Insert Title Here

Insert Your Name Here

Insert University Here

**Research Methodology, Design, and Methods**

Research methodology is a generalized categorical approach that is utilized in research (Farrugia et al, 2010). The basic methods used include; mixed methods, qualitative and quantitative. The approaches are rooted in varied philosophical traditions. One research approach is dependent on one's philosophical worldview.

**Research Methodology**

The chosen methodology for this research is the quantitative research methodology. This is high because the approach that will be used throughout the study is based on the positivist tradition. The latter is my philosophical worldview hence it shall be suitable while carrying out the Son Coast research.

**Research Design**

The research design for the study involves detailed methods that lookout for certain particulars from the participants (Narita et al 207). The most suitable research design applied will be descriptive (non-experimental) which will help in differentiating different variables being studied in the research.

**Research Methods**

The research methods used based on research questions, research methodology and the research design is descriptive statistics. The statistics help in identifying a correlation between the variables given in the case study.

**Data Collection Methods**

Before this research was proposed, there were specific records that had been collected by the previous health and safety director. This documentation will be used to test the research hypotheses.

**Sampling Design**

Depending on the documentation used, it is evident that convenience sampling was used. The targeted participants have to meet the criterion and should be available for participation. The chosen participants are workers in the Sun Coast firm. The 321 participants will represent the whole company’s population.

**Data Analysis Procedures**

The hypotheses of the study helps in dictating the most suitable data analysis design (Avella, 2016). The hypotheses chosen for the research helped in predicting variables’ relationships. The best statistical procedures utilized in testing hypotheses for the research included;

**Correlation**

This analysis procedure is utilized in testing the null hypothesis to illustrate that there is no existent relationship between the research variables (Farrugia et al, 2010). The chi-square correlation test was used in testing whether there is a relationship between particulate matter and the health of employees. The test results will illustrate whether high levels of pollution in particulate matter are linked to the high number of leaves reported from employees in varied sites.

**Regression**

The data analysis tool not only helps in determining variables' relationship but also in specifying the percentage of relationship between the two (Nardi, 2018). The regression analysis will help in testing how the lost time hours variable is correlated with safety training. The safety training was measured based on the money utilized in safety training. Utilizing the firm's dataset, the training program's effectiveness will be evaluated through Toolpak, which is a data analysis technique.

**ANOVA**

This one-way test will be sued in determining differences between two different sets of groups in the Sun Coast Company. The test has similarities with the t-test and will be used in testing the null hypothesis to prove no differences exist between two or more groups. The dependent variable, in this case, will be the return of investment, which will be tested based on four factors amongst employees. One of them being training.

**The Sample t-Test**

This test will be utilized in testing the null hypothesis illustrating that there are nod differences between two different group samples. Results attained will help in improvement in a variable such as safety training.

References

Avella, J. R. (2016). Delphi panels: Research design, procedures, advantages, and challenges. *International Journal of Doctoral Studies*, *11*(1), 305-321.

Abdulkadiroğlu, A., Angrist, J. D., Narita, Y., & Pathak, P. A. (2017). Research design meets market design: Using centralized assignment for impact evaluation. *Econometrica*, *85*(5), 1373-1432.

Farrugia, P., Petrisor, B. A., Farrokhyar, F., & Bhandari, M. (2010). Research questions, hypotheses, and objectives. *Canadian Journal of Surgery*, *53*(4), 278.

Kuehl, R. O., & Kuehl, R. O. (2000). Design of experiments: statistical principles of research design and analysis.

Meyers, L. S., Gamst, G., & Guarino, A. J. (2016). *Applied multivariate research: Design and interpretation*. Sage publications.

Nardi, P. M. (2018). *Doing survey research: A guide to quantitative methods*. Routledge.