

## CHAPTER 3: Study Design and Methodology

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This chapter outlines the method that was employed to collect data on gender balance in the Zimbabwe veterinary industry. A survey of the Harare Market was conducted. In this chapter a description of the research methodology, research design and rationale for choice are given. Population is defined and the target population stated. Attention is also paid to the data collection instruments used, the reliability and validity of the instruments. The data collection procedures carried out, are given, and how data collected was presented and analysed.

Research methodology is a systematic way to solve a problem. According to Rajasekar (2013) research methodology is the study of methods by that knowledge is gained; it is a science of studying how research is to be carried out. There are two major types of research methodologies, and these are quantitative and qualitative research paradigms (Clarke, 2005). Quantitative and qualitative research paradigms rest on very different assumptions about both the nature of knowledge (epistemology) and the appropriate means of generating knowledge (methodology).

In terms of epistemology, quantitative research assumes the researcher to be independent from that being researched, approaching the research process in a value-free and unbiased manner. The qualitative paradigm assumes a different epistemology, one that presumes that the researcher does interact with that being researched and that a value-free research process is unattainable (Clarke, 2005). This study is inspired by the hypothesis 'There is no gender bias in the veterinary industry in Harare'. Thus, this research made use of these two epistemologies to compare reality with what people think in this case

veterinarians and employers and reach a conclusion. It is under these research paradigms that the survey research design was also adopted.

Research design is a detailed outline of how an investigation will take place. A study design will typically include how data is to be collected, what instruments will be employed, how the instruments will be used and the intended means for analysing data collected (Rajasekar, 2013). There is a wide range of research designs that one can use for research purpose. These include correlational research design, descriptive or survey research design, quasi-experiments, the cross-sectional and longitudinal research designs, experimental research design, causal comparative research design and historical research design to mention a few.

A survey research design was used in this study to get adequate results in assessing gender balance in the veterinary industry. According to Rajasekar (2013), a survey is a non-experimental, descriptive research method. A survey research design is often used to assess thoughts, opinions, and feelings using questionnaires and interviews. Survey research can be specific and limited, or it can have more global, widespread goals. It can be used to analyse behaviour. A survey consists of a predetermined set of questions that is given to a sample. With a representative sample, that is, one that is representative of the larger population of interest, one can describe the attitudes of the population from that the sample was drawn. By using a survey research design, one can compare the attitudes of different populations and look for changes in attitudes over time. A good sample selection is key as it allows one to generalize the findings from the sample to the population (Kerlinger, 1986).

Polit & Hungler (1999) refer to the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. In other words, a population is the aggregate of persons

or objects under investigation (Moser & Kalton, 1985). The study population of this research was all veterinarians and all employers of the veterinary graduates registered under council of veterinary surgeons in Harare.

The process of selecting a portion of the population to represent the entire population is known as sampling (Polit & Hungler, 1999). Purposive sampling was considered necessary for this study since the researcher felt that it was not feasible to use random sampling due to the small number of organisations that are employing veterinary graduates. According to Denscombe (2000) with purposive sampling the sample is 'handpicked' for the research. The researcher picked organisations that employ veterinarians and those who opted to participate in the quest for identifying gender balance in the veterinary industry. The advantage of purposive sampling is that the most appropriate people for the study were selected, and data collection process was a lot less time consuming. Labovita (1989) advises that a representative sample reflects the characteristics of the population that is crucial to the researcher.

The researcher worked with a sample of 70 respondents from the Harare market and of these 50 were veterinarians who received questionnaires only, 20 were employers of organisations in the industry who received questionnaires and 10 of the employers were interviewed as well.

Leedy (1993) describes research instruments as tools that help researchers achieve their goals in carrying out research. In research, data cannot be collected without the instruments therefore this study will use self-administered questionnaires and face to face interviews to gather information from the female and male veterinarians, administrators and chief executive officers of organisations. This study

used the structured questionnaire consisting open-ended questions to solicit information from the respondents.

A detailed description of the research instruments and procedures is provided as follows: questionnaires and face to face interviews. Goode & Hatt (1990) describe a questionnaire as a device of securing answers by using a form, that the respondents fill-in on their own. Two questionnaires were used as the main data-gathering instruments for this study. One was for the veterinary graduates and the second was for the employers in the veterinary industry.

There are two types of questionnaires namely the self-administered and the postal questionnaires. Self-administered questionnaires are questionnaires that respondents complete for themselves and give back to the researcher. This type of questionnaire is efficient in terms of researcher's time and effort. The postal questionnaire is the one that is posted to widely spaced respondents who will send it back after completing the questionnaires. This study used the structured questionnaire consisting open-ended questions to solicit information from the respondents. Open-ended questions were used because they enabled the respondents to explain their viewpoints without any limitations. Open-ended questions allow respondents to answer questions in their own words (Kerlinger, 1986).

Questionnaires were used in this research because they stress ethical considerations like anonymity and confidentiality. Usually, questionnaires have a covering paragraph that stresses issues such as confidentiality and anonymity. This is supported by Ary *et al.* (1990) when they say, another advantage is that a questionnaire can guarantee confidentiality that makes the respondent to elicit more truthful responses than would be obtained with a personal interview. The researcher used questionnaires because they were easy to analyse, and most people are familiar with questionnaires. Questionnaires

reduce biases and they are fit for shy people who cannot express themselves through talking. Data is also standardized because the same questions are asked different people. Questionnaires also allows researchers to get thoughtful responses because respondents have time to think about the questions.

The responses of questionnaires were gathered in a standardised way meaning questionnaires were more objective. Potentially information was collected from a large group, and it was relatively quick to collect information. Questionnaires have their own weaknesses such as that the closed questions do not allow the respondents to express their feelings or judgment but to overcome the weaknesses of the questionnaires the researcher used interviews to allow respondents to express their feelings. An interview is a one-on-one directed conversation with an individual using a series of questions designed to elicit extended responses. Interviews allow participants to express their thoughts using their own words and organisation and thus are particularly valuable for gaining insight. According to Weigner (1999) interview methods illicit primary data responses through direct questioning. Interviews are suitable where complex topics are involved. There are three approaches to gather interview data and these are personal interviews, postal surveys and telephone interviews. The researcher opted for face-to-face interviews because data collection was immediate. Greater data accuracy was generally ensured. Interviews were useful because non-verbal responses could be observed and noted. Generally, more questions can be asked as interviews allow the researcher to probe for greater depth or explanation.

The main advantages of interviews were that they are useful to obtain detailed information about personal feelings, perceptions and opinions. They allow more detailed questions to be asked. They usually achieve a high response rate than questionnaires. The

respondents' own words are recorded. Some ambiguities could be clarified, and incomplete answers followed up. Precise wording can be tailored to respondent and precise meaning of questions clarified. Interviewees are not influenced by others as what can happen in focus group discussions. To facilitate data collection, the researcher obtained a letter from the Co-ordinator of Master's in Development Studies at the Women's University that was used to seek permission from employers in the veterinary industry to collect data. The researcher wrote a summary to respondents summarizing the purpose of the research that was on the questionnaires. The researcher personally delivered questionnaires to both veterinarians and employers.

The collection of the questionnaires took almost a month as most of the respondents were busy with their work schedules and thus could not respond in time. With veterinarians, the distribution process was quite overwhelming and expensive as it involved a lot of phoning and making appointments to meet them to personally deliver questionnaires around Harare. Veterinarians were scattered in different locations in Harare, hence the researcher had to drive to meet them. The researcher made appointments with senior management of organisations in the veterinary industry and conducted some face-to-face interviews in their offices. There were some challenges in making appointments since most employers were busy with their day-to-day business however effort was made to interview ten employers.

Every researcher is prescribed to certain code of conduct or ethics when carrying out a study. Ethics are the principles or rules adhered to when conducting a study. The existence of ethics defines the procedures and direction that the researcher should follow when preparing and producing a report that is balanced. Burgess (1984) describes ethics as code of conducts that guides social science researchers as they carry out research. Ethics are moral conducts that one must follow when carrying out a study. Ethics that were

employed in this study are, gaining access or entry, informed consent, confidentiality and protection of participants from harm.

The vital stance to be taken first when one is carrying out a study is to gain access or entry into the area of research. This is done to get permission from the authorities in charge. In this research, permission was sought from the senior management of organisations to conduct the research. Thus, the issue of gaining access is a fundamental ethical issue in research.

Informed consent is a prerequisite for all research involving human beings (Kvale 1996). Informed consent was obtained from the subjects and their employers since most of the respondents were at workplaces. This involves informing participants about the overall purpose of the research and its main features, and of the risks and benefits of participation. Consent was given in written format on questionnaires and verbally on interviews. If informed consent is sought and granted, voluntary participation is guaranteed. Informed consent was also in the best interest of a researcher as it protects her if unexpected bad consequences arise. This research also observed the confidential ethic. Research is carried out based on trust between the researcher and the researched. This is so because some of the information that was obtained from the research process was sensitive and could be harmful to the welfare of the respondent if it is divulged. One of the safest ways to ensure anonymity is not to record the names of the participants at all.

Since this study utilized human beings as the research respondents, protection of the respondents was vital during the process of soliciting information. Respondents should not be harmed physically or emotionally. It is breach of law on the part of the researcher to endanger the respondent in the process of information gathering. The debriefing ethic was also observed in this study. Debriefing involves

going back to the subjects after the research before publishing the findings, this is so because the subjects usually must agree with the results. It was also very important to debrief the subjects on issues discussed, this is mainly done to encourage future participation and maintain the positive relationship. Ethically it is important for the researcher to give feedback for the purposes of decision-making. If the respondents are not happy with the results, participants had the right to withdraw if they wished to drop out.

Data analysis is the process of systematically applying statistical and logical techniques to describe and illustrate and evaluate data. Data presentation refers to the putting across of collected information in a clear and concise manner. According to Yin (2002) various analytic procedures provide a way of drawing inductive inferences from data and distinguishing the phenomenon of interest from the statistical fluctuations present in the data. In this research the data that was obtained from questionnaires and interviews was analysed and presented by the researcher using both quantitative and qualitative methods. The quantitative method helped the researcher to present the findings in the form of tables, graphs and figures. The researcher also made use of SPSS software package to analyse and present data. Description of findings was presented in the form of a text.

This chapter looked at the research methodology that was employed by the researcher in carrying out the study. The research design is quantitative and qualitative in nature. Targeted population was stated. Research instruments such as questionnaires and interviews were the research instruments used for information gathering. Data collection, ethical considerations, presentation and analysing procedures were also outlined in this chapter. The next chapter is about data analysis, presentation and discussion.