

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology used in this study starting with an introduction in Section 3.1. The research design is discussed in Section 3.2, while the data collection methods in Section 3.3. Next, the data analysis methods are explained in Section 3.4, and lastly, Section 3.5 summarises this chapter.

3.2 Research Design

According to Mukul and Deepa (2013), research design refers to the entire process of planning to carry out a research study. It is a framework that specifies the type of information to be collected, the sources of data, and the data collection procedure (Kinnear & Taylor, 1991). Meanwhile, Sekaran (2003) classified research design types into two, which are causal design and correlational design. The causal design aims to delineate the cause of one or more problems, whilst the correlational design delineates the important variables associated with the problem (Sekaran, 2003). As this study examined the influential factors of individual's intention to participate in corporate cash *waqf*, the causal design was chosen. This is because; this study determined the cause (attitude, subjective norm, perceived behavioural control, and religiosity) and effect (intention to participate) relationships.

In fact, there are two research approaches, which are deduction and induction. Deductive approach involves testing a theoretical proposition by the employment of a research strategy specifically designed for the purpose of its testing, whilst inductive approach involves the development of a theory as a result of observations on empirical data (Saunders et al., 2009). The deductive approach was chosen as a suitable approach to this study as it employed a tested theory, which is the Theory of Planned Behaviour (TPB). This study tested the validity of TPB by investigating the factors that influenced individual's intention to participate in corporate cash waqf. The next section looks into the data collection methods used in this study.

3.3 Data Collection Methods

Data collection involves the efforts of collecting and interpreting data, as well as recording the information obtained. Before data are collected, any necessary measuring instruments must be identified and perhaps developed. This study was conducted quantitatively via library research and survey questionnaire methods. Both methods are explained in the following:

3.3.1 Library Research

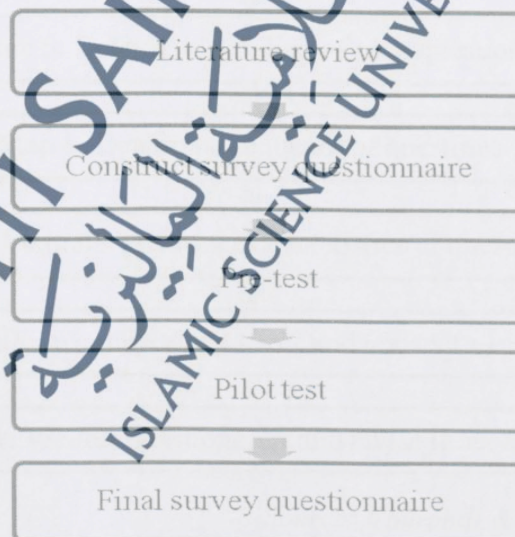
This study began by obtaining resources from libraries to get primary and secondary information, including previous studies related to the subject. This involved gathering information from printed materials, such as dissertations, books, research reports, and articles from journals. Besides, unprinted materials via internet, such as online newspapers, were also used as sources of information to this study. Documents and articles from Johor Corporation Berhad (JCorp), Waqaf An-Nur Corporation

Berhad (WANCorp), Majlis Agama Islam Johor (MAIJ), Jabatan Wakaf, Zakat, dan Haji (JAWHAR), Yayasan Wakaf Malaysia (YWM), Majlis Agama Islam Wilayah Persekutuan (MAIWP), and International Centre for Education in Islamic Finance (INCEIF) through printed materials or websites were also consulted. This instrument gave primary advantage to this study, as the data obtained had been almost always less expensive than acquiring primary data. In addition, they could usually be obtained instantly and rapidly.

3.3.2 Survey Questionnaire

Figure 3.1 below presents the process and steps taken in collecting primary data through a survey questionnaire. Discussion on this phase includes topics of questionnaire, design procedures, sampling technique, and sample size.

FIGURE 3.1: Process of Collecting Primary Data

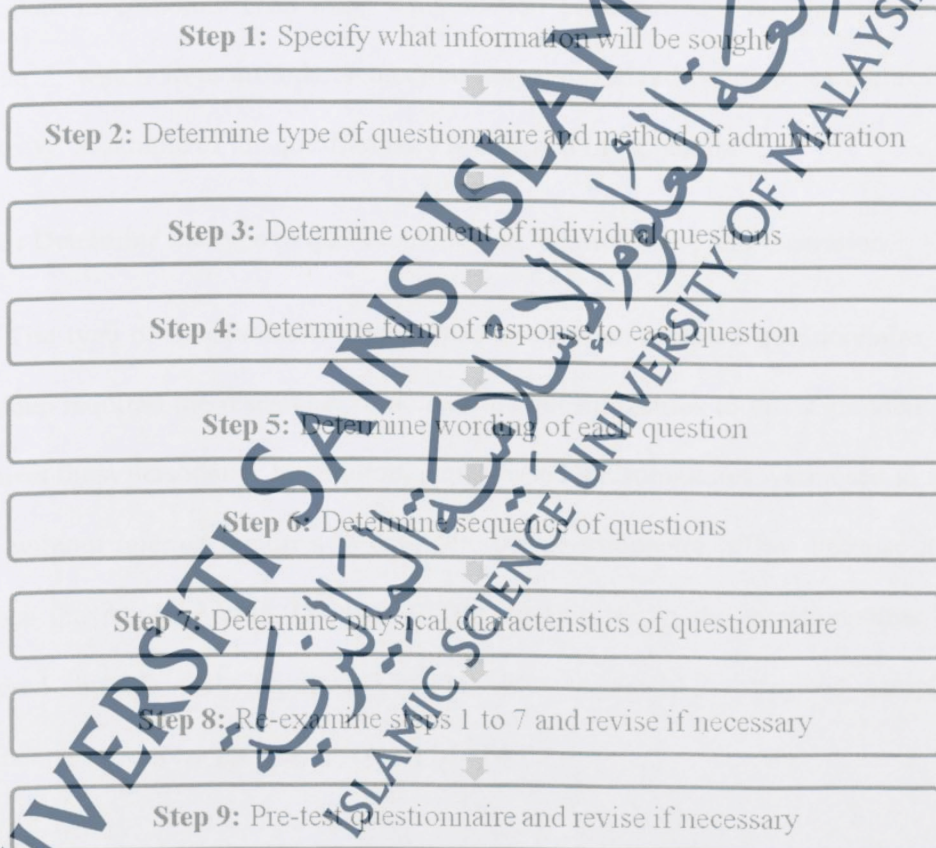


Source: Developed for the Current Study

i. Questionnaire Design Procedures

This study developed a survey questionnaire in order to meet the research objectives, as well as to find the answers to the research questions posed. The basis of all questionnaires is the questions, and the built questionnaire needs to follow certain procedures. According to Churchill and Iacobucci (2002), the procedure for developing a survey questionnaire is as shown in Figure 3.2.

FIGURE 3.2: Procedure for Developing Survey Questionnaire



Source: Churchill & Iacobucci, 2002

managed to cut cost and time. In total, 300 questionnaires were distributed as 274 samples had been needed.

Step 3: Determine the content of individual questions

For this study, the questionnaire was constructed through operationalisation, which had been adapted from previous studies conducted by Ramayah et al., (2009), Gopi and Ramayah (2007), Ya, Y. S. and Kwoting, F. (2004), Amirul Faiz (2014), and Snip (2011). By adapting the content of individual questions of these studies, it ensured that the questions had been well-developed and tested. The measures listed are shown in Table 3.1 below.

TABLE 3.1: Measures

Construct	Item	Source
Attitude	Practicing corporate cash <i>waqf</i> course is beneficial.	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	Practicing corporate cash <i>waqf</i> course is rewarding.	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	I have positive perception on corporate cash <i>waqf</i> .	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	Practicing corporate cash <i>waqf</i> course is a good idea.	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	I like corporate cash <i>waqf</i> .	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
Perceived Behavioural Control	I have financial resources to practice corporate cash <i>waqf</i> .	Adapted from Ya, Y. S and Kwoting, F (2004)
	I have the ability to practice corporate cash <i>waqf</i> .	Adapted from Ya, Y. S and Kwoting, F (2004)
	I have knowledge to practice corporate cash <i>waqf</i> .	Adapted from Ya, Y. S and Kwoting, F (2004)

Construct	Item	Source
	Practicing corporate cash <i>waqf</i> is within my control.	Adapted from Ya, Y. S and Kwoting, F (2004)
Subjective Norm	Most people who are important to me think that I should practice corporate cash <i>waqf</i> .	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	My friends would think that I should practice corporate cash <i>waqf</i> .	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	It is expected of me that I should practice corporate cash <i>waqf</i> .	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
Religiosity	Allah SWT rules fulfil all of His creatures' needs.	Adapted from Amirul Faiz (2014)
	All human activities must be done for the sake of Allah SWT.	Adapted from Amirul Faiz (2014)
	I feel happy when someone performs good deeds.	Adapted from Amirul Faiz (2014)
Corporate Cash <i>Waqf</i> Participation	I will choose corporate cash <i>waqf</i> as a way for my charity deed.	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	Overall, I plan to participate in corporate cash <i>waqf</i> .	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	I will recommend corporate cash <i>waqf</i> to my friends.	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	My general intention to practice corporate cash <i>waqf</i> is higher.	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)
	I will think about opting for corporate cash <i>waqf</i> .	Adapted from Ramayah et al., (2009) and Gopi and Ramayah (2007)

Source: Developed for the Current Study

Step 4: Determine the form of response to each question

For this study, the questionnaire was constructed by employing closed-ended questions to ensure that the answers were standardised and could be compared from

person-to-person. It was also easier to code and analyse, thereby saving time and money. These close-ended questions were constructed by using the Likert scale, which provided the respondents with a sequence of defined numerical alternatives, such as strongly disagree, disagree, neutral, agree, and strongly agree.

Step 5: Determine the wording of each question

The study constructed the questionnaire in simple words in order to ensure that the respondents understood the questions in the same manner. At the same time, the questionnaire was also constructed by using two different languages, which were English and Malay, in order to ensure that those from various knowledge levels and age had been able to understand the questions and provide accurate answers.

Step 6: Determine the sequence of questions

In this step, this study ensured that the questions were sequentially constructed and employed a funnel approach. Besides, discussion with the experts had been very helpful in facing this phase.

Step 7: Determine the physical characteristics of questionnaire

In this step, this study ensure that the questionnaire had a cover letter, straight forward instructions, a simple layout and design, a progress thermometer, question sequence, usage of quality paper, and suitable font size.

Step 8: Re-examine steps 1 to 7 and revise if necessary

Before the survey questionnaire was pre-tested, all the questions were reviewed to avoid confusion or ambiguity.

Step 9: Pre-test questionnaire and revise if necessary

Last but not least, a pre-test questionnaire was conducted for necessary revisions. The pre-test of the questionnaire was conducted among the public, which involved 20 samples. As they were unfamiliar with the concept of corporate cash *waqf*, some of them refused to answer the questionnaire. Nevertheless, some of them suggested that the questionnaire needed amendments in terms of wording because some questions were incomprehensible. Besides, they also suggested the need to provide the definition of corporate *waqf* and corporate cash *waqf* in the first page of the questionnaire in order to ensure that those lacked clarity concerning both types of *waqf* would be able to figure out what they meant. After all the comments from the respondents were considered and corrections were made on the questionnaires, the next step was to conduct a pilot test.

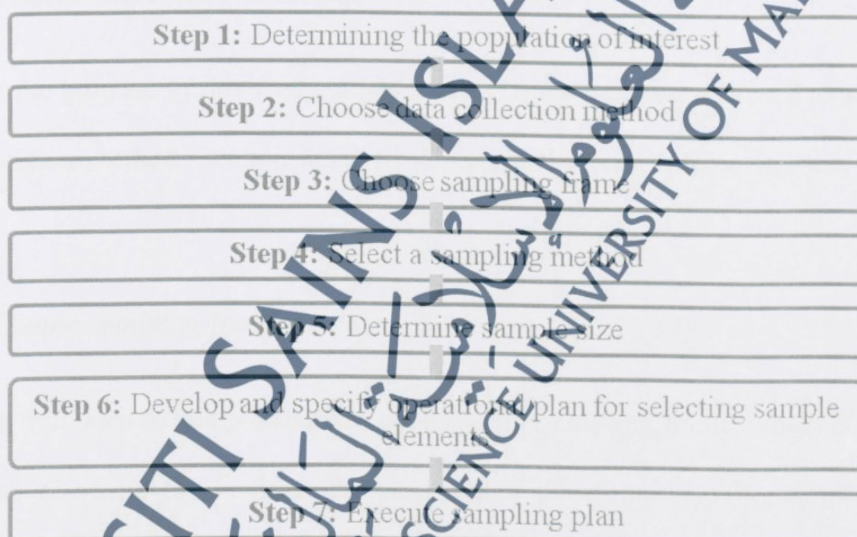
The questionnaire is a measuring instrument that must be tried in the pilot test before major data collection for the study is undertaken. Through the pilot test, deficiencies that were not apparent by simply reviewing the items may be uncovered (Wiersma & Jurs, 2005). The pilot test of this study took 20 samples of the respondents in order to measure the reliability of the data. This pilot test was conducted among employees of MAIWP. The results of the pilot test found that the data had been indeed reliable and relevant for use in the final survey.

ii. Sampling Technique and Sample Size

Sampling is the process of selecting units (e.g. people, organisations) from a population of interest so that by studying the sample, any findings can be generalised

or extrapolated to that target population with confidence (Saunders et al., 2007). According to Sidek (2002), sampling is the best choice because the study need not bear high costs and labour energy in a relatively long time period to collect data. For the purpose of sampling, Gall et al., (2005) asserted that it does not necessarily have to be that all the members in a population are used as sample if the selected ones can adequately reflect the issue at hand and the phenomenon that the population has to face. Hence, McDaniel and Gates (1999) recommended steps of developing a sampling plan, as shown below in Figure 3.3.

FIGURE 3.3: Steps of Developing a Sampling Plan



Source: McDaniel & Gates, 1999

Step 1: Determining the population of interest

Determining the population of interest is the first step of developing a sampling plan. The population of interest in this study had been individuals who were aware of and have knowledge about the corporate *waqf*, as well as corporate cash *waqf*. In order to identify this population and for this study to be conducted within them, the

employees of *waqf* institutions were chosen because the study believed that this population was synonym and possessed knowledge about those instruments. Obviously, they could be a good indication to the factors that influenced individual's intention to participate in corporate cash *waqf*.

Moreover, since only a few companies have implemented corporate *waqf* in Malaysia, this study focused on the employees of MAIWP only. This is because; MAIWP is one of the organisations that practice corporate *waqf*. Furthermore, the official website of MAIWP stated that they had 974 employees.

Step 2: Choose data collection method

For the purpose of this study, a paper-based questionnaire was used as the main data collection method. Section 3.3.2 (i) describes the reason for using this type of method.

Step 3: Choose sampling frame

The third step in this process was choosing the sampling frame, which is a list of population elements from which the researchers select units to be sample (Abd. Shakor, 2011). In an ideal situation, the list is complete and accurate; however, an ideal list was unavailable in this study. Although the sampling frame was not available, it was still possible to construct a reasonable sampling frame (Simsek & Veiga, 2001). In this study, the sampling frame was created from the employees who were employed at MAIWP. The decision to construct a sampling frame at MAIWP was made because their institution is one of the Majlis Agama Islam Negeri-negeri

(MAINS) that practiced corporate *waqf*, and thus, it was easier to reach people who had knowledge about corporate *waqf*, as well as corporate cash *waqf*.

Step 4: Select a sampling method

The next step was selecting the sampling method. In this study, a probability sampling technique was used where each case selected from the population was identified, and is usually equal for all cases (Saunders et al., 2009). This means that it is possible to answer the research questions and to achieve the research objectives. For the purpose of this study, the type of probability sampling used was simple random sampling. The procedure used in the selection of sample elements is explained in Step 6.

Step 5: Determine sample size

In order to find an adequate sample size, GPower 3.1 was applied. This software can calculate the minimum sample size needed for the study. Moreover, as the data of this study were analysed by using regression analysis, F tests and linear multiple regression: fixed model, R^2 deviation from zero, were chosen. This is at effect size f^2 of .15, α err prob of .05, and power of .80. In fact, 80 percent was set up as the minimum acceptable power, as suggested by Cohen (1988). The minimum sample size needed for this study had been 85 as the number of the predictor was 4. The results of the calculation are shown in Table 3.2 below.

TABLE 3.2: Results of GPower 3.1

[1] -- Wednesday, November 04, 2015 -- 23:35:46	
F tests - Linear multiple regression: Fixed model, R² deviation from zero	
Analysis: A priori: Compute required sample size	
Input:	Effect size f^2 = 0.15
	α err prob = 0.05
	Power (1- β err prob) = 0.80
	Number of predictors = 4
Output:	Noncentrality parameter λ = 12.7500000
	Critical F = 2.4858849
	Numerator df = 4
	Denominator df = 80
	Total sample size = 85
	Actual power = 0.8030923

Source: Developed for the Current Study

According to Sekaran (2003), the sample size required to be representative of 950 people is 274, whilst 1,000 people is 278. As the total population of MAIWP was 974, 274 samples were selected because 974 is nearer to 950 compared to 1,000. In spite of that, this study decided to have a number of respondents that exceeded the sample size stated in the table as a precaution if any of the questionnaires could not be used due to being incomplete or wrongly filled. The table for determining sample size from a given population is attached in Appendix D.

Step 6: Develop and specify operational plan for selecting sample elements

As mentioned in Step 4, the type of probability sampling used in this study was simple random sampling. The Corporate Unit of MAIWP distributed the questionnaires to employees capable in spending time to answer them. This method has the least bias and offers the most generalisability (Sekaran, 2003). The time horizon used was one-shot or also known as a cross-sectional study, where data were gathered just once.

Step 7: Execute sampling plan

The last step was executing the sampling plan. In this step, this study only had to ensure that all steps were adhered to.

3.4 Data Analysis Methods

Data analysis method is very important to ensure the quality of study. In this study, the data collected through questionnaires were analysed using the Statistical Package for Social Science (SPSS) software. The overall distributed questionnaires were 300 with the target of obtaining at least 274 useable responses for analysis. Total questionnaires received were 285, so the response rate was 95 percent. The total of 285 questionnaires were entered into excel sheets on the SPSS software in numerical form based on the number responses for each question. Each and every response had its own code. The respondents had to answer all questions. After all information of the questionnaires was entered into the system, this study started analysing the information. The following sections provide details about the data analysis methods used in this study.

3.4.1 Descriptive Analysis of Response

Descriptive analysis provides the summary of statistics, such as mean, median, and standard deviation. According to Field (2009), mean is a simple statistical model of the centre of a distribution of scores, whereas standard deviation is an estimate of the average variability (spread) of a set of data measured in the same units of measurement as the original data. To calculate the mean, simply add up all of the

scores values and then divide it by the total number of scores. The equation of mean as:

$$X = \frac{\sum_{i=1}^n x_i}{n}$$

In order to calculate standard deviation, the variance had to be calculated first. The variance is the average error between the mean and the observations made (and how so is a measure of how well the model fits the actual data) (Field, 2009). The square root of the variance is often taken to determine if the average error is in the same units as the original measure. The equation of standard deviation as:

$$S = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n}}$$

Other than that, Pearson correlation or Spearman correlation is used to explore the strength of a relationship between two continuous variables (Pallant, 2011). This gives an indication of both the direction (positive or negative) and the strength of the relationship. Positive correlation means as one variable increases, so does the other, while negative correlation means as one variable increases, the other decreases. Cohen (1988) suggested the following guideline to assess the strength of the relationship, as shown in Table 3.3.

TABLE 3.3: Guideline to Assess the Strength of the Relationship

Strength of Relationship	Range of Value
Small	.10 to .29
Medium	.30 to .49
Large	.50 to 1.0

Source: Cohen, 1988

3.4.2 Exploratory Factor Analysis

According to Saunders and Thornhill (2003), validity can be defined as an extent of the accuracy of data collection to determine the variables. In order to measure the validity, Factor Analysis (FA) is implemented. It helps to reduce a vast number of variables (for example, all the questions tapping several variables of interest in a questionnaire) to a meaningful, interpretable, and manageable set of factors (Sekaran, 2003). Through FA, loading for every item is examined for further analysis. The FA approach applied in this study had been the Exploratory Factor Analysis (EFA). EFA explores the data and provides the researcher with information about how many factors are needed to best represent the data (Hair et al., 2006).

In order to assess the factorability of the data, two statistical measures were applied, which were Bartlett's test of Sphericity and Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO). Bartlett's test of Sphericity should be significant ($p < .05$) for the factor analysis to be considered appropriate. The KMO index ranges from 0 to 1, with .6 suggested as the minimum value for a good factor analysis (Tabachnick & Fidell, 2007).

3.4.3 Reliability Analysis

The reliability of a measure is established by testing for both consistency and stability (Sekaran, 2003). This study adopted consistency which represented if all the items measured the same underlying construct. The most widely used consistency reliability is the Cronbach's Alpha (Bearden & Netemeyer, 1999). According to Sekaran (2003), Cronbach's Alpha is a reliability coefficient that indicates how well

the items in a set are positively correlated to one another. The formula for Cronbach's Alpha is given in the following:

$$\alpha = \frac{N^2 \text{Cov}}{\sum s_{\text{item}}^2 + \sum \text{Cov}_{\text{item}}}$$

The top half of the equation is simply the number of items (N) squared multiplied by the average covariance between items (the average of the off-diagonal elements in the aforementioned variance-covariance matrix), while the bottom half is just the sum of all the item variances and item covariances (i.e. the sum of everything in the variance-covariance matrix) (Field, 2009).

Generally, the agreed upon lower limit for Cronbach's Alpha is .7 (Hair et al., 2010). According to George and Mallery (2001), a rule of thumb pertaining to Cronbach's Alpha values that have been applied to most situations is shown in Table 3.4.

TABLE 3.4: Value Range of Cronbach's Alpha

Alpha	Indicator
More than .9	Very good
.8	Good
.7	Acceptable
.6	Questionable
.5	Weak
Less than .5	Unacceptable

Source: George & Mallery, 2001

3.4.4 Multiple Regression Analysis

In a simple linear regression, the outcome variable Y is predicted using the equation of a straight line like:

$$\text{Outcome}_i = (\text{model}) + \text{error}_i$$

In order to test the research hypothesis, this study used multiple regression analysis as the statistical procedure. According to Pallant (2007), multiple regression is not just one technique, but a family of techniques that can be used to explore the relationship between one continuous dependent variable and a number of independent variables or predictors (usually continuous). Basically, a multiple regression is the same as simple regression, except that for every extra predictor included, a coefficient needs to be added; so, each predictor variable has its own coefficient and the outcome variable is predicted from a combination of all the variables multiplied by their respective coefficients, plus a residual term (Field, 2009). The equation of the multiple regression is:

$$Y_i = (b_0 + b_1X_{1i} + b_2X_{2i} + \dots + b_nX_{ni}) + \varepsilon_i$$

Y is the outcome variable, b_1 is the coefficient of the first predictor (X_1), b_2 is the coefficient of the second predictor (X_2), b_n is the coefficient of the n th predictor (X_n), and ε_i is the difference between the predicted and the observed value of Y for the i th participant (Field, 2009).

In fact, two types of multiple regression analyses were used in this study, which were standard multiple regression and hierarchical multiple regression. Standard multiple regression was used to test the first and the second research hypotheses. Each independent variable was evaluated in terms of its predictive power, over and above that offered by all the other independent variables (Pallant, 2007). At the same time,

this analysis was able to provide to this study information about how much variance in the dependent variable explained by the independent variables. Meanwhile, in the hierarchical multiple regression, each independent variable is assessed in terms of what it adds to the prediction of the dependent variable after the previous variables have been controlled (Pallant, 2007).

From these both types of analyses, the Model summary, ANOVA, and Coefficient tables had been employed. The result of R square in Model summary table tells how much of the variance in the dependent variable is explained by the model, which includes independent variables. Meanwhile, the ANOVA table shows the statistical significance of the result. The significant level was set to .05 and if higher than that, the relationship was rejected. The column labelled Beta (β) under Standardised Coefficients in Coefficients table provides information on the contribution of each independent variable. The column marked Sig in the same table tells if the independent variable offers a statistically significant contribution to the equation. Moreover, this analysis aided this study by examining the factors that influenced individual's intention to participate in corporate cash *waqf*. Table 3.5 summarises the analysis of methods used in this study.

TABLE 3.5: The Summary of Analysis Methods

Research Questions	Analysis Method
What is the predictor of individual's intention to participate in corporate cash <i>waqf</i> based on TPB?	Standard Multiple Regression
What is the best predictor of individual's intention to participate in corporate cash <i>waqf</i> based on TPB?	
Could the variables of TPB (attitude, subjective norm, and perceived behavioural control) predict individual's intention to participate in corporate cash <i>waqf</i> if the religiosity factor is controlled?	Hierarchical Multiple Regression

Source: Developed for the Current Study

3.5 Summary

This chapter has discussed the research design and the data collection methods. Moreover, this chapter also emphasises on the type of data analyses used in this study. Before distributing the final questionnaires, a pilot test was conducted on 20 respondents, who had been employees of MAWP. Finally, the SPSS software was used as the main tool to analyse the data in order to test the research hypotheses.