**Chapter III**

**METHODS OF RESEARCH**

This chapter focuses on the research methods used in this study. It describes a survey for quantitative methods. This chapter also discusses research locale, population and sampling techniques, instrumentation, data gathering procedure, description of respondents and statistical treatment are also discussed in this chapter.

**Research Design**

The researchers used a descriptive research method to identify the advantage and disadvantage of using PayPal integration, sending message service, application programming interface, a framework to the mock-up of the proponents. The descriptive research method is a method of preparing questions, data analysis, classifying data, trends, design and accuracy of transferring information that will be related to a given topic or study. The reason of the researchers why they use this kind of research design is to specify, illustrate and give detailed information about managing an e-commerce website from your home without difficulty and with or without knowledge of creating a website. The researcher also used a quantitative research to collect information which is numerical form, such as computed answers on a survey. The proponents used this to help them to make this study more reliable by surveying professionals and non-professionals. Therefore, the researchers made an answer for this kind of problem that’s why they created a management system for food e-commerce with PayPal Integration and Database Algorithms. This research helps the proponents to easily identify what is the software requirements and how much the hardware requirements.

**Research Locale**

The proponents have no exact place or location, because of the system is generic but the proponents get the information based on interviewing some businessman or businesswoman who established the small to medium-scale business. Some of the said businessman or businesswomen has no idea on e-commerce or online buy and sell, and the others have an idea on it but they don’t have enough skills to do that and enough time to make that. Also, they want to make their transaction secured and not difficult to manage.

**Population, Sample and Sampling Technique**

The researcher used a businessmen or businesswoman who established a small to medium-scale business in entire the Philippines and the non-business people for the population of their study. The population consists of the businessman, businesswoman and other people (future customer) who does and doesn’t know on how to develop a beautiful, dynamic, and complex type commerce site. In the Philippines, there’s a lot of people who handled or established a small to medium-scale business who wants to improved or enhance their technology skill or wants to apply technology to their business. The researcher conducted a survey to those people in entire Metro Manila. Using the twenty persons for businessman and businesswoman category and ten persons for non-business people category and ten persons for the future customer category, the researcher used a probabilistic sampling technique, for the specific they used the stratified sampling method to give more accurate result. The stratified sampling method give the researcher to de

**Instrumentation**

It is the stage where the client documented the user requirements. As expected by the client, the data, functionality, performance, physical, interface, security are requirements of the proposed system. The said requirements are one of the ways to use to communicate the business analysis of their understanding of the system back to users. During this step, to make an acute research the proponents will be using a unique application.

**Survey Method**

It is contained a different question that appropriates questions modified from related research. In this stage, it also helps the researcher to improve their research through the response answer of the respondents.

**Interview Method**

It is may be formally or informally to be performed. A Formal interview, it is the direct conversation in a way of question-and-answer format and it is based on fixed list of questions. Informal interview, which the question was given is relative to the flow of the answers of the respondents.

**Internet Method**

The researcher used this kind of way of gathering data. Through the Internet, they used much free information that is available on the internet.

**Library Method**

This is the wide method of data gathering. To collect the data for the proposed system, the researcher used the books, magazines, newspaper and other published and unpublished materials that related to their topic.

**Observation Method**

Were the researcher on the spot jotting notes of the gathered information of a particular research target. Through this method, the proponents determined the possible to do the study.

**Data Gathering Procedure**

The proponents gathered different data for the necessity of their research. The research they made that used internet and different materials helps them to know further about their system and deepen their knowledge about their study. The survey contains a suitable question that relatable to the research. The researcher also asks the professional about the web server they use to store the website and the advantages of the framework instead of using PHP native. The data collected will now be considered to create the proposed system.

**Description of Respondent**

The target users are the greater part of the data recommended for this study. As stated in the given criteria the target users are in charge to evaluate the proposed system. There are 2 sets of respondents. The first set, it composed of related courses such as BS Information Technology and BS Computer Science, the Information Technology professionals and also who have work in the field of an Information Technology. The second set, it composed of non-related course of the said course in the first set, and also a businessman or businesswoman who have and haven’t knowledge of making a website.

**Statistical Treatment**

The proponents used a survey to measure the efficiency and capacity of the operation. After the survey of the proponents, there will be the translation of data and proper computation about on data they gathered in a survey. They used the mean formula to get the average of the people who in favors of PayPal integration as their payment procedure. To get the mean, the number of people who’s in favor of having a PayPal integration as their payment procedure divided by the total number of people who took a survey. They also used range formula to know the distance between the 3 choices. To get the range, after finishing the survey they sort the choice from highest to lowest and after getting the highest and lowest differentiate it to each other and the range is the answer.