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**WQD7006 Machine Learning**

**Sentiment Analysis of Change in Working Style due to Coronavirus Outbreak**

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| No | Question | Qualitative | Quantitative |
| 1 | What and how are they different? | * Exploratory * Descriptive and unstructured, which makes it harder to measure compared to quantitative data * Answering “why”, “how” * Generate text data (non-numerical) * Text analysis, description and themes approach for analysing and interpreting data. * Report evaluation subjective, flexible and emerging, reflexive and biased | * Experimental * Standardized, which makes it easy to compare findings * Answering “who”, “what”, “when” and “where” * Generate numerical data (includes values and quantities) * Statistical, description of trends and prediction comparison approach for analysing and interpreting data. * Report evaluation standard, fixed, objective and unbiased |
| 2 | Explain how objective & problem are done | * Research is to understand something (concepts, thoughts, experiences) * Research problem in a qualitative way require adopting learning about the views, theories and information based on participant perspectives on a targeted audience | * Research is to confirm or test something (a theory or hypothesis) * Research problem in a quantitative way will need to measure variables, accessing the outcome of variables, theories and with applying the results to large number of people |
| 3 | When to use hypothesis? | * No hypothesis, not predictive, exploratory * Focuses on exploring ideas * Supporting hypothesis in qualitative requires consolidated points of theories, like who say it, which requires pointing towards our references from research framework | * Use hypothesis * Focuses on testing theories * Supporting hypothesis in quantitative comes in when doing experimental studies of comparison inferential statistics whereby data in numeric points towards supporting the ideas. |
| 4 | What is research design & the importance? | * The framework created to find answers to research question. * The design defines the research study type and sub type, research problem, hypothesis, independent and dependent variables, experimental design, data collection method. | |
| 5 | Explain the research design | * Emergent design * Methods can be changed   1) phenomenology  2) ethnography - Exploring the shared  culture of a people  group  3) grounded theory  Find common  experiences of  individuals to  develop a theory  4) case study  5)Narrative where examine the stories to describe the lives of people | * Either descriptive (subjects usually measured once) or experimental (subjects measured before and after a treatment) * Quantitative Designs:   1) Intervention Research: Describe on the event intervention will influences an outcome for one group as opposed to another group  2) Correlational Research:Applying relationship between variables to draw insight on predictive trends for one group of individuals |
| 6 | Explain research instrument | participant observation and interviews, case studies, focus groups, ethnography, literature review | Surveys, questionnaires, experiments, observations, statistics, content analysis |
| 7 | Explain type of data collected | * Data in the form of words (interviews, documents, newspapers, journals), observations, videos, recordings, images, artifacts * Unstructured data | * Numbers and numeric data * Structured data |
| 8 | Explain how is data validation done | * Organize data into themes * Inductive analysis * Open-ended questions | * Statistical analysis * Deductive analysis * Closed (multiple choice) questions * Data validation in quantitative approach require data processing on data collection part which involves identifying the accuracy |