

CHAPTER 5

RESEARCH METHODOLOGY

5.0 Summary

This chapter describes the research methodology used to collect and analyze the data required to address the research questions and to test the hypothesized relationships developed in this study. The chapter begins with a discussion of the research design, followed by the population from which data will be collected and the approach used in sample selection. The chapter then continues with descriptions of the questionnaire design, data measurement and scaling. Next, the discussion centres on data collection methods, focusing on the mail survey. Finally, the choice methods of data analysis are discussed.

5.1 Research Design

This research applies a quantitative survey methodology using self-administered survey questionnaires to collect data from a sample of SMEs involved in internationalization in Malaysia. According to Amaratunga et al. (2002) quantitative methods assist researchers to establish statistical evidence on the strengths of relationships between both exogenous and endogenous constructs. They also argued that the statistical results provide directions of relationships when combined with theory and literature. Furthermore, Cavana (2001) suggested that the

quantitative methods can be utilized to verify the hypotheses and provide strong reliability and validity.

The key informants in this survey were the owners or the highest ranking officers of the Malaysian SMEs, who were believed to be the most knowledgeable about their firms' characteristics, management style, international operations and firms' performance (Carpano et al., 1994; Roth, 1992; Roth and O'Donnell, 1996).

Data collected from this survey were analyzed using structural equation modeling to examine associative relationships among the three main constructs: (1) Determinants of internationalization such as entrepreneurial orientation, global mindset, network relationships and government support; (2) internationalization; and (3) firm performance.

5.2 Sample Selection Method

According to Hair et al. (2007) representative samples are normally obtained by the pursuing a set of well-defined procedures, including: defining the target population; selecting a sampling method; and determining a sample size. Thus, this study used three main procedures for selecting the representative sample as recommended by Hair et al. (2007).

5.2.1 Target Population

The study's target populations are the SMEs in Malaysia that are involved in internationalization. This research explores the three main industries, manufacturing, service and agriculture by focusing on young and established firms, traditional, low-technology and high-technology industries consistent with recommendation in the literature for a greater diversity in the industry scope (Zahra et al., 1999) in the emerging economies. The aim is to assess whether theoretical perspectives developed in mature market contexts are valid in emerging economies and to obtain clear international entrepreneurship patterns and outcomes.

This study employs the definition of SMEs provided by the National SME Development Council (NSDC). Specifically, SMEs in Malaysia are defined as follows:

- a. Manufacturing sector: Sales turnover of less than RM25 million or full-time employee of less than 150;
- b. Services and other sectors: Sales turnover of less than RM5 million or full-time employee of less than 50 (NSDC, 2010).

Details of the definitions according to the three categories namely, Micro, Small and Medium, are presented in Table 3.1 in chapter 3.

Following the above definition of SMEs, this study used three main comprehensive source of directories namely, the Federation of Malaysian Manufacturers (FMM), SME Corporation Malaysia (SME Corp. Malaysia), and the Malaysia External Trade Development Corporation (MATRADE) to identify potential respondents of the SMEs in Malaysia that are involved in internationalization.

SMEs that are involved in internationalization are defined as for profit companies that engage in exporting, importing, licensing or outsourcing activities, franchising, joint ventures and wholly owned subsidiaries. The percentage of a company's total sales from international operations, the percentage of a company's profit from international operations, the total number of a company's international markets, and the duration of the company's involvement in international operations in 2010 were used as a criterion to screen for firms that qualified for this study.

5.2.2 Sampling Method

The sampling frame for this study was created based on the three main directories mentioned above that represent SMEs in Malaysia. The sampling frame's specific information comprises the companies' names, factory and office addresses, telephone and fax numbers, types of business, and contact names.

Probability sampling is used as the sampling method. In the probability sampling method, stratified random sampling process is used to select the sample. The selection of the sample was based on the criteria explained previously.

Stratified random sampling involves a process of stratification or segmentation of SMEs in Malaysia, followed by the random selection of subjects from each stratum. In this study, the population of 3,000 SMEs was segregated based on the combination of criteria explained above. A total of 1,200 SMEs were selected from the total of 3,000 SMEs. The selected 1,200 SMEs were used as the sample in this study.

The unit of analysis for this study is the individual SMEs. The respondents (the owners or the highest ranking officer) were identified on the basis of their job title and position within the company (Vida et al., 2000). These people are assumed to be knowledgeable and familiar with their company operations related to the issues under investigation.

5.2.3 Sample Size

Determination of the sample size is influenced by several factors that must be simultaneously taken into consideration. Among the factors are cost and time constraints, variability of elements in the target population, required estimation

precision and whether the findings are to be generalized and , if so, to what degree of confidence (Hair et al., 2007). In addition, there is always a trade-off between the cost and time and large sample size. A larger sample size usually involves more expenditure on the collecting and analyzing of data (Henry, 1990). Therefore, this research must balance the trade-off of getting a satisfactory sample size within budget and time constraints.

Roscoe (1975) suggested that sample sizes larger than 30 and less than 500 are appropriate for most research. If samples are to be segregated into subsamples; (male/female, juniors/seniors, etc.) a minimum sample size of 30 for each category is necessary and in multivariate research (including multiple regression analyses), the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study. This suggestion was supported by Stutely (2003) who suggested a minimum number of 30 for statistical analyses. Kent (2001) further suggested that for any kind of quantitative analysis, a minimum of 100 cases was needed. This would assist the researcher in getting a sensible statistical analysis and more significant results. Thus, this study employs a sample size of 1,200 SMEs in Malaysia which is considered sufficient for successful quantitative analysis.

5.3 Questionnaire Design

This section discusses the process of developing the questionnaire for the study. It describes the development of the questionnaire beginning with its forward and back translation, validation of the questionnaire and its pilot testing before the questionnaire is finalized.

5.3.1 Questionnaire Development

Self-administered questionnaire was used to collect data from the SMEs in Malaysia. The self-administered questionnaire was developed based on the Proposed Research Model (figure 4.1) in Chapter four and on results of semi-structured interviews conducted with five SMEs in Malaysia in June 2011.

The questionnaire was developed and presented into four sections containing questions for related constructs. These sections were marked using headings to make it easy for respondents to follow and answer the questions. Section one comprised questions about the respondents' company characteristics, in terms of entrepreneurial orientation (25 items), global mindset (12 items), network relationships (11 items), and government support (12 items). Section two required the respondents to assess the extent of their firms' involvement in internationalization (4 items). Section three comprised questions about firm performance in terms of financial and non-financial performance (14 items) while section four required the respondents to provide

general company information in terms of primary business area, annual total sales, number of full-time employees, international business ventures, entry strategy, duration of company experience in current industry, location of head office, form of ownership and business status (9 items).

The Likert scale was selected over other scaling methods in this study. The scale is considered the preferred scaling method for obtaining attitudinal information (Fishbein and Ajzen, 1975), with respondents specifying their degree of agreement or disagreement with each statement in the questionnaire. The Likert scale is most suitable for this research context because it is a “subject-centered” scale specially designed to scale respondents, instead of objects (McIver and Carmines, 1981). The advantages of using Likert scales include ease of constructing the questionnaire, ease of understanding the questions and also ease of administration (Malhotra, 2007). Furthermore, Likert scales produce the most information by reducing the amount of leniency (Meric, 1994).

A number of researches concerning the optimal number of scale-points, the effects of the number of scale points, and the scales’ reliability and validity were conducted in the past (Cicchetti et al., 1985; Lissitz and Green, 1975; Ramsay, 1973). While some researchers argued that a six-or seven-point Likert scale performs best (Green and Rao, 1970; Ramsay, 1973), others suggested that a three-point Likert scale was sufficient (Jacoby and Matell, 1971; Lunney, 1970).

For the purpose of this research the six-point Likert scale will be used to measure each construct of the study. Scale response categories ranged from 1 (strongly disagree) to 6 (strongly agree). The use of the six-point Likert scale provides a shorter scale to assist respondents to complete the questionnaire. According to Hair et al. (2007), the need for a higher level of precision must be balanced with the demands put on the respondents. Respondents must be practically well educated to process the information associated with larger numbers of categories. They observed that respondents that were exposed to scaling questions less often could respond more simply to scales with fewer categories. As survey research among SMEs in Malaysia is still new, especially in international entrepreneurship, fewer Likert scale categories will most likely help respondents understand the information required and this in turn will increase the response rate.

In addition, Harrison and McLaughlin (1993) argued that Likert-type scales have a tendency to bias participants' responses toward the centre point because participants absolutely assume that the centre point is the normal or average. This practice is particularly true in the Malaysian context as Malaysians are likely to favor a middle path. Therefore, the six-point Likert scale was used in the questionnaire in order to make respondents give specific opinions.

To establish the legitimacy of the research activity and gain the trust of the respondents, the logo of University of Malaya was presented on the questionnaire's

cover page. It also expressed commitment to send a summary of the results to respondents by requesting their contact information at the end of the questionnaire.

5.3.2 Forward and Back Translation

English and Bahasa Malaysia versions of the questionnaire were developed for this study. The questionnaire was originally developed in English and later translated into Bahasa Malaysia using the backward translation method with assistance from linguists from MARA University of Technology, Malaysia to reduce bias and error. Differences and ambiguities were identified and corrected by the translator. Only small minor corrections were required since the two versions were relatively similar. Based on a vigilant translation and an independent back translation, the Bahasa Malaysia version was considered equivalent to the original English version.

5.3.3 Validation of the Questionnaire

Face validity of the questionnaire was conducted by two professors from the International Islamic University of Malaysia, who are specialists in the area of internationalization. Their comments on the content and wordings, modifying of the scale items to suit the specific industry context and to assess the questions were vital. Valuable feedback was given by the two professors and changes were made to the questionnaire before it was finalized and used in the survey.

5.3.4 Pilot Test

The data collection process of the research usually begins with a pilot test. According to Cooper and Schindler (2003) a pilot test is conducted to identify weaknesses in questionnaire design and instrumentation and to provide proxy data for the selection of a probability sample. Subjects of the pilot test were drawn from the target population and the test was conducted in the same way as planned for the final questionnaire. The respondents for the pilot study do not have to be statistically selected.

Hence, the study conducted a pilot test using a sample of 30 SMEs in Malaysia involved in internationalization. The sample was randomly selected from the directories of the Federation of Malaysian Manufacturers (FMM), SME Corporation Malaysia (SME Corp. Malaysia), and the Malaysia External Trade Development Corporation (MATRADE). The main reason for conducting the pilot test was to identify problems with the measurement items, questionnaire instructions and the time required by the respondents to complete the questionnaire.

The questionnaires were sent through post to 30 SMEs in Malaysia. Eight questionnaires were returned back with a response rate of 27 percent. The Cronbach's Alpha values for all the constructs ranged from 0.721 to 0.960, above the commonly acceptable value of 0.70 suggested by Nunnally (1978). Descriptive analyses showed that all measures had acceptable ranges and variances with no

evidence of item non-response and no evidence of misinterpretation of reverse or negative worded items. In addition, the respondents were also contacted personally by phone to obtain feedback as to whether the instructions and measurement items were unclear, confusing, or redundant. Respondents were also asked to give their opinions on the length of the questionnaires and the time required in completing the questionnaire.

Subsequently, minor changes were made to the questionnaire. The final questionnaire was approved by the thesis supervisor, Dr. Aida Idris and was believed to be a simple, well presented data collection instrument that would generate data of acceptable quality. A copy of the final questionnaire in English and Bahasa Malaysia versions was attached in the appendix of this thesis.

5.3.5 Final Questionnaire

The final questionnaire contained eight pages, with confidentiality assurances placed on the front page and at the end of the questionnaire. The overall results of the study were offered to the respondents as an incentive for their participation in the research.

The final questionnaire contained 87 items measuring seven constructs and other questions related to the firm. Items used to measure the constructs were

adopted from the literature and are shown in Table 5.1, together with their working definitions, measurement items, and item labels used in data analyses.

Table 5.1 Summary of Measures for the Study’s Main Constructs

Item Label	Entrepreneurial Orientation: A firm’s willingness to innovate to rejuvenate market offerings, takes risks to try out new and uncertain products, services and markets and be more proactive than competitors towards new marketplace opportunities (Dickson and Weaver, 2008; Kreiser et al., 2002; Covin and Slevin, 1989, 1990, 1991; Miller, 1983; Miller and Friesen, 1983).
EO1	In dealing with competitors, we typically respond to actions that competitors initiate.
EO2	In general, we favor a strong emphasis on technological learning.
EO3	In general, we favor a strong emphasis on research and development (R&D).
EO4	In dealing with competitors, we typically seek to avoid competitive clashes.
EO5	In dealing with competitors, we typically seek new business opportunities.
EO6	Our products and services are radically different from competitors.
EO7	We offer unique benefits to the customer, not offered by competitors.
EO8	We provide higher quality products and services than the competitors.
EO9	We provide more superior solutions to our customer problem.
EO10	During the past 5 years, our company has entered new businesses and marketed new products.
EO11	Our competitors typically look to us for leadership.

Table 5.1 Summary of Measures for the Study's Main Constructs, continued

EO12	Compared to competitors, we are very often the first business to introduce new products or services.
EO13	Compared to competitors, we are very often the first business to introduce new operating technologies.
EO14	Compared to competitors, we are very often the first business to introduce new administrative techniques.
EO15	We believe that combinations of strategies are necessary to achieve our objectives.
EO16	We initiate actions to which other organizations respond.
EO17	We respond quickly to environmental changes.
EO18	We perceive new business opportunities more quickly than our competitors.
EO19	In general, we have a strong preference for low-risk projects with normal and certain rates of return. (Reverse coded)
EO20	When faced with uncertain situations, we adopt a bold, independent posture to exploit new opportunities.
EO21	We believe that because of the dynamic business environment, it is best to explore the environment gradually through slow, incremental behavior. (Reverse coded)
EO22	We have a strong proclivity or tendency for high-risk projects.
EO23	We are willing to make investments in projects that have uncertain outcomes.
EO24	We are willing to take higher risk in the exploration of new business opportunities in the foreign markets.
EO25	We are willing to enter new foreign markets with high probability of failure in an unknown competitive environment.

Table 5.1 Summary of Measures for the Study's Main Constructs, continued

Item Label	Global Mindset: A firm's or manager's openness to and awareness of cultural and market diversity and its predisposition towards a particular way of approaching an international experience (Guy and Beaman, 2003; Gupta and Govindarajan, 2002).
GM1	We almost never change our product or services features for our international customers.
GM2	In our international business dealings, we believe that the "Malaysian Way" is the best way.
GM3	Most of the time, we try to accommodate the special requests of our international customers.
GM4	It is easy to adapt to unique behaviors and practices of foreigners, especially when they are our customers.
GM5	We can adapt to special needs of customers in different countries.
GM6	Often the ways of our foreign customers are as good as or better than the Malaysian ways.
GM7	Almost all products at our company must be adapted to meet special needs of each foreign market.
GM8	We should not think of ourselves as just a Malaysian company but think of ourselves as part of a "global community".
GM9	Cultural values are actually quite similar around the world.
GM10	International business should be done according to universal standards and practices, not according to standards and practices of one or two countries.
GM11	People around the world are much more similar than they are different.
GM12	We should make products or services that can serve a global market.

Table 5.1 Summary of Measures for the Study's Main Constructs, continued

Item label	Network Relationships: A firm's management team and employees' relations with formal, informal and intermediary networks that enable a firm to internationalize its business activities (Birley, 1985; Coviello and Martin, 1999; Coviello and Munro, 1995, 1997; Oviatt and McDougall, 2005; Zain and Ng, 2006).
NR1	Our relationships with customers, distributors and suppliers, enable us to access the resources controlled by other firms in the foreign markets.
NR2	Network relationships with customers, distributors and suppliers can open new opportunities for our company in foreign markets.
NR3	Our relationships with customers, distributors, suppliers and competitors assist us in entering foreign markets.
NR4	Our relationships with friends and family members assist us in entering foreign markets.
NR5	Our relationships with brokers assist us in entering foreign markets.
NR6	We managed to cope positively with rapid technological changes from our network relationships with customers, distributors and suppliers.
NR7	Network relationships with customers, distributors and suppliers provided a way to maximize our adaptability to our foreign environment.
NR8	Networks facilitate and accelerate our company's internationalization process.
NR9	Network relationships with friends and family help us in managing uncertainty risks in the foreign markets.
NR10	Network relationships with brokers help our company in the planning and management of marketing in the foreign market.
NR11	We managed to integrate our communication structure in the foreign market from our network relationships with brokers.

Table 5.1 Summary of Measures for the Study's Main Constructs, continued

Item label	Government Support: Funding, policies and incentives, and contract and projects in terms of financial and credit assistance, technical and training assistance, extension and advisory services, marketing and market research, and infrastructure supports that can assist individuals' entrepreneurial efforts (Smallbone and Welter, 2001; Spencer and Gomez, 2004; Doutriaux, 1998; Harrison and Mason, 1988; Phillips, 1993; Reynolds, 1997; Abdullah, 1999).
GS1	Malaysian government policies assist our company in operating abroad.
GS2	We received financial and credit assistance from the government for our international expansion.
GS3	Training and technical assistance from the government help our company development in the foreign market.
GS4	We received marketing and market search assistance from the government for our products and services promotions in international markets.
GS5	The government of Malaysia has provided infrastructure facilities for our company's growth and development.
GS6	Government support programmes on the extension and advisory services improved our company's product quality and design.
GS7	The Malaysian government supports our company by giving contracts or projects in the foreign markets.
GS8	We received substantial subsidies from the government for our international operations.
GS9	Our close relationship with the government supports our company's growth and development.
GS10	The government supports our company with an injection of soft loans to assist us to trade out of our difficulties.
GS11	We received substantial tax subsidies from the government for our international operations.
GS12	Our close relationships with the government enable us to control over resources available in the international markets.

Table 5.1 Summary of Measures for the Study's Main Constructs, continued

<p>Item label</p> <p>INT1</p> <p>INT2</p> <p>INT3</p> <p>INT4</p>	<p>Internationalization: The process by which firms move from operating in domestic markets to foreign markets by adapting the firms' operations, strategies, structures, and resources to the foreign environment in order to achieve the firm's objectives (Calof and Beamish, 1995; Johanson and Vahlne, 1990; Lehtinen and Penttinen, 1999; Ahokangas, 1998).</p> <p>Please estimate the percentage of your company's last year total sales from international operations.</p> <p>Please estimate the percentage of your company's last year profit from international operations.</p> <p>Please indicate the total number of your company's international markets.</p> <p>Please estimate how long has your company been actively involved in international operations?</p>
<p>Item label</p> <p>NFP1</p> <p>NFP2</p> <p>NFP3</p> <p>NFP4</p> <p>NFP5</p> <p>NFP6</p> <p>NFP7</p> <p>NFP8</p>	<p>Competitive Capability: A firm's ability to deploy resources using organizing processes and principles to achieve its strategic objectives (Kogut and Zander, 1992).</p> <p>Technological Learning: The process by which a technology-driven firm creates, renews, and upgrades its latent and enacted capabilities based on its explicit and tacit stock of resources (Carayannis and Alexander, 2002).</p> <p>Our international experience has improved the overall quality of our products or services.</p> <p>Our international experience has reduced the cost of our products or services.</p> <p>Our international experience has made this company a stronger needs provider for all customers we serve.</p> <p>Our international experience has given us an advantage over our domestic competitors.</p> <p>Our international experience has raised our overall standard of performance.</p> <p>Our international experience has given us access to new production technologies.</p> <p>Our international experience has given us access to new product design technologies.</p> <p>Our international experience has increased our knowledge about many new technologies</p>

Table 5.1 Summary of Measures for the Study’s Main Constructs, continued

NFP9	Our international experience has changed our beliefs about the benefits of possible new technologies.
NFP10	Our international experience has increased our skills in using new technologies.
NFP11	Our international experience has made this company smarter in terms of its operations.

Items in Table 5.1 above were treated as independent, mediating and dependent variables in this study and described in the following sections.

5.3.6 Independent, Mediating and Dependent Variables

There are four main independent variables in this study which refer to the determinants of internationalization comprising entrepreneurial orientation, global mindset, network relationships, and government support. Entrepreneurial orientation was operationalized on three dimensions, namely innovativeness, pro-activeness, and risk-taking. Global mindset used three dimensions, being ethnocentric, polycentric, and geocentric. Network relationships utilized three dimensions, being formal relationships, informal relationships and intermediary relationships while the last independent variable, government support, has three dimensions, being funding, policies and incentives, and contracts and projects.

Internationalization was treated as a mediating variable with four measurements, being the percentage of the company's total foreign sales, the percentage of the company's foreign profit, total of the company's international markets, and the duration the company was involved in international operations.

The dependent variables of this study are firm performance, comprising financial and non-financial performance. Financial performance was measured by Return on Equity (ROE), Return on Assets (ROA) and sales growth. Non-financial performance was operationalized on two dimensions, namely competitive capability and technological learning.

5.4 Data Collection

The empirical data used to test the hypotheses in this study were drawn from a mail survey. The data collection process was carried out by mailing a covering letter explaining the purpose of the survey, a copy of the questionnaire and a postage paid envelope to 1,200 SMEs in Malaysia via Pos Malaysia from August to December, 2011. The letter was addressed to the owners or the highest ranking officer of the Malaysian SMEs, who were believed to be the most knowledgeable about their firms' characteristics, management style, international operations, and firms' performance and the most qualified person to complete the questionnaire.

In order to increase the response rate, follow-up with the respondents were planned at three stages:

- i. Two weeks after the initial mailing - a follow-up e mail;
- ii. Four weeks after the initial mailing - a new covering letter and questionnaire; and
- iii. Eight weeks after the initial mailing - a follow-up call, follow-up e mail and a third covering letter and questionnaire.

This process was designed to increase participation from the respondents and to maximize the response rate.

After almost four months, a total of 252 questionnaires were returned. Of the 1,200 questionnaires that were sent to the respondents, 21 questionnaires were returned by the post office due to wrong addresses or the company had moved to other places. Fifteen questionnaires were excluded from the samples due to several reasons; four for return with no responses, three for incomplete responses and eight for no international operations. The final 237 usable questionnaires were segregated into three groups: (1) 122 questionnaires for the fast response group (received during the first four weeks after mailing); (2) 87 questionnaires for the moderate response group (received between four and eight weeks after mailing; and (3) 28 questionnaires for the late response group (received more than eight weeks after mailing). The 237 complete questionnaires yielded a satisfactory effective response

rate of 20 percent and the sample was acceptable to conduct Structural Equation Modeling for this study (Hair et al., 2006; Loehlin, 1992).

5.5 Method of Data Analysis

After initial data screening for missing data, outliers, and normality, two statistical techniques were used to analyze the data. The Statistical Package for the Social Science (SPSS) version 18 was used to analyze preliminary data and produce descriptive analyses of the study such as means, standard deviations, and frequencies. Structural Equation Modeling (SEM using AMOS 18) using Confirmatory Factor Analysis (CFA) was utilized to estimate measurement models for the study's main constructs. Items that were identified to be weak indicators were removed from further analyses that focused on bivariate and multivariate relationships indicated in Figure 4.1.

There are several advantages in using Structural Equation Modeling. First, Structural Equation Modeling gives a systematic basis for evaluating the “fit” of the proposed model to data using a χ^2 statistic and incremental fit indices such as the non-normed fit index (NNFI) and comparative fit index (CFI). Furthermore, the absolute fit index of Root Mean Square Error of Approximation (RMSEA) is practical for fit assessment (MacCallum and Austin, 2000; Marsh et al., 1996). Structural Equation Modeling also allows restricted models in the systematic constraint on the relationships among observed indicators and latent constructs. In addition, Structural

Equation Modeling provides unbiased estimates for hypothesized factor loadings with standard errors. It also gives a systematic evaluation of discriminant validity through estimating correlations among theoretical constructs, and statistical testing of each inter-construct correlation that is different from unity. Finally, Structural Equation Modeling provides direct testing of measurement equivalence across several contexts by constraining the factor loadings across contexts.

In this study, Structural Equation Modeling was conducted using a two-step approach as recommended by Anderson and Gerbing (1988). The first step includes the assessment of the measurement model and the second step includes the assessment of the structural model. In the measurement model stage, two processes were involved including the assessment of the unidimensionality, and followed by the assessment of reliability and validity of the study's main constructs.

After getting satisfactory measurements, the primary method of analysis used was Structural Equation Modeling (AMOS 18) because the Proposed Research Model in Figure 4.1 contains latent constructs measured by multiple indicators. As a result, the Model needs both interdependence (confirmatory factor analysis) and dependence (structural analysis) methods. Structural Equation Modeling puts forth two advantages compared with conventional regression and causal path analyses. First, the procedure permits individual and simultaneous tests of complex

multidimensional relationships and second, estimates structural relationships among constructs that are free of measurement errors.

Confirmatory Factor Analysis and Structural Equation Modeling are based on five assumptions namely (1) large sample size, (2) multivariate normality and absence of outliers, (3) linear relationships, (4) absence of multicollinearity and singularity, and (5) symmetrically distributed (and centered around zero) residuals (Tabachnick and Fidell, 2001). In many cases, a sample size of about 200 is adequate for small and medium models (Boomsma, 1982). Thus, the sample size of 237 is adequate to conduct Structural Equation Modeling and at the same time, is large enough to form conclusions for this study.

Rather than looking at the relationships between variables, researchers are sometimes interested in finding the differences between two groups (Field, 2009). A t-test is used to determine whether there is a significant difference between two sets of scores (Coakes and Ong, 2011). In addition, a one-way analysis of variance (ANOVA) is used to compare means of more than two groups or levels of independent variables. This present study used a t-test to compare entrepreneurial orientation, global mindset, network relationships, government support, internationalization and performance of SMEs. In addition, a one-way analysis of variance (ANOVA) is used to compare the industry, size; location and ownership status of the SMEs in this study.