

The data gathered the chi square management essay

[Business](#), [Management](#)



3. 1Introduction

This chapter will provide information about the methodology used for conducting this research based on the conceptual model. Information will be given about the procedure used detailing the sample design. This chapter will also consist of information regarding the participants including the population chosen, the sample unit and sample size; followed by the instruments used to conduct the surveys including the questionnaire used and the research validity and representativeness; finalizing with a conclusion. As mentioned in chapter 1, paragraph 3 the research question of this study is:

To which extent is customer satisfaction being influenced by perceived quality, perceived value and customer expectations?

The sub questions of this research were: What is the influence of perceived quality on customer satisfaction? What is the relation between perceived quality and perceived value? To which extent does perceived value influence customer satisfaction? What is the impact of customer expectations on customer satisfaction? To which extent does customer expectations influence customer perceived quality? What is the relation between customer expectations and perceived value?

3. 2Procedure

This research is a descriptive research as it is based on some previous understanding of the nature of the research question. The major purpose of a descriptive research is to describe characteristics of a population or

phenomenon (Zikmund, 2005). According to Hair, Babin, Money and Samouel (2005) descriptive research designs are usually structured and specifically designed to measure the characteristics described in a research question. The methodology used in conducting this study is the quantitative method. The reason why the quantitative method was chosen as the appropriate method is that: it is more useful for testing of a theory, it provides summary information on many characteristics and is useful in tracking trends. Quantitative data are measurements in which numbers are used directly to represent the properties of something (Hair et al., 2005). According to Zikmund (2005), quantitative research is where presented quantity or phenomenon in the forms of numbers. Quantitative method was selected due to the data and feedbacks that collected were in large amount. A qualitative method has not been chosen as this method is: more useful for discovering, provides in-depth (deeper understanding) information on a few characteristics and discovering 'hidden' motivation and values. Qualitative data represent descriptions of things that are made without assigning numbers directly (Hair et al., 2005). The sample method used in this research is the probability sampling. This sampling method has been chosen as it has the condition that every element of the target population has a known and non-zero chance, but the probability of being selected in the sample, is not necessarily equal (Zikmund, 2005). Out of the different types of probability sampling, the systematic sampling was chosen. This type of probability sampling is a process that involves randomly selecting an initial starting point on a list, and thereafter every n th element in the sampling frame is selected (Hair et al., 2005). The target population of this study was

the students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) of the Roman Catholic School Board (RCSB). The sampling frame used was the list of students of 3rd and 4th grade the of these Preparatory Secondary Vocational Education schools. Based on mentioned sampling frame the total of the students was two thousand one hundred and thirty one (2. 130) students. Inter-Continental University of the Caribbean (ICUC) indicated that the sample size should be at least one hundred (100) students. As mentioned above the type of sampling method to be used in this study is the probability sampling method and out of this method the systematic sampling technique was chosen. This technique implies that a sampling interval has to be chosen. To arrive at a sample size of at least one hundred, twenty one (21) was selected as interval. The total of 2. 130 students based on the sampling frame of the RCSB was divided by 21 resulting in is 101. 5, which rounded up is 102 students or sample units.

Table . Data collection schedule

Date	Time	Place
March 8, 2013	8: 27 AM	Maris Stella VSBO, Montaña Rey
March 5, 2013	9: 10 AM – 10: 31 AM	St. Paulus VSBO, Saliña Abou
March 5, 2013	8: 48 AM	Ancilla Domini VSBO, Frater
March 5, 2013	7: 43 AM	St. Jozef VSBO, v. Ricardusweg
March 5, 2013	10: 24 AM	Regina Pacis VSBO, Sta. Leeuwenhoekstraat
March 5, 2013	11: 11 AM	Catherinaweg

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The abovementioned table describes the date, time and place when and where the data needed for this research was collected and also the quantity of respondents interviewed at each school.

3. 3Participants

According to Zikmund (2005), a target population is a whole group of specific population elements that are relevant in what respects the research project.

A study conducted by Hsu, Wu and Tien (2003) reported that students attributed a symbolic value to sport shoes related to their lifestyle and showed a high degree of involvement with the product. The particular focus of the research is on students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) relating their satisfaction with sports shoes. This would therefore seem an ideal group to use to explore the relationships between perceived quality, perceived value, customer expectations and customer satisfaction. Based on the abovementioned study and based on the time frame set by the ICUC the target population was chosen. The chosen target population for this research was the students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) of the Roman Catholic School board. In Curaçao we have approximately five (5) school boards which have 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO). It is important to note that before collecting data from a student approval must be given by each school board. The sampling frame used in conducting this research was a the list of the Roman Catholic School board of the students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO). Based on this sampling frame the total of the students in the 3rd and 4th grade of the VSBO were two thousand one hundred and thirty (2, 130). The Roman Catholic School board has five VSBO schools and the students were divided as follows under the following schools: Ancilla Domini VSBO two hundred and

sixty nine (269) students, Maris Stella VSBO two hundred and five (205) students, Regina Pacis VSBO two hundred and eighteen (218), St. Jozef VSBO eight hundred and one (801) and St. Paulus VSBO six hundred and thirty seven (637). The age range of these students is between thirteen (13) and twenty (20). Probability sampling is the sample method used in this research and the technique chosen out of the different probability sampling techniques is the systematic sampling. A sampling interval has to be chosen based on this technique. The interval chosen to arrive at the minimum sample size of at least one hundred, as indicated by ICUC, was twenty one (21). The total quantity of students of two thousand one hundred and thirty (2, 130) was divided by twenty one (21) resulting in 101. 5, which rounded up is 102 students or sample units. Based on the quantity of students per school also the quantity of respondents (sample units) has to be calculated by dividing the quantity of students per school by twenty one (21). The result of this calculation is that thirteen (13) students must be interviewed at Ancilla Domini VSBO, ten (10) at Maris Stella VSBO, eleven (11) at Regina Pacis VSBO, thirty-eight (38) at St. Jozef VSBO and thirty (30) at St. Paulus VSBO.

3. 4Instruments

The method used in this study for collecting the data is with a questionnaire. A questionnaire is a prepared set of questions (or measures) to which respondents or interviewers record answers (Hair et al., 2005). The questionnaire was designed according to the exciting literatures, which was based on experts' opinions. An anonymous questionnaire was given to 102

students of the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) using the self-completion approach. The questionnaire, made of different subjects that are related with this topic, consists of twenty three (23) close-ended questions and one (1) open-ended question. Using the quantitative method, a self-completion questionnaire has been compiled consisting of six parts. The first part consisted of three general questions and the second part consisted of three demographical questions and two general question (one closed-ended and one open-ended). The third part consisted of three questions about the dependent variable customer satisfaction. The fourth section consisted of four questions about perceived value, while the fifth section consisted of three questions about perceived value. The last section consisted of six questions about the last independent variable customer expectations. The questions relating to the variables mentioned in the conceptual framework which scaling was interval, were measured making use of a 5-point Likert scale. These questions were measured ranging from 1-very dissatisfied to 5-very satisfied, from 1-unimportant to 5-very important and from 1-very bad to 5-very good. Table . Setup of the questionnaire

Variable	Question	Scale
General	Q1 till Q3	Nominal/Classification
Customer satisfaction	Q4 till Q8	Nominal/Ordinal
Perceived quality	Q9 till Q11	Interval
Perceived value	Q12 till Q15	Interval
Customer expectation	Q16 till Q18	Interval
The abovementioned	Q19 till Q24	Interval

The abovementioned table provides information of the design of the questionnaire. The table specifies in details in how many sections the questionnaire is divided, the quantity of questions per section and also the scaling used for each question. Table . Statistical test per questionnaire section

Variable	Scaling	Statistical
General	Nominal/Classification	Chi square
Customer satisfaction	Nominal/Ordinal	Chi square
Perceived quality	Interval	T-test
Perceived value	Interval	T-test
Customer expectation	Interval	T-test
The abovementioned	Interval	T-test

testGeneralNominalChi-SquareClassificationNominalChi-SquareCustomer satisfactionIntervalPearson correlationPerceived qualityIntervalPearson correlationPerceived valueIntervalPearson correlationCustomer expectationIntervalPearson correlationBased on the type of scaling used for the questions in the several sections of the questionnaire, different statistical tests can be made. In the above table the different statistical tests that can be made per section are mentioned.

3.5 Validity

Validity refers to how well the theoretical and operational definitions interconnect with each other. The main purpose of validity is to increase the accuracy and usefulness of results by eliminating or controlling as many confounding variables as possible, thus allowing greater confidence in the findings of a study (Marczyk, DeMatteo & Festinger, 2005). Validity can also be defined as a measurement tool that measures what it claims to measure (Zikmund, 2005). There are three types of validity approaches (Zikmund, 2005; Hair et al., 2005), namely content, criterion, and construct validity. Content validity can be defined as a professional agreement that a scale logically appears to accurately measure what it is intended to measure (Zikmund, 2005). This survey has been validated already by Tsiotsou (2005) as in this research the survey is being modified and combined with questions of the survey of Xeu & Yang (2008). What this research wants to measure is whether perceived quality, perceived value and customer expectations have an impact on customer satisfaction. Below are displayed the questions for the survey with their source. Table . Questionnaire sections and

sourcesVariableQuestionSourceGeneralQ1 till Q3Tsiotsou,
2005ClassificationQ4 till Q8Tsiotsou, 2005Customer satisfactionQ9 till
Q11Xue & Yang, 2008Perceived qualityQ12 till Q15Xue & Yang,
2008Perceived valueQ16 till Q18Xue & Yang, 2008Customer expectationQ19
till Q24Xue & Yang, 2008

3. 6Representativeness

In formal research contexts, researchers often strive for representative samples. A sample is representative when the characteristics of those participating in the research are similar to the whole group to which the results will be applied; in other words, that the results will be generalized. This is important because if those who participate in research are somehow different from those who do not, predictions and decisions based on their attitudes and behaviors as expressed through the research may not hold up in real life. In order to verify if the characteristics of the sample taken through a questionnaire are representative, the data gathered has to be analyzed by conducting a "goodness of fit test" or chi-square (χ^2). Its calculation helps us to determine if the difference between the observed frequency distribution and the expected frequency distribution can be attributed to sampling variation. The logic inherent in the χ^2 test allows us to compare the observed frequencies (O_i) with the expected frequencies (E_i) based on our theoretical ideas about the population distribution or our presupposed proportions (Zikmund, 2003). The calculation of the χ^2 test will be done by using the SPSS software and will provide information if the sample taken is representative or not. The chi-square test is calculated as

follows: As indicated previously a sample of 102 students was taken from the list of the Roman Catholic School board of the students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO). Based on this list (sampling frame) the total of the students in the 3rd and 4th grade of the VSBO were two thousand one hundred and thirty (2, 130). The Roman Catholic School board has five VSBO schools and the students were divided as follows under the following schools: Ancilla Domini VSBO two hundred and sixty nine (269) students, Maris Stella VSBO two hundred and five (205) students, Regina Pacis VSBO two hundred and eighteen (218), St. Jozef VSBO eight hundred and one (801) and St. Paulus VSBO six hundred and thirty seven (637). The age range of these students is between thirteen (13) and twenty (20). Probability sampling is the sample method used in this research and the technique chosen out of the different probability sampling techniques is the systematic sampling. A sampling interval has to be chosen based on this technique. The interval chosen to arrive at the minimum sample size of at least one hundred, as indicated by ICUC, was twenty one (21). The total quantity of students of two thousand one hundred and thirty (2, 130) was divided by twenty one (21) resulting in 101. 5, which rounded up is 102 students or sample units. Based on the quantity of students per school also the quantity of respondents (sample units) has to be calculated by dividing the quantity of students per school by twenty one (21). The result of this calculation is that thirteen (13) students must be interviewed at Ancilla Domini VSBO, ten (10) at Maris Stella VSBO, eleven (11) at Regina Pacis VSBO, thirty-eight (38) at St. Jozef VSBO and thirty (30) at St. Paulus VSBO. The sample chosen must represent the population in order for the

research to ensure that all aspects of the population are being studied and sampled. Meaning that the sample taken represents the total population of the students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) of the Roman Catholic School board (VSBO) (the characteristics of the sample will match the characteristics of the total population) and on the basis of this research we can make conclusion and this conclusion will match the conclusions of the rest of the population, because the sample represents the rest of the chosen population.

3. 7Conclusion

In summary, this chapter has covered the research methodology used for this research. It described the sample and procedures followed by the participants in the survey. Lastly, the survey instruments as well as the representativeness were discussed. This method used for this research was the quantitative research method, which try to determine the quantity or extent of some phenomenon in the form of numbers. It's an approach that places the accent on testing theories and is an objective approach that assumes to be static reality in hoping of developing universal laws.

Furthermore, to perform the research sampling it is required where elements of the population may provide conclusions about the entire population. Two sample techniques exists probability and non-probability, for the purpose of this research probability sampling will be used; where every member of the population has the probability of being selected. This sampling process is further divided in different sampling method. The one chosen is systematic simple random sampling, which is a sampling procedure that assures that

each element in the population has an equal chance of being included in the sample and where the initial starting point is selected by a random process and then every n th number of the list is selected. In order to gather the necessary data, self-completion questionnaires were given to students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) of the Roman Catholic School (RCS) board. The questionnaire consisted of six parts. The first part consisted of three general questions and the second part consisted of three demographical questions and two general question (one closed-ended and one open-ended). The third part consisted of three questions about customer satisfaction. The fourth section consisted of four questions about perceived value, while the fifth section consisted of three questions about perceived value. The last section consisted of six questions about customer expectations. The population of the students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) of the RCS board was 2, 130 and a sample of 102 was chosen based on the systematic simple random sampling method; whereby every 21th name on the list of the RCS board of the students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) was chosen. The sample unit in this case is equal to the sample element. This because the sample is taken from the total list of students; no specific element of groups of elements are used for selection. Finally, the criteria for measurement which were validity and representativeness were discussed. To analyze the data gathered the chi-square (χ^2) test or "goodness of fit test" was conducted. Its calculation helps to determine if the difference between the observed frequency distribution and the expected frequency distribution can be

attributed to sampling variation. As indicated previously a sample of 102 students was taken from the list of the RCS board of the students in the 3rd and 4th grade of the Preparatory Secondary Vocational Education (VSBO) (2,130 students). Meaning that the sample taken represents the total population of students (the characteristics of the sample will match the characteristics of the total population) and on the basis of this research we can make conclusion and this conclusion will match the conclusions of the rest of the population, because the sample represents the rest of the chosen population.