CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology used in this study including the research design, instruments, and the reliability of the instrument. The chapter then discusses the sampling approach and data collection. Lastly, the data analysis procedure that was applied to test of hypotheses was explained.

3.2 Research Design

This study will use a mixed methods (Tashakkori & Teddlie, 2003) design, which is a procedure for collecting, analysing and "mixing" both quantitative and qualitative data at some stage of the research process within a single study, to understand a research problem more completely (Creswell, 2013). The rationale for mixing is that neither quantitative nor qualitative methods are sufficient by themselves to capture the trends and details of the situation, such as a complex issue of doctoral students' persistence in the distributed learning environment. When used in combination, quantitative and qualitative methods complement each other and allow for more complete analysis (Tashakkori & Teddlie, 2003).

Moreover mix-method is used when the researcher used more than one approach to justify a particular question. It is needed to use mix-method as this method expanding in scope in which can capture the complexity of human phenomena and explore the insights of study deeply (Creswell, 2003). The

quantitative approached as the first research method and then followed and support data from qualitative approach.

By using the mixed method which consists of two methods, it helps to eliminate bias in which the bias might appear when the researcher only depends on one research method (Creswell, 2003). In this study, the qualitative method allowed the researcher to investigate the impacts and supporting quantitative data which it cannot be achieved by the quantitative method alone. So, with qualitative and quantitative method, the researcher can have a multi-perspective view of the insights of this study (Johnson, R. B., & Onwuegbuzie, A. J.)

Using quantitative method, this study utilizes a survey research and cross-sectional data methodology. The questionnaire is an efficient data collection strategy. It is because the researcher knows how to measure the variable of interest and what is required in this study.

This research using quantitative in nature for the ease of "collecting observable and measurable data on variables". Therefore, in this research, quantitative data was collected using structured closed-ended questions or Likert scale. Moreover, quantitative research is more appropriate for understanding how one or more variables can influence each other (Creswell, 2009). This method involves the procedure of distributing structured questions where the response selections have been fixed, and a number of respondents were involved. Some past studies used the Likert scale to measure the variables in consideration because such scale have been shown to have high validity (Henard & Dacin, 2010; Zehir et al., 2011). Also, Dawes (2008) indicated that Likert scale is suitable when the data is used for factor analysis, regression analysis, or structural equation modeling.

Alternatively, qualitative research is “an inquiry process of understanding” where the researcher develops a “complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting” (Creswell, 1998, p. 15). In qualitative research, the data is collected from those immersed in everyday life of the setting in which the study is framed. Data analysis is based on the values that these participants perceive for their world. Ultimately, it “produces an understanding of the problem based on multiple contextual factors” (Miller, 2000)

While designing a mixed method study, three issues need consideration: priority, implementation, and integration (Creswell & Plano, 2017. Priority refers to which method, either quantitative or qualitative, is given more emphasis in the study. Implementation refers to whether the quantitative and qualitative data collection and analysis comes in sequence or in chronological stages, one following another, or in parallel or concurrently. Integration refers to the phase in the research process where the mixing or connecting of quantitative and qualitative data occurs.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

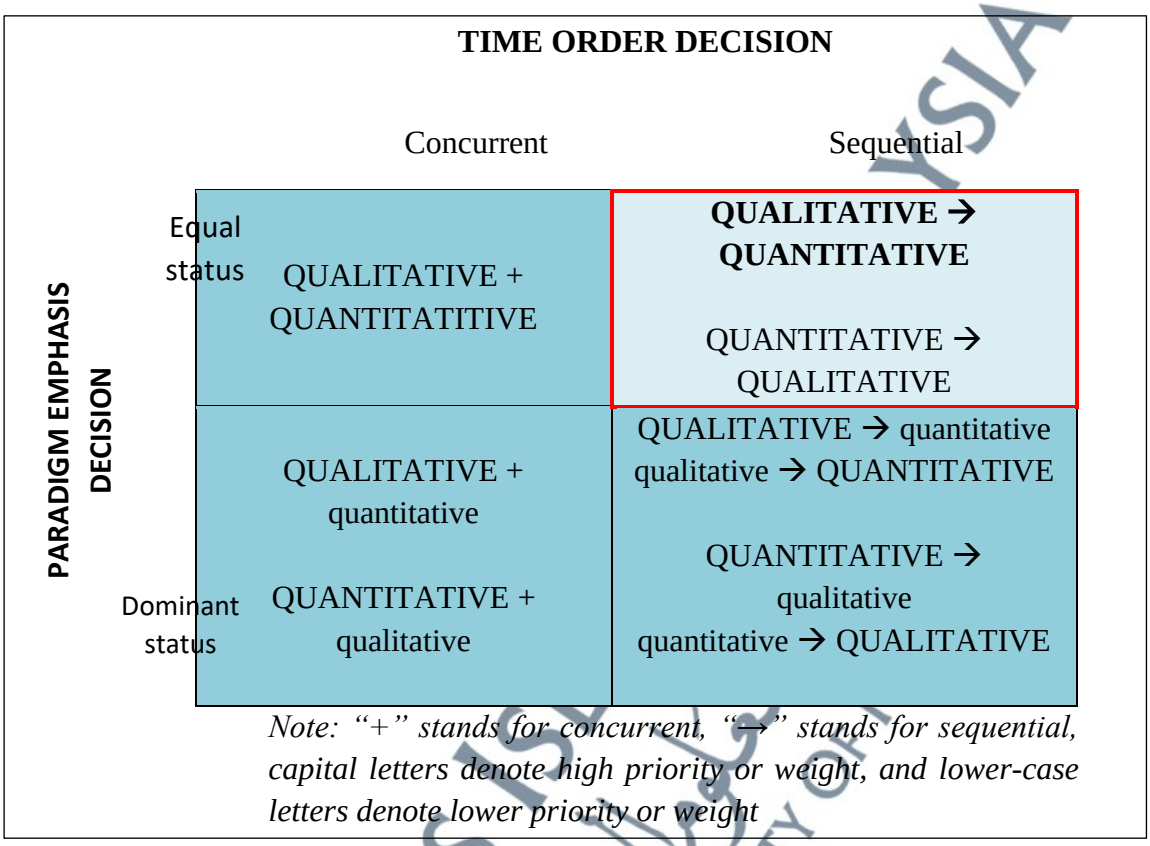

Figure 3.1 Mixed-method design matrix with mixed-method research design in four cells (Johnson & Onwuegbuzie, 2004)

The figure 3.1 shows that the mixed-method matrix and research design that was explained by Johnson and Onwuegbuzie (2004) with a total of nine different approach using four cells. The four cells consist of two matrixes on whether the study consist of one dominant or equal paradigms while the other matrix were on phases of the study whether it was conducted concurrently or sequentially. From this figure, it can be concluded that the researcher must decide whether the study have a dominant paradigm or not, or the study will be conducted concurrently or sequentially (Johnson and Onwuegbuzie, 2004).

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF

This study will use sequential explanatory mixed methods design, consisting of two distinct phases. In the first phase, the quantitative, numeric, data will be collected first, using a web-based survey and the data will be subjected to a discriminant function analysis. The goal of the quantitative phase will be to identify potential predictive power of the selected variables and to allow for purposefully selection of informants for the second phase. In the second phase, a qualitative case study approach will be used to collect text data through in-depth individual semi-structured interviews, documents, and elicitation materials to help explain why certain external and internal factors, tested in the first phase, may be significant or not. The rationale for this approach is that the quantitative data and results provides a general picture of the research problem, while the qualitative data and its analysis will refine and explain those statistical results by exploring participants' views in more depth.

The quantitative and qualitative methods are integrated at the beginning of the qualitative phase while selecting the participants for case study analysis and developing the interview questions based on the results of the statistical tests. The results of the two phases will be also integrated during the discussion of the outcomes of the whole study.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

3.3 Population and Sampling

Population is the whole interested group that the researcher wishes to examine and obtain information from (Bryman, 2000). The target population in this study consists of 212427 students in Malaysian private universities in Kuala Lumpur and Selangor (MOHE, 2017). According to Hair et al (2010), the reliability of the data can be frequently impacted by underlying contextual and cultural factors. This statement explains the importance of being aware of the respondents' cultural backgrounds to obtain high reliable result. The research did not choose public universities because it was believed that the sources of public universities may be significantly different due to factors such as nature of the universities. This quantitative method follows Churchill and Iacobucci's (2009) sampling process and procedures shown in Figure 3.2.

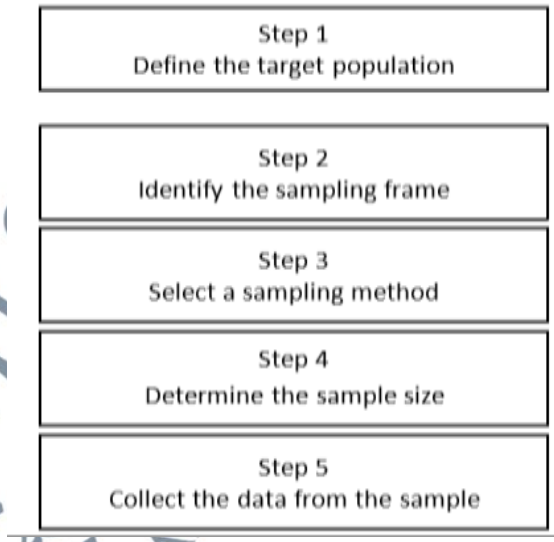

Figure 3.2 Sampling Procedure

Therefore, in this study, students from seventeen private universities are identified as the target population from the list given by website in MOHE (2017).

3.4 Identification of the Sampling Frame

The sampling frame is a list of all cases in the population from which the sample is drawn (Saunders et al. 2012). Choosing an appropriate sampling frame for the current study depends on the characteristics of the target population under investigation and the sources available for the identification of potential subjects. 212427 students in Malaysian private universities in Kuala Lumpur and Selangor formed the sampling frame for this study. The distribution on of these students is shown in Table 3.1.

Table 3.1 Student's List for 2017

No	Universities	Location	Number of Population
1	Perdana University	Selangor	2624
2	International Medical University	KL	21973
3	Limkokwing University of Creative Technology	Selangor	15000
4	Management and Science University	Selangor	9100
5	Multimedia University	Selangor	20057
6	Taylor's University	Selangor	10000
7	Universiti Terbuka Malaysia	KL	7000
8	Universiti Tenaga Nasional	Selangor	8000
9	Universiti Tun Abdul Razak	KL	10000
10	UniversitiTunku Abdul Rahman	Selangor	10148
11	Universiti Kuala Lumpur	KL	16515
12	Universiti Industri Selangor	Selangor	11000
13	Universiti Sunway	Selangor	5000
14	SEGI University	Selangor	25000
15	HELP university	Selangor	11000
16	MAHSA University	Selangor	15000
17	Universiti UCSI	KL	15000
		TOTAL	212417

3.5 Sampling

Collection of research data was derived from the identified sample at the identified area which represented the population through manageable cost and other resources, and especially to curb geographical constraints (Sekaran, 2003). The right technique for sampling is crucial in order to meet the needs of an empirical research. The sampling method for this study was a stratified random sampling of students from private universities. Gay (1987) reported that "stratified random sampling is an appropriate sampling method in order to make proportionate, and therefore meaningful, comparisons between sub-groups in the population". Robson (1995) supported the view that stratified random sampling is an appropriate choice under the sampling theory due to its nature of having the closest means of representing a study population. Finally, Leary (1995) indicated that the characteristics drawn upon the overall population through stratified random sampling are naturally able to generalise the population efficiently. These students will be identified as students from private universities to extract information-rich data from a diverse subject pool. These efforts were undertaken in order to gain valuable insight.

While for qualitative data using purposive non random sampling technique implies intentionally selecting individuals to learn to understand the central phenomenon (McMillan & Schumacher, 1994; Miles & Huberman, 1994). The idea is to purposefully select informants, who will best answer the research questions and who are "information rich" (Patton, 1990, p. 169) persons.

Purposive sampling is intentional selection of informants based on their ability to elucidate a specific theme, concept, or phenomenon (Chua Yan Piaw,

2005). Researchers use purposive sampling because want to access a particular subset of people on this topic. The sample was chosen base on their experience and involvement of student's program and behaviours. Moreover, their also trusted person that deal with the students in term of da'wah, personality and religious activities in universities.

3.6 Sampling Elements

A sampling element is defined as "the name for a case or single unit to be sampled" (Neuman, 2006). Selection of students was done according to the geographical location of their area which is located Kuala Lumpur and Selangor. 212,427 students in 17 private universities located in Kuala Lumpur and Selangor were chosen as the population of the study. The sample was compiled from the MOHE (2017).

3.7 Sample Size

Sample size is also an important component of a research study as it could distort the reliability of factor analysis and accuracy of a model (Field, 2005). Green (1991) pointed out that a larger sample size more closely represents the population and minimizes sample errors. A small sample size could create less reliable correlation coefficients (Tabachnick & Fidell, 1996). Sample size is a critical factor because the current study will use SEM to test the proposed structural model and hypotheses. Creswell (2013) in his observation stated that, "a minimum sample size for quantitative surveys are of the order of 300 to 500 respondents."

To determine the number of participants that can represent an adequate sample size, this study used the data of the total target population which is 212,427. The recommended sample size was found to be 384 for the 212,427 students in 17 private universities located in Kuala Lumpur and Selangor, based on by Krecjie and Morgan (2007). From these 384 students, only Muslim students are chosen to participate. Based on Table 3.2, this is considered as being stratified based on the stratified random sampling calculation as per the details below:

Table 3.2 Stratified Random Sampling Calculation for Sample Size

No	Universities	Location	Number of Population	Percentage of Sampling	Number of Sampling
1	Perdana University	Selangor	2624	2624/212417*384	5
2	International Medical University	KL	21973	21973/212417*384	40
3	Limkokwing University of Creative Technology	Selangor	15000	15000/212417*384	27
4	Management and Science University	Selangor	9100	9100/212417*384	16
5	Multimedia University	Selangor	20057	20057/212417*384	36
6	Taylor's University	Selangor	10000	10000/212417*384	18
7	Universiti Terbuka Malaysia	KL	7000	7000/212417*384	13
8	Universiti Tenaga Nasional	Selangor	8000	8000/212417*384	14
9	Universiti Tun Abdul Razak	KL	10000	10000/212417*384	18
10	Universiti Tunku Abdul Rahman	Selangor	10148	10148/212417*384	18
11	Universiti Kuala Lumpur	KL	16515	16515/212417*384	30
12	Universiti Industri Selangor	Selangor	11000	1100/212417*384	20
13	Universiti Sunway	Selangor	5000	25000/212417*384	9
14	SEGI University	Selangor	25000	25000/212417*384	45

No	Universities	Location	Number of Population	Percentage of Sampling	Number of Sampling
15	HELP university	Selangor	11000	11000/212417*384	20
16	MAHSA University	Selangor	15000	15000/212417*384	27
17	Universiti UCSI	KL	15000	15000/212417*384	27
		TOTAL	212417		**384**

While the selection of interviews using qualitative study with seven persons where five of them are academicians, psychologist, students club advisors, counsellor, deputy dean for students' affairs. They are dealing with student's activities and matter in term of education, *da'wah*, and curriculum. Meanwhile, 2 students who are active in academic and curriculum are also senior students that have more experiences dealing with students.

3.8 Unit Analysis

Unit of analysis stands for the major entity in a research and the most important consideration for analysis. Sekaran (2003) defined the unit of analysis as the "level of aggregation of the data collected during the subsequent data analysis stage". The unit of analysis for this study was at the individual level, thus, the students justified under the sample elements are specifically those who are studying and working in private university in Kuala Lumpur and Selangor.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

3.9 Data Collection

A. Data Collection on Quantitative Data

This study was carried out using the quantitative research design because of its convenience in collecting large amounts of data (Hair, Black Babin & Anderson, 2010). The research method of this study was a quantitative approach. 212,427 students in 17 private universities located in Kuala Lumpur and Selangor were the population. By using the formula to determine the sample size proposed by Krecjie and Morgan (1970), 384 samples will be included and proceeded to the chosen sampling technique, which is stratified sampling technique.

The researcher adopted the measuring instruments for every latent construct from literature. The questionnaire will be used as a tool to collect the data. The instrument of a questionnaire is based on variables which are proposed in the conceptual framework. The reliability of the questionnaire will be tested using Cronbach's alpha coefficient, where the items need to be recognized at a value of not less than 0.70 (Hair et al, 2010). In addition, the construct validity will be tested using confirmatory factor analysis for the main study.

B. Data Collection on Qualitative Data

The second, qualitative phase in the study will focus on explaining the results of the statistical tests, obtained in the first, quantitative phase. The multiple case studies design (Stake, 1995) will be used for collecting and analysing the qualitative data. A case study is a type of ethnographic design (Creswell, 2002; LeCompte & Schensul, 1999) and is an exploration of a “bounded system” or a case over time,

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

through detailed, in-depth data collection involving multiple sources of information and rich in context (Merriam, 1988; Creswell & Maitta, 2002).

The primary technique will be conducting an in-depth semi-structured online interview through the zoom application with five academicians and two students from five private universities in Kuala Lumpur and Selangor. Their background of education and student's involvement would be used to validate the information obtained during the interviews. The participants will be asked for consent to having the interview. The selection of interview questions differs between academicians and students. Both the questions development was based on research questions and to support the hypothesis result.

The content of the questions will be grounded in the results of the statistical tests of the impact of independent and dependant variable. The questions will focus on their understanding of Muslim religiosity, balanced personality and *da'wah* activities in the private university among the students. Debriefing with the participants will be conducted to obtain information on the clarity of the interview questions and their relevance to the study aim. The participants will receive the interview questions prior to the scheduled calling time and will be informed the interview will be zoom-recorded and transcribed verbatim. Respondents will have an opportunity to review and, if necessary, correct the contents of the interview after it has been transcribed.

Respondent's interview conducted both in English and Malay language based on their fluency and comfort to use their preferred language. For content analysis based on the Malay language will be translated into the English language.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

But the originality of excerpt in Malay language will be maintained for the sake of originality and authenticity of data collection in this research.

3.10 Instruments

A. Survey Questionnaires for Quantitative Data

This research follows the questionnaire design which was suggested by Sekaran & Bougie (2010). The survey questionnaires will be designed in dwi-language (English and Bahasa Malaysia). According to Saunders et al. (2012), a longer questionnaire will reduce response rates relative to a shorter questionnaire, thus, the general rule is to keep questionnaires as short as possible. The questionnaires were accompanied by background information and explanatory cover letter which can assure the confidentiality of responses as suggested by Smith and Dainty (1991). Quantitative data will be collected based on structured closed-ended questions. Three measures have been used in this study to test the proposed hypotheses. In total, the questionnaire comprised of four (4) parts: Section A: Demographic Background, Section B: Psychology of *Da'wah* , Section C: Balanced Personality and Section D: Muslim Religiosity. The questionnaire uses a five-point Likert-type scale, where 5= Strongly Agree, 4 = Agree, 3= neutral, 2= disagree, and 1= strongly disagree.

Section A

Data on demographic characteristics of respondents were collected via the demographic questionnaire developed by the researcher. Characteristics addressed by the questionnaire were (a) gender, (b) age, (C) education, (d) University, (e) CGPA. There characteristics will be chosen based on a review of related literature. The items are shown in the following Table 3.3.

Table 3.3 Demographic Characteristic

Items	Details
Gender	Male
	Female
Age	18 years – 20 years
	21 years – 23 years
	24 years – 25 years
	26 years and above
Education	Diploma
	Bachelor
University	Perdana University
	International Medical University
	Limkokwing University of Creative Technology
	Management and Science University
	Multimedia University
	Taylor's University
	Universiti Terbuka Malaysia
	Universiti Tenaga Nasional
	Universiti Tun Abdul Razak
	UniversitiTunku Abdul Rahman
	Universiti Kuala Lumpur
	UniversitiIndustri Selangor
	Universiti Sunway
	SEGI University
	HELP university
	MAHSA University
	Universiti UCSI
CGPA	Below 3.00
	3.01 – 3.30
	3.31 – 3.50
	3.51 – 3.70
	3.71 – 4.00
Income Household	Below RM2,000
	RM2,001 – RM5,000
	RM5,001 – RM7,000

Items	Details
	RM7,001 – RM10,000
	RM10,001 and above

Section B

The Psychology of *Da'wah* was developed by Fariza (2013) and consists of 15 items in Table 3.4.

Table 3.4 Items of Psychology of *Da'wah*

Code	Items
PD1	I need religion in my life to develop my personality.
PD2	I need the society for develop my personality
PD3	I need peers and friends in my life to develop my personality
PD4	I need early education from my parents to develop my personality
PD5	I need teaching and guidance of Islam to develop my personality
PD6	I need capability to adapt well and fast in my personality
PD7	I chose a modest way of living according to the needs of both adults and parents in my personality
PD8	I do not afraid to make mistake
PD9	I do not have any problem in love
PD10	I do not have any difficulty in making decision
PD11	I do not have stress in my life
PD12	I am not a temper outburst person
PD13	I am not a forgetfulness person
PD14	I am a cool person
PD15	I am happy with my life

Section C

The measurements for balanced personality were developed by Muhamadul Bakir and Khatijah Othman (2017) which consists of 11 items as shown in Table 3.5.

Table 3.5 Items of Balanced Personality

Code.	Items
BP1	I know the concept of Balance (Wasatiyyah)
BP2	Balance (Wasatiyyah) helps me to find the right partner, place and time for focus
BP3	Balance (Wasatiyyah) is important in my life
BP4	Balance (Wasatiyyah) affects my life everyday

BP5	Balance (Wasatiyyah) helps me to be simple and fair
BP6	The concept of Balance (Wasatiyyah) able to guide and be a guidance to me
BP7	I should strive to be Balance (Wasatiyyah) in anything worthwhile.
BP8	I should be Balance (Wasatiyyah) between physical and spiritual
BP9	I must Balance (Wasatiyyah) in actions and behavior
BP10	I become strong when no fanaticism and prejudice toward something
BP11	I practice Balance (Wasatiyyah)in my life

Section D

Muslim Religious-Personality (MRPI) developed by Krauss, Hamzah, Suandi, Noah, Rumaya, Manap, Mastor, Kassan & Mahmood (2006) are the two instruments used as the basis in developing the research questionnaire about coping with Islamic religiosity. Krauss MRPI was developed with two main constructs and four sub-constructs. The scoring used a 5-point rating scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = always) with high score indicating high religious rituals and high *muamalat*, and low score indicating minimum religious rituals and low *muamalat.*

Table 3.6 Items of Muslim religiosity

No.		**Items**
Islamic religious	MR1	Allah swt will not forgive sins that was done intentionally
	MR2	Every deed that is perform by a matured person will be counted in the judgement day
	MR3	All Islamic ruling can be amend to suit current needs
	MR4	When Allah swt bring calamity to an area, both Muslim and non-Muslim will suffer the effect
	MR5	All human action must be performed as a symbol of submission to Allah swt
	MR6	Islamic teaching does not fulfil the need of human nature
	MR7	A person who hold firmly to religious belief will never encounter challenges in life

No.		Items
	MR8	Allah swt command can be broken to fulfil worldly need
	MR9	I strive to learn more about Islamic religious knowledge and command
Islamic	MR10	I feel peace listening to Qur'ānic recitation
worldview	MR11	I care for my Muslim brothers like I care for my own self
	MR12	I strive to learn and understand the meaning of every Qur'ānic verses
	MR13	I invite others to perform solat together
	MR14	I did not tell the disgrace of others
	MR15	I strive to hide my good deed from other people knowledge
	MR16	I always discuss about religious matters with my friends
	MR17	I refer to the expert when I have questioned about religious matter
	MR18	I felt anxious when I hurt my parents feeling
	MR19	I used public properties with care
	MR20	I feel good when I say good things about my friend
	MR21	I prefer to work and earn money than asking from others
	MR22	I will donate certain portion of my money every year

B. Interview Questions for Qualitative Data

For this particular study, a semi structured interview was used. Semi structured interview is conducted with the researcher asking several prepared questions to the sample and are allowed to explore the responses received in an in-depth manner (Chua, 2012). Some encouragement toward the participant and modification are made to the question according to the situation and the participant of the research (Chua, 2012). The interview was done using online meetings through the zoom application. The researcher interviews one participant at a time for approximately thirty to forty minutes. This method is effective when participant

have different traits and characteristic that might add more information to the data (Chua, 2012).

There are two types of question. One for academician or key person who are involve with student's activities or programme directly or indirectly such as counsellor, student's affair unit and curriculum advisor. Second for students who involve in curriculum and students' activities.

Below is the interview question for academician and students:

Table 3.7 Interview Question for Academician

No	Items
1	Please introduce yourself and your background involve in students *da'wah* or psychology.
2	What is your opinion of Muslim Religiosity and Balanced Personality in IPTS?
3	How is the religiosity practice and personality in this university?
4	What is your understanding of psychology of *da'wah*.
5	Is it good to be practiced in university?
6	What are the factors thar affect Balanced Personality and Muslim Religiosity in university?
7	How gender, CGPA, age and income affect Balanced Personality and Muslim Religiosity.
8	Is there any relationship between Psychology of *Da'wah* on age, gender and CGPA in term of Muslim Religiosity and Balanced Personality?

Table 3.8 Interview Question for Academician

No	*Items*
1	Please introduce yourself and your religious educational background.
2	What is your understanding on Muslim Religiosity and Balanced Personality in private university?
3	How is the religiosity practice and personality among the students in this university?
4	What are the factors thar affect Balanced Personality and Muslim Religiosity among the students in university?
5	How gender, CGPA, age and income affect Balanced Personality and Muslim Religiosity?
6	Is there any relationship between Psychology of *Da'wah* on age, gender and CGPA in term of Muslim Religiosity and Balanced Personality?
7	What is your recommendation and suggestion toward university?

3.11 The Pilot Test for Quantitative Data

The pilot test was conducted to see if the items were reliable, that is if they have high internal consistency (Piaw, 2012). 30 samples from the population are sufficient to conduct a pilot test (Hair et al., 2007). The purpose for conducting a pilot test is to ensure that the scale items, instruction and questions were clear and well understood by the respondents (Pallant, 2011). According to Pallant (2011), a pilot test can provide reliability value of measurement which Cronbach's alpha result can be assessed by greater reliability with higher results. The minimum level of coefficient alpha is 0.70 as recommended by Hair et al. (2007).

Table 3.9 The Reliability Score

Reliability results of the variables and its dimensions	Number of items	Item Retained	Cronbach's Alpha
Muslim Religiosity	22	9	0.882
Balanced Personality	11	11	0.951
Psychology of *Da'wah*	15	7	0.848

Even though three variables (psychology of *da'wah* , balanced personality, Muslim Religiosity) were adapted from a well-established instrument, a pilot test was still required to test the nature of the respondent. Different group of individuals from different culture and demographic backgrounds will respond differently to the items. Through the pilot test, it also helped the researcher to evaluate the suitability of the research questions and make necessary improvements of the actual research. The process of the validity and reliability was tested by experts in this field. The pilot study result showed (Table 3.9) that the alpha values for the four questionnaires exceeded the cut-off point of 0.70. Most of the pilot test samples agreed that the questionnaire was readable and easy to understand, it required on average, only 15 minutes to answer all the questions provided. According to Punch (2003), a questionnaire taking less than 20 minutes to complete is more desirable. Overall, no problems were detected with the questionnaire and therefore the survey was finalized.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

3.12 Exploratory Factor Analysis (EFA)

An exploratory factor analysis (principal component analysis) with Varimax rotation was conducted on the items for the constructs of psychology of *da'wah*, balanced personality, Muslim Religiosity. Applying principal component analysis with Varimax rotation was deemed an appropriate approach for exploring the interrelationship among a set of items. Prior to performing principal component analysis, the suitability of data for factor analysis was assessed based on the Kaiser-Meyer-Olkin.

Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity value was carried out for the purpose as mentioned above. If the results met the requirement of both assessments, the next step is to determine the number of factors that can be used to best represent the interrelationships among the set of items. Following the determination of the number of factors, these factors are rotated using Varimax rotation to assess the loading pattern of each item on the factors. Varimax Rotation technique was used to obtain simpler and more interpretable factor solutions (Hair, Black, Babin & Anderson, 2010). The following sub-sections provide a detailed discussion of the EFA outcome for the constructs of psychology of *da'wah*, balanced personality, Muslim religiosity.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

Table 3.10 The Summary Result for Exploratory Factor Analysis (EFA)

No	Items	Factors		
		1	2	3
Variable: Psychological *Da'wah*				
PD1	I need religious to life for develop my personality	.77		
PD2	I need the society for develop my personality	.631		
PD3	I need peers and friends in my life for develop my personality	.600		
PD4	I need early education from my parents for develop my personality	.792		
PD5	I need teaching and guidance of Islam for develop my personality	.861		
PD6	I need capability to adapt well and fast in my personality	.820		
PD7	I chose a modest way of living according to the needs of both adults and parents in my personality	.694		
PD8	I do not afraid to make mistake	Removed		
PD9	I do not have any problem in love	Removed		
PD10	I do not have any difficulty in making decision	Removed		
PD11	I do not have stress in my life	Removed		
PD12	I am not a temper outburst person	Removed		
PD13	I am not a forgetfulness person	Removed		
PD14	I am a cool person	Removed		
PD15	I am happy with my life	Removed		
Variable: Balance Personality				
BP1	I know the concept of Balance (*WasaÏiyyah*)		.677	
BP2	Balance (*WasaÏiyyah*) helps me to find the right partner, place and time for focus		.816	
BP3	Balance (*WasaÏiyyah*) is important in my life		.889	
BP4	Balance (*WasaÏiyyah*) affects my life everyday		.828	
BP5	Balance (*WasaÏiyyah*) helps me to be simple and fair		.870	

No	Items	Factors		
		1	2	3
BP6	The concept of Balance (*WasaÏiyyah*) able to guide and be a guidance to me		.877	
BP7	I should strive to be Balance (*WasaÏiyyah*) in anything worthwhile.		.834	
BP8	I should be Balance (*WasaÏiyyah*) between physical and spiritual		.830	
BP9	I must Balance (*WasaÏiyyah*) in actions and behavior		.878	
BP10	I become strong when no fanaticism and prejudice toward something		.737	
BP11	I practice Balance (*WasaÏiyyah*)in my life		.794	
Variable: Muslim Religiosity				
MR1	Allah swt will not forgive sins that was done intentionally			Removed
MR2	Every deed that is perform by a matured person will be counted in the judgement day			Removed
MR3	All Islamic ruling can be amend to suit current needs			Removed
MR4	When Allah swt bring calamity to an area, both Muslim and non-Muslim will suffer the effect			Removed
MR5	All human action must be performed as a symbol of submission to Allah swt			Removed
MR6	Islamic teaching does not fulfil the need of human nature			Removed
MR7	A person who hold firmly to religious belief will never encounter challenges in life			Removed
MR8	Allah swt command can be broken to fulfil worldly need			Removed
MR9	I strive to learn more about Islamic religious knowledge and command			.710
MR10	I feel peace listening to Qur'ānic recitation			.726

No	Items	Factors		
		1	2	3
MR11	I care for my Muslim brothers like I care for my own self			.696
MR12	I strive to learn and understand the meaning of every Qur'ānic verses			Removed
MR13	I invite others to perform solat together			Removed
MR14	I did not tell the disgrace of others			Removed
MR15	I strive to hide my good deed from other people knowledge			Removed
MR16	I always discuss about religious matters with my friends			Removed
MR17	I refer to the expert when I have questioned about religious matter			.700
MR18	I felt anxious when I hurt my parents feeling			.742
MR19	I used public properties with care			.758
MR20	I feel good when I say good things about my friend			.825
MR21	I prefer to work and earn money than asking from others			.716
MR22	I will donate certain portion of my money every year			.609
Cronbach's Alpha		.848	.951	.882
Eigenvalue		3.525	7.456	4.694
Percentage of Variance (%)		58.748	67.785	52.150
KMO Measure of Sampling Adequacy		.848	.952	.902
Approximate Chi-Square		1292.553	4636.571	1894.502
Sig		.000	.000	.000

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

3.13 Data Analysis Procedures

3.13.1. Data Analysis Procedures (Quantitative)

Data from the questionnaire were then analysed using two main statistical softwares, the IBM SPSS Version 23.0 and Smart PLS version 23. The IBM SPSS Version 23.0 was used to perform the descriptive analysis that computed frequency and percentage of demographic background. The Smart PLS 23.0 was used to conduct the inferential statistical analysis that determines the predicting roles of psychology of *da'wah*, balanced personality, Muslim Religiosity. Smart PLS is a software that validates the measurement model of a latent construct using Confirmatory Factor Analysis (CFA). Subsequently, Smart-PLS (version 3.0) was used to conduct the confirmatory factor analysis (CFA), reliability, validity of the measurements and the model hypothesis structural model test.

3.13.1.1 Objective One: Comparison between mean value of Balanced Personality and Muslim Religiosity based on gender, age, income, education and CGPA

Inferential statistical analysis using IBM SPSS Version 23.0 was used to examine the mean for Balanced Personality and Muslim Religiosity based on gender. The independent sample t-test was used at 95 percent confidence level (α = 0.05) to determine the significant mean differences in Balanced Personality and Muslim Religiosity based on gender. The research hypothesis is accepted if the significant level, p is less than 0.05. The level of Balanced Personality and Muslim Religiosity based on the age, income, education and CGPA scale uses the one-way

ANOVA at 95 percent confidence level ($\alpha = 0.05$). The research hypothesis is accepted if the significant level, p is less than 0.05.

3.13.1.2 Objective Two and Three: The Level of Balanced Personality and Muslim Religiosity

The levels of Balanced Personality and Muslim Religiosity were determined through the mean scores. Table 3.11 presents the tabulation of the mean scores to show low, moderate and high levels of Balanced Personality and Muslim Religiosity based on the manual.

Table 3.11 Determination of the Level of Balanced Personality and Muslim Religiosity

Mean Scores	Level
1.000 – 2.668	Low
2.669 – 3.668	Moderate
3.669 – 5.000	High

As can be seen, the scores depict the range of scores for Balanced Personality and Muslim Religiosity.

3.13.1.3 Objective Four and Five: The Impact of Psychology of *Da'wah* on Balanced Personality and Muslim Religiosity

Structural Equation Modeling or SEM can inform the researcher how a theory fits the real world (Babin & Svensson, 2012). SEM combines both multiple regression analysis and factor analysis, giving it the ability to analyse truly complex models simultaneously with clear measurements of fitness (Tohidi, Seyedaliakbar, & Mandegari, 2012). SEM is an advance statistical analysis tool used to

comprehend and analyse complex relationships between variables across multiple disciplines including social sciences. Partial least square SEM or PLS-SEM is primarily used for exploratory and confirmatory purposes respectively (Hair, Sarstedt, Ringle, & Mena, 2012; R. Sinkovics et al., 2016). PLS-SEM methods include latent variables that are measured indirectly (Hair et al., 2016) at the same time, they assist in dealing with measurement errors in observable variables (Henseler & Chin, 2010).

Avkiran (2017) argues that the choice of using PLS-SEM lies on the data type, size of the sample, the numbers and types of latent constructs used, and the underlying theory used. The factor variance relationships were studied using PLS-SEM (Hair, Ringle, &Sarsted, 2011) since PLS-SEM is especially suitable when, "sample sizes are small, the data are non-normally distributed, or when complex models with many indicators and model relationships are estimated" (Hair et al., 2016) and it is also used when the study is more exploratory in nature, when they search for latent patterns in the data in case there is no or only little prior knowledge on how the variables are related" (Hair et al., 2016).

To further support this, Davcik (2014) argues that PLS-SEM gives exploratory meaning to theoretical fundamentals of a model in the study. With these in mind, the exploratory nature of this study suggests PLS-SEM as a suitable tool for the analysis of this study's data. PLS-SEM was used to study data patterns collected as there was limited psychology of *da'wah* specific knowledge of how these variables are related (Hair et al., 2016). The second criterion for the use of PLS-SEM was the complex model employed with many constructs (Henseler, Hubona, & Ray, 2016). In PLS-SEM, the Outer Model was used to determine the

validity and reliability of the model's latent variables (all constructs being reflective) before using the Inner Model to determine the predictive prevalence and effect size (Hair et al., 2011).

3.13.2 Data Analysis Procedures (Qualitative)

3.13.2.1 Thematic Analysis

The in-depth interview one by one was using zoom online was recorded. Then, the recorded file was heard and transcribed onto the computer manually. All the transcriptions were written in the Microsoft Office Word 2013. The data was saved in the folder. The researcher read through multiple times in order to abstract out the insightful themes (Creswell, 2012).

After that, the researcher will read through again to extract out the meaningful segments from the transcriptions. This is named the data reduction process where the meaningful segments are being coded and the theme is discovered. Subsequently, it will be categorised according to specific themes to follow the research framework and answering the research questions. The themes will be analysed on a case-by-case basis. Figure 3.3 is a diagram presentation of the whole process that the researcher gone through for qualitative data analysis.

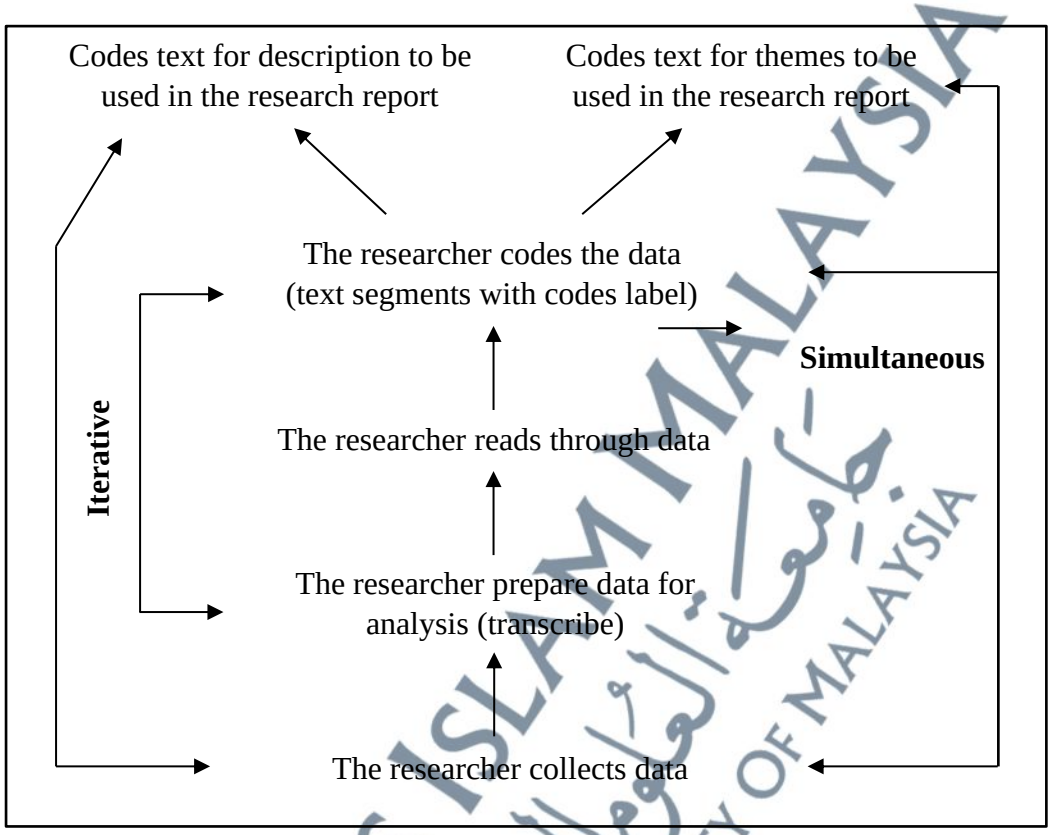

Figure 3.3 Data analysis for qualitative process

Source: J. W. Creswell (2012)

The iterative process means that the researcher has to cycle back and forth between data collection and data analysis while the analysis also involved simultaneous process where the data collection and data analysis were done simultaneously (J. W. Creswell, 2012).

In this study, thematic analysis is used as an approach to the qualitative data (Braun, 2006, et al., 2013). The purpose of this analysis is to identify the meaning of themes and patterns in a data collection to connect it with research question (Braun, et al, 2014). The thematic used in find out research objective four and five.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

3.13.2.2 Content Analysis

Content analysis uses a descriptive approach in both the coding of the data and its interpretation of quantitative counts of the code. The objective of content analysis is to present the qualitative content in the form of objective and quantitative information. In content analysis, qualitative data that is collected for research will be analysed systematically to convert it into quantitative data.

This content analysis has been used in order to achieve research objective six. Through the content analysis, all answers by the respondents are counted and correlate to look into data that been supportive or not accordingly as quantitative data.

The steps in this qualitative analysis will include: (1) preliminary exploration of the data by reading through the transcripts and writing memos; (2) coding the data by segmenting and labelling the text; (3) using codes to develop themes by aggregating similar codes together; (4) connecting and interrelating themes; and (5) constructing a narrative (Creswell, 2013).

Data analysis will involve developing a detailed description of each research questions. During the analysis a researcher will situate the same coding within its context, so that the research objective descriptions and themes are related to the specific activities and situations involved in the case (Creswell, 2013).

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

3.13.3 Triangulation

In this research, data triangulation method is used for analysing the data collection. The application of the principle of triangulation determines the accuracy or credibility of the research instruments whether it is reliable and valid (J. W. Creswell, 2012). Triangulation is an approach that involves multiple collection of data or more than one study methods (Guba, 1981, et al, 2003) to enhance validity and reliability of the study. As the collation of data draws from multiple sources of information, individuals or processes with different methods or types of data, therefore it increases the accuracy of the study as well as the quality of the data (J. W. Creswell, 2012, et al., 1994).

The researcher used survey method and distributed questionnaire and individual in-depth interviews. This is supported by Anglin (1993) that stated it is a process of different methods' collation like survey, interview, and observation. Figure 3.4 shows the triangulation data used in this study.

An example where the principle was applied can be seen in chapter 5 under qualitative findings where the data from quantitative (questionnaire) and qualitative (thematic and content analysis and interview) were triangulated to get a strong justified conclusion of the data findings.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

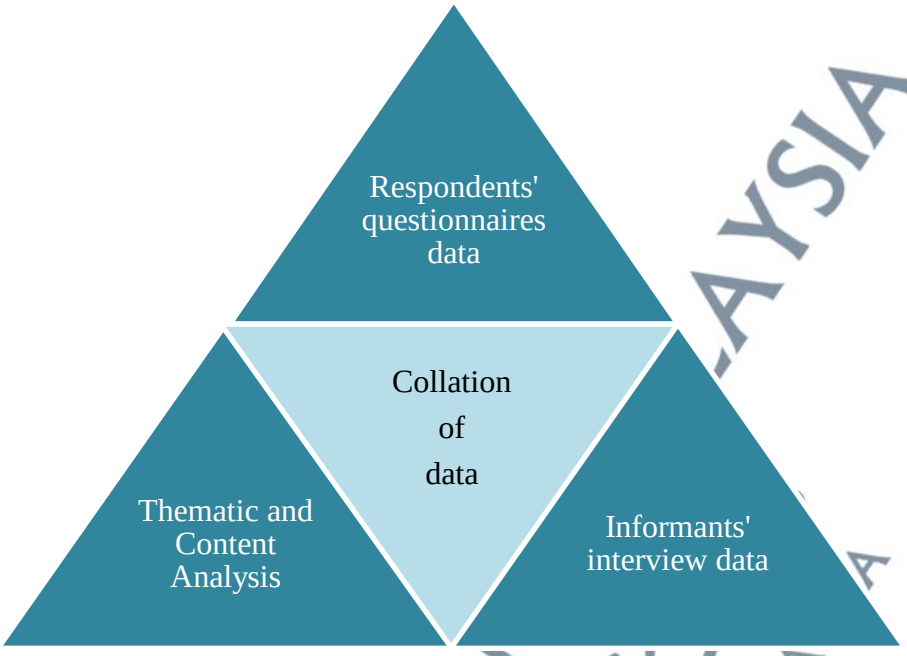

Figure 3.4 Triangulation of data

Thematic coding of interview transcription content was used to condensed data into themes for interpreting and understanding of social phenomena (Creswell, 2008; Zhang and Wildemuth, 2009). Marshall, Rossman and Mc Leod (1989) has suggested that interview is one of the most important method of gaining information.

3.14 Summary

This chapter has provided detailed information on the methodological issues in order to test the conceptual framework used in this research. The issues concerning research design, the population and the sample of this study, the data collection procedure and the measurement of the variables of this study have been addressed. An explanation of the analysis techniques that will be applied to test the hypotheses developed previously in Chapter 2 has also been provided. Detailed discussion on the analysis results, particularly the result of analysis of assumptions, exploratory

factor analysis, measurement model validity, structural model validity, thematic and content analysis will be provided in the next chapter of this thesis (Chapter 4). Throughout the discussion, the conceptual framework will be tested in order to examine whether the hypotheses are supported or not by the data of this study. Chapter 4 will provide demographic information of the respondents and the analysis data of quantitative and qualitative.

In conclusion, the research methodology chosen for this study was based on survey and in-depth interview. A mixed method was chosen that involve the analysing of both qualitative and quantitative data. Data from the questionnaire were then analysed using two mains statistical software, the IBM SPSS Version 23.0 and Smart PLS version 23. The IBM SPSS Version 23.0 was used to perform the descriptive analysis that computed frequency and percentage of demographic background. The Smart PLS 23.0 was used to conduct the inferential statistical analysis. While thematic analysis and content analysis was chosen for qualitative data. All the findings will be discussed in chapter 5.

UNIVERSITI SAINS ISLAM MALAYSIA
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA