 3M Vinyl and Bi-axially Oriented Polypropylene (BOPP) material.

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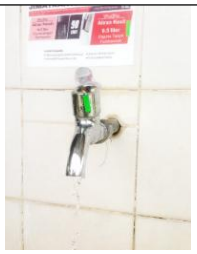
Figure 2.2: The Ablution H2O Saver Visual Booster (Source: Field Work, 2019)

2.3 Procedure on applying the 'Ablution H2O Saver Visual Booster' sticker

The sticker was posted at the strategic places inside the ablution area, step-by-step direction on how to conduct the procedure is explained in table 2.1.

Table 2.1: Direction on how to apply the 'Ablution H2O Saver Visual Booster' sticker

Step 1	Step 2	Step 3	Step 4
Identify all 20 ablution points at the ablution area (male and female) inside the mosque	Apply the sticker on top of each ablution point	Conduct a water measurement to determine the position of minimum flow.	Apply the green tape at the tap position that will provide minimum flow of 500 ml in 90s
			

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ISBN NO: XXX-XXX-XXXXX-X-X

2.4 Average Mosque User

By referring to table 2.2, the number of respondents observed in this research was 1273. The respondents who are the Jemaah that used ablution facility are observed throughout five-prayer time in a period of seven days (Suratkon, et. al 2014; Radin, et. al 2016). The determination of numbers of attendance to the mosque is important as it can be used to justify the amount of water consumed during ablution (Radin, et. al 2016). This method of data collection was also utilized and pioneered by Radin et. al (2016).

Table 2.2: Typical daily attendance at the Al Barokah's mosque

Prayer Time / Days	Subuh (Dawn)	Zuhur (Mid-day)	Asar (Late Afternoon)	Maghrib (Sunset)	Isyak (Nightfall)	Total
Monday	26	21	20	37	39	143
Tuesday	27	48	23	38	33	169
Wednesday	32	19	20	32	27	130
Thursday	25	17	25	34	28	129
Friday	35	306	20	36	32	429
Saturday	27	16	15	31	26	115
Sunday	31	28	30	36	33	158
						1273

Source: field work 2019

Proceedings: FYP & Postgraduate Poster Competition, Series 1/2020
ISBN NO: XXX-XXX-XXXXX-X-X

3.0 DATA ANALYSIS AND DISCUSSION

Table 3.1: The Amount of Water Consumed by Jemaah during the Ablution

Process of Ablution	Time Allocation for Implementing the ablution Process (Zaied, 2016) (seconds)	Amount of Water Consumed during Ablution with Full Stream (Liter)	Amount of Water Consumed during Ablution with Small Stream (Liter)
Hand and mouth	14.1	0.47	0.1
Face	17.7	0.74	0.09
Arm and Elbow	12.2	0.37	0.06
Top frontal part of Head and Ear	22.2	0.75	0.15
From Toe to Ankle	24.4	1.04	0.14
Total	**90.7**	**3.37**	**0.54**

Source: field work 2019

Based on the data above, the amount of water used during ablution in 90.7 second before the reminder is apply is 3.37 litre, compared to 0.54 litre average amount of water after the reminder is applied which is parallel with the research of (Al Mamun, et. al 2014) that mention 1 mudd equivalent to 0.544 litre which is in proper manner prescribed in hadith Al-Bukhari and Muslim that states the Prophet Muhammad used to performed ablution with 1 mudd of water.

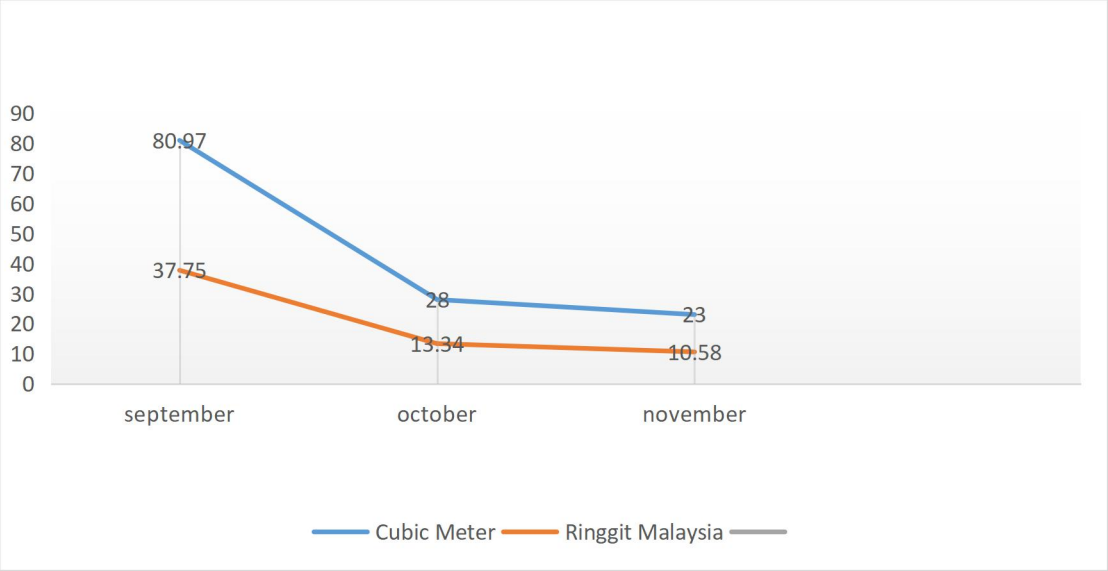

Figure 3.1: Comparison of water usage from September to December (Source: SYABAS, 2019)

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ISBN NO: XXX-XXX-XXXXX-X-X

In the month of September, the water usage is very high if compared to the month of October and November. As a proof that the community have acknowledge on how to conserve water during performing ablution, there are slight reduction in the amount of water used in three months. The graph in figure 3.1 shows that there are 57.97cubic meter difference in total from September to November. Owen et. al (2009) mentioned that through building engagement and understanding of the wider issues around water shortage helped people to understand the importance of water conservation.

4.0 CONCLUSION

In general, this study was conducted to measure the water consumption during ablution. The results from the observation show that 1273 people use the mosque weekly. Before the installation of the sticker, which was implemented in September 2019, a total of 80.97 cubic meters of water were used. After the sticker reminder installed, the water usage per cubic meter dropped significantly in the first month and continued to decline in the following month to 23 cubic meters in November 2019. The decline from September to November accumulated to 44% of the water usage, which translates to 57.97 cubic meters, was successfully reserved. To encourage this act of water saving in future, further research on the attitude of Jemaah needs to be conducted to discover the reason behind this behavior so that it can be replicated in other mosques.

Proceedings: FYP & Postgraduate Poster Competition, Series 1/2020
ISBN NO: XXX-XXX-XXXXX-X-X

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APPENDIX D

Proceedings: International TVET Academic and Research Conference (ITARC) 2020
ISBN NO: XXX-XXX-XXXXX-X-X

Relationship between Knowledge, Values, Skills, Attitudes, and Sustainable Practices towards the Practice of Water Conservation during Ablution: A Case Study at Al-Barokah Mosque Kampung Bukit Cherakah Jaya

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ABSTRACT

The need to conserve water when performing ablution is highly encouraged among Muslims. The prophet Muhammad pbuh stressed that it is important to save water even when performing ablution. It takes strong self-discipline for one to avoid leaving the tap running while taking ablution. This study investigates on the elements that make people to save water while taking ablution. When green indicators were posted in Kampung Bukit Cherakah Jaya's mosque, 17 cubic meters of water were saved for three consecutive months. Furthermore, the stickers managed to reduce 44% of water consumption for the month of October until December 2019. Therefore, this study aims to examine the relationship between knowledge, values, skills, attitudes and sustainable practices towards the practice of water conservation during performing ablution after the green stickers were posted. This quantitative approach was conducted by distributing 500 questionnaires to the Jemaah of the mosque. As a result, a Cronbach alpha of 0.9 was attained which allowed further analysis. A factor analysis was employed to discern the relationship between the independent and dependent variables. A KMO and Bartlett Test of 0.8 and 0.01 were accomplished indicating that the variables used were fit to be in this study framework. Knowledge, values, attitudes, skills and sustainable practices showed positive relationship between the practices of water conservation during ablution. In the future, similar studies should be conducted on other mosques with additional variables that contribute to the water saving attitudes.

Key Words: ablution, water conservation and water consumption

Proceedings: International TVET Academic and Research Conference (ITARC) 2020
ISBN NO: XXX-XXX-XXXXX-X-X

1. INTRODUCTION

Ablution wastage has been the issues in many countries. In Saudi Arabia, the number of waters consumed by a single person per prayer can range on average between 0.7 gallon (2.5 liter) and 1.2 gallon (4.5 liter) during performing ablution and it was at its highest in the month of Ramadan (Youssef et. al., 2017). Many Muslim countries have tried alternative techniques in the attempt to save water. Some have upgraded the water tap functions and designs. Others have changed the whole setting of the ablution area. These are done to ensure less water are consumed thus enhances water conservation.

In this context, the Pengurusan Air Selangor Sdn. Bhd. (Selangor Water) under its 'be a water conservation warrior 'program has urged all consumers to reduce water wastage and concern about water conservation (Star Online, 2019). It is about time for the management of the mosque to share the same concern on this issue by playing a much significant role in addressing water wastage especially during ablution (Bernama, 2016; Anang, 2019). This concern is also supported by Zaied (2016) through his research that almost 48 percent of the total amount of water consumed during ablution is wasted.

1.1 The Problem Statements

The management of Al-Barokah mosque in Kampung Bukit Cherakah Jaya is also facing the same dilemma on this issue (Ahmad et. al., 2019). In September 2019, water conservation during ablution program was introduced by applying a specially designed 'The Ablution H2O Saver' sticker on each ablution points available throughout the mosque. Mohd Fauzi et al, (2020), studied on the amount of water consumed during performing ablution at Al-Barokah mosque in Kampung Bukit Cherakah Jaya mosque showed that after water conservation stickers' were posted at the mosque, for three consecutive months starting from September 2019 until November 2019, the amount of wastage was reduced to only 11.5 cubic meter compared to 40.48 cubic meter water wastage alone in September.

This study helps by employing a simple measure that is performed by Prophet Muhammad when taking an ablution. When the teachings of Prophet Muhammad pbuh was ignored, a huge amount of water was wasted. Mohd Fauzi et al. (2020) indicated that respondents used seven times amount of water than used by Prophet Muhammad. Therefore, this research is conducted to investigate the use of water conservation sticker and its relationship towards the practice of water conservation.

1.2 The Objective

The objective of this study is to determine the relationship between knowledge, values, skills, attitudes and sustainable practices towards the Kampung Bukit Cherakah Jaya's Jemaah of water conservation practice.

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2.0 THE LITERATURE REVIEW

The importance of sustaining water resources has become one of the main concerns in Asian Pacific countries. As a proof, five dimensions of water security elements were drafted in 2013 Asian Pacific Water Forum. Asian Water Development Outlook (2013) state that five dimensions highlighted are economic water security, urban water security, household water security, resilience to water related disaster and environmental security Recommendations on policy actions for the countries' leaders to improve water governance and guidance on investments to increase their countries' water security were discussed thoroughly in the Asian Water Development Outlook (2013). Water security elements that touch on social dimension is considered important as it can prepare the community to become resilient towards extreme water event (Siwar et. al. (2014).

According to report by Bernama (2016) the average daily water consumption by a Malaysian was 211 liters, which is almost double the benchmark recommended by the United Nations (Bernama, 2016). On serious note, the amount of water consumed by Malaysia is more than recommendation by World Health Organization (WHO) of 165 liters per day (Jye, 2017). So daily, Malaysian has overused almost 45 liters of water (Sobian, 2018, Raduan, et. al., 2018)). The water consumption in mosque including during ablution lies under the non-domestic consumption's category of public uses (Anang, et. al 2019).

Knowledge dissemination on water conservation to the consumer is important, as this will allow much efficient water management (Benninghause et. al., 2017 in Uma, 2017). Furthermore, as mention earlier, the Selangor Water with the collaboration of Selangor State Agency has continuously launched many water conservation initiatives as part of sharing water conservation knowledge (Star Online, 2019). Values in water conservation among people can be enhanced through early exposure on education and skills of smart water consumption (Uma, 2018).

Although the people were aware of the need to save water, the attitude towards conservation did not reflect the saving behaviour (Kelly, 2015). Furthermore, in measuring public attitudes to water issues, Dolnicar, S et. al. (2010) found that 98% of the respondents agreed on conducting water restrictions only during period of drought or water shortage. According to Youssef et. al. (2017), people seldom close the taps while the hands are busy washing the body parts because closing taps, after holding water in the palm, was found not that convenient. Wastage of water when performing ablution was caused by lack of knowledge and skills in controlling the attitude of the people (Johari, 2013).

Attitude toward water conservation refers to the degree to which a resident has a positive or negative evaluation of water conservation behaviours (Anil et. al. 2017). Anil et. al. (2017) also stresses out that residents who had very positive water conservation and environmental attitudes saved more water than those with moderately positive attitudes. Furthermore, people who actively seek out information

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on water conservation, and then pay attention to that information, are more likely to report intention to conserve water, although the effects are weak (Clements, J. 2016). In the case of the Al-Barokah Mosque once the green sticker was applied, when comparing the usage of water from September to December 2019, there are reduction of water consumptions (Mohd Fauzi et. al., 2020).

Johari N. H (2013), on the other hand, through their research investigated the Muslim understanding towards their knowledge on ablution and tool to control behavior when performing ablution. Lack of knowledge in ablution leads to wastage of water when performing ablution (Johari N. H., 2013). Therefore, this research tried to determine the relationship between knowledge, values, attitudes, skills and sustainable practices towards the practice of water conservation among the Jemaah of Kampung Bukit Cherakah Jaya mosque after the green stickers were posted at the mosque.

3.0 METHODOLOGY

This research employed a mix method approach where the first of part of the research was conducted through an observation from the months of September until December 2019 last year. The respondents were observed on the amount of water consumed during performing ablution. The technique used in this research was participant observation (event, time and instantaneous sampling, McLeod 2015). Based on this, details of how the Jemaah performed ablution were transformed into instrument in the quantitative part of this research. According to Cresswell, 2012 in a mixed method study the validation of the qualitative data is increased when it is triangulated with quantitative method. In this study, the independent variables were replicated from Uma (2018) that suggested for the independent variables. Through the research conducted by Uma (2018), the factor analysis of the items indicates the value of KMO is 0.732 and the value of Bartlett-Test is 91. Therefore, the same independent variables were adopted and adapted for the questionnaire development of this research. Pilot test was done on 30 respondents of Sultan Salahuddin Abdul Aziz Shah Polytechnic, mosque. A value of 0.900 Cronbach Alpha was derived from the reliability test indicated that the instrument used is valid for further actual data analysis.

3.1 Area of Study: Al Barokah Mosque Kampung Bukit Cherakah Jaya

Masjid Al Barokah is the only mosque built for the villagers of Kampung Bukit Cherakah Jaya in 1992 (Jabatan Agama Islam Selangor, 2020). It can accommodate up to approximately 500 Jemaah during Friday prayer time. The ablution areas can be divided into 17 ablution points intended for male and three for the female. In addition, a pond (Kolah) is also used for performing ablution. The ratio of the ablution points is lower than the recommended ratio of 5% according to Malaysia Standards Institution (2014). The study used specially designed sticker known as “The Ablution H2O Saver

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ISBN NO: XXX-XXX-XXXXX-X-X

Visual Booster" as the main tool that acted as an injection of sustainable water consumption to the Jemaah of the mosque. The sticker was self-explanatory, and it gave the Jemaah information on how to use water effectively while performing ablution as required by Prophet Muhammad pbuh. The size of the sticker is 175 mm long and 125 mm wide in size and made of 3M Vinyl and Bi-axially Oriented Polypropylene (BOPP) material.

The total of 505 questionnaires were distributed to the Jemaah of the mosque. The determination of numbers of attendance to the mosque is important as it can be used to justify the amount of water consumed during ablution (Radin, 2016). This method of data collection was also utilized by Radin (2016) and Suratkon (2014).

4.0 DATA ANALYSIS AND DISCUSSION

The total collected questionnaires from the survey were 505. The task of data cleaning and the search of missing values were performed to proceed for further analysis operations. The reliability of each item in the instruments was measured using the Cronbach's Alpha coefficient. Each dimension of the questionnaire was calculated separately to facilitate clear understanding. The reliability analysis is then conducted to derive the consistency of the instrument measured. Reliability is a degree to which an assessment tool produces stable and consistent results. (Phelan.C, et.al.,2006) which the instrument of the concept helps to assess the "goodness" of measure.

Table 4.1: Reliability Coefficients for Each Variable (N=505)

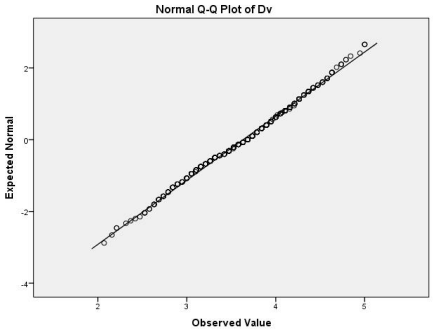
Variables	**No of Item**	**Cronbach's Alpha**
Knowledge	15	0.787
Values	10	0.734
Skills	10	0.664
Attitudes	14	0.636
Sustainable Practices	17	0.685
Water Conservation During Ablution	19	0.837

APPENDIX D

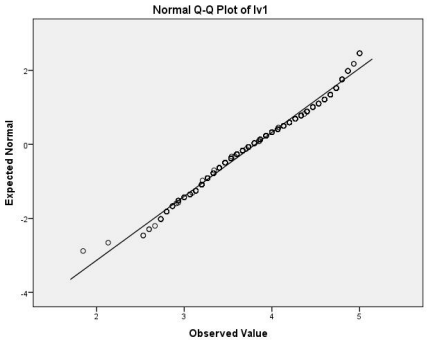
Table 4.1, As rules of thumb, values which were above 0.7 were considered acceptable and 0.8 is the most appropriate (Pallant, 2011). This data is shown on table 4.1. Based on the table appended all variables that were addressed in the questionnaire achieved reliability of close to 0.7. Table 4.2 showed the test of normality which indicated that all the variables were a sample of normally distributed population by having the skewness and kurtosis value from negative 1.96 to positive 1.

Table 4.2: Relationship between knowledge, values, skills, attitudes, sustainable practices towards

water conservation during ablution

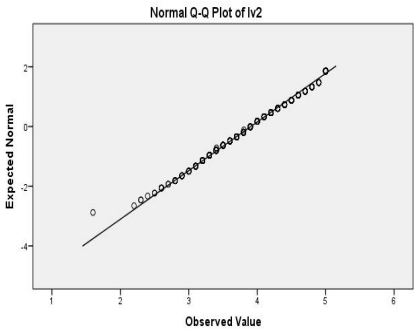


Variables	Skewness	Kurtosis	Sharpiro-Wilk
Water Conservation During Ablution	-1.073	-1.995	0.026

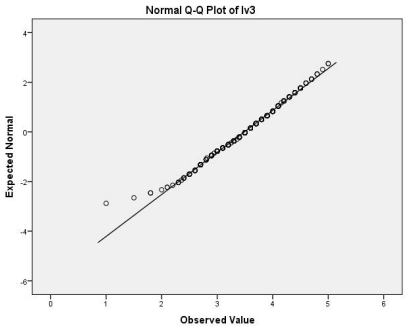


Variables	Skewness	Kurtosis	Sharpiro-Wilk
Knowledge	-0.009	-2.447	0.000

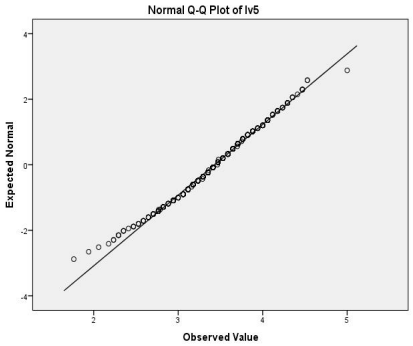
APPENDIX D



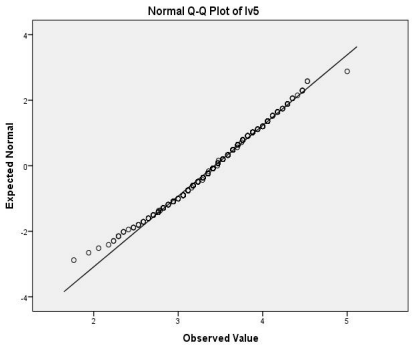
Variables	Skewness	Kurtosis	Sharpiro-Wilk
Values	-1.557	1.004	0.000



Variables	Skewness	Kurtosis	Sharpiro-Wilk
Skills	-2.431	1.516	0.005



Variables	Skewness	Kurtosis	Sharpiro-Wilk
Attitudes	2.660	3.013	0.000



Variables	Skewness	Kurtosis	Sharpiro-Wilk
Sustainable Practices	-1.073	2.262	0.013

Table 4.2 shows the Shapiro-Wilk test is less than 0.05, means that null hypothesis is rejected, provided the data distribution is normal so further analysis is run using the parametric test.

Table 4.3: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.817
Bartlett's Test of Sphericity	Approx. Chi-Square	1485.487
	df	15
	Sig.	.000

Based on the table 4.3 this research was analysed and the result by Kaiser-Meyer-Oklin Measure Of Sampling Adequacy is 0.817 which is near to 1 it means the data in the process gave accurate and reliable result about the factor of water conservation during ablution, The Bartlett's test was significant [$x^2(15)=1485.487$, p=.000]

Source: Cohen 1988

APPENDIX D

4.2 Statistical Hypothesis Testing

This section answered the hypothesis for this research. The five hypotheses tested for this research; they were as below:

H1: There is a significant relationship between knowledge and the reduction of water conservation during ablution

H2: There is a significant relationship between values and the reduction of water conservation during ablution

H3: There is a significant relationship between skills and the reduction of water conservation during ablution

H4: There is a significant relationship between attitudes and the reduction of water conservation during ablution

H5: There is a significant relationship between sustainable practices and the reduction of water conservation during ablution

4.2.1 Regression Analysis

The regression analysis was conducted to determine the relationship between the five independents variable and the dependent variable. The relationships between sustainable practices, knowledge and value towards water conservation during ablution was strong where, sustainable practices (r=0.680), knowledge (r=0.608) and value (r=0.551). The relationship between skills and attitudes towards water conservation during ablution is medium where skills (r=0.420) and attitudes (r=0.491).

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Size of Correlation	Strength of Correlation
0.10 until 0.29 or -0.10 until -0.29	Small
0.30 until 0.49 or -0.30 until -0.49	Medium
0.50 until 1.00 or -0.50 until -1.00	Large

The significant value for the relationship between knowledge, value, skill, attitude and sustainable practice towards water conservation during ablution is 0.01 (SPSS 2011).

4.2.2 Linear Regression Testing

Linear regression was employed in order to test the influence of an independent variable towards a dependant variable. The linear regression in this study was tested separately by knowledge, values, skills and attitudes for their influence towards sustainable practices.

Table 4.4: Linear Regression Testing

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.758[a]	.575	.570	.36666	1.959

a. Predictors: (Constant), IV5, IV2, IV3, IV4, IV1
b. Dependent Variable: DV

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ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.648	5	18.130	134.856	.000[b]
	Residual	67.084	499	.134		
	Total	157.732	504			

a. Dependent Variable: DV
b. Predictors: (Constant). IV5, IV2, IV3, IV4, IV1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.817	.137		5.981	.000
	IV5	.821	.039	.680	20.813	.000
2	(Constant)	.168	.135		1.242	.215
	IV5	.611	.040	.507	15.289	.000
	IV1	.359	.032	.370	11.178	.000

a. Dependent Variable: DV

Table 4.4 showed the multiple regression testing for knowledge, values, skills, attitudes, sustainable practices and water conservation practices in ablution. The change in variance in water conservation during ablution explained by the independent variables is 57.5% (R square). The table also indicated that there was significant positive influence of the independent variables towards water conservation during ablution ($F=134.856$, $P<0.05$. Only two independent variables that significantly influenced towards water conservation during ablution the sustainable practices ($Beta=0.507$, $P<0.05$) and knowledge ($Beta=0.370$, $P<0.05$).

APPENDIX D

5.0 DISCUSSION

Overall, the level between knowledge, values, skills, attitudes, sustainable practices towards water conservation during ablution is at medium level. There is significant positive relationship between sustainable practices towards water conservation during ablution. There is also linear relationship between knowledge, values, skills, attitudes, sustainable practices towards water conservation during ablution. For multiple regression, only sustainable practices and knowledge has significant influence towards water conservation during ablution.

6.0 CONCLUSION

As the conclusion, the objective of study which is to identify the relationship between knowledge, values, skills, attitude and sustainable practices towards the reduction of water conservation during ablution was achieved. From the survey, it was found that only two variables that have high relationship which are knowledge and sustainable practices. The remaining three of the variables which are values, skills and attitude have the least relationship. The application of the "Ablution H20 Saver" sticker did have bring some impact in water conservation during ablution. In the future, water conservation activity can be easily implemented provided that resident have some knowledge and capable to sustain water. The research benefits on parties involved such as the resident of Kampung Bukit Cherakah Jaya and the Jemaah of Al-Barokah mosque. The finding of study may provide information and knowledge for the extension on water conservation and sustainability research in the future.

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APPENDIX D

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