Summer Training Work

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(2019-2021)

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Research topic:

Risk Perception towards Covid-19 among the youth of India

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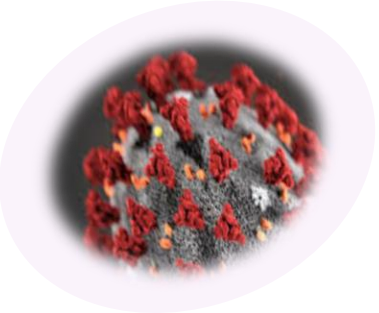


Introduction

India has witnessed many outbreaks since the 1990s such as Severe Acute Respiratory Syndrome (SARS) outbreak, swine flu outbreak, etc. but none of the outbreak was as widespread and as fatal as Coronavirus disease

COVID-19 is an infectious disease caused by a newly discovered coronavirus.

It was declared the outbreak of concern on international level as public health emergency on January 30th 2020 by the World Health Organization (WHO).

Common ways of Covid-19 transmission:

Risk perception

- The Risk perception is a subjective judgement that people make about the characteristics and severity of a risk.
- And people’s behavior has a central role, which can alter the spread of the COVID-19 pandemic.
- So, its important to understand the youth risk perception towards COVID-19, and how it affect their participation in adopting preventive measures taking place like hand washing, use of mouth masks, social distancing, etc.”.

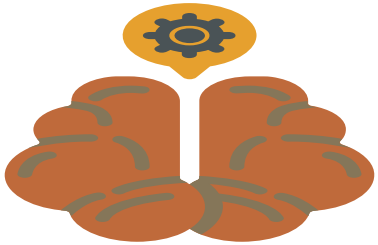
Research Objectives

Broad objective:

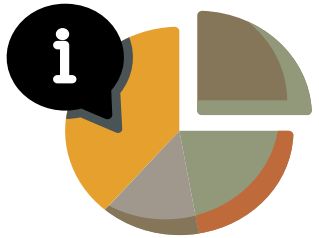
To study the risk perception regarding covid-19, for managing the risk and its communication in an effective way.

Specific objectives :

To check if there is any risk perception difference among male and females among youth.

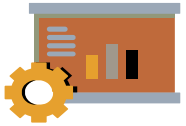


To measure knowledge gaps, perceived severity and susceptibility, and perceived efficacy of measures.



To address specific needs of the youth regarding the information they need to receive at this time.

Methodology

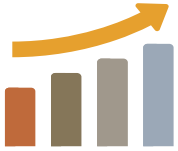


Analysis

Quantitative Data Analysis

The data analysis was done in MS Excel

- Study type-Descriptive study
- Study Area- India (through online mode)
- Study Period- 20th April- 5th May 2020
- Sample Size- 200
- Sampling technique - Convenience sampling
- Study Respondents- youth of age group
- 15 to 29 years
- Data type- Primary data



Data collection tool

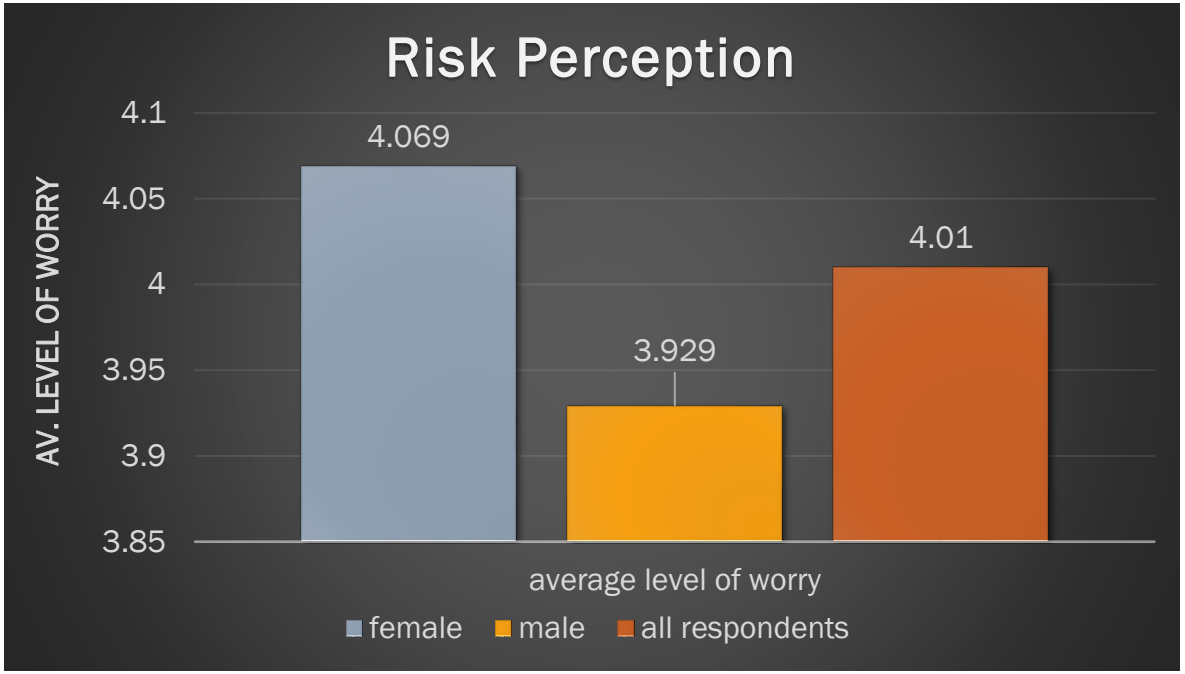
Online Questionnaire using google forms

Research Question

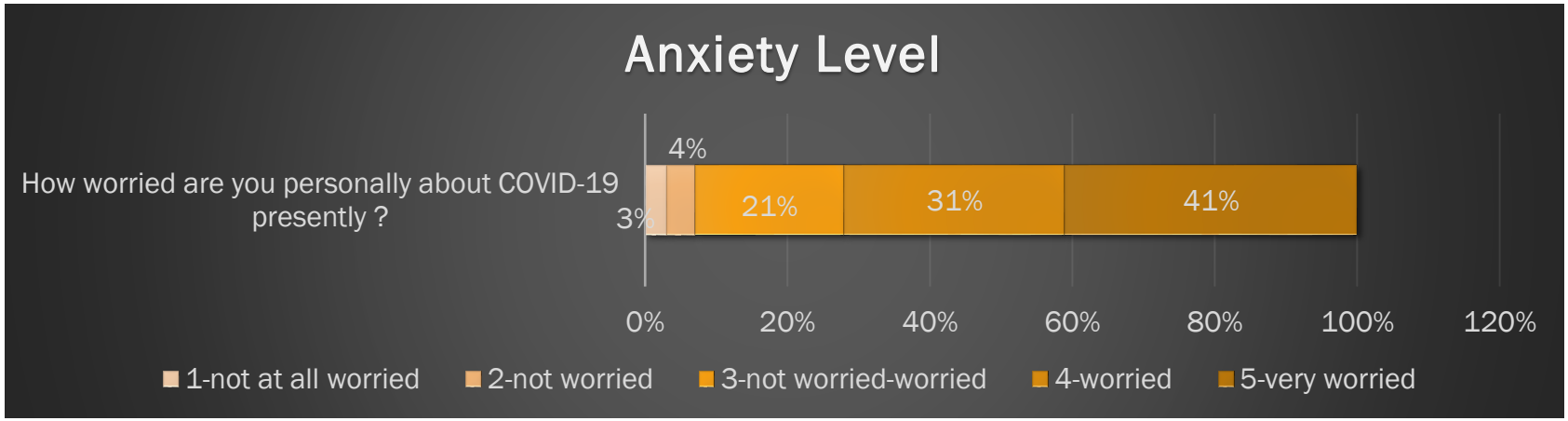
What is the association between risk perception towards covid-19 among youth with adopting ongoing preventive measures?

Data compilation, analysis and interpretation

1. Gender and Risk Perception:



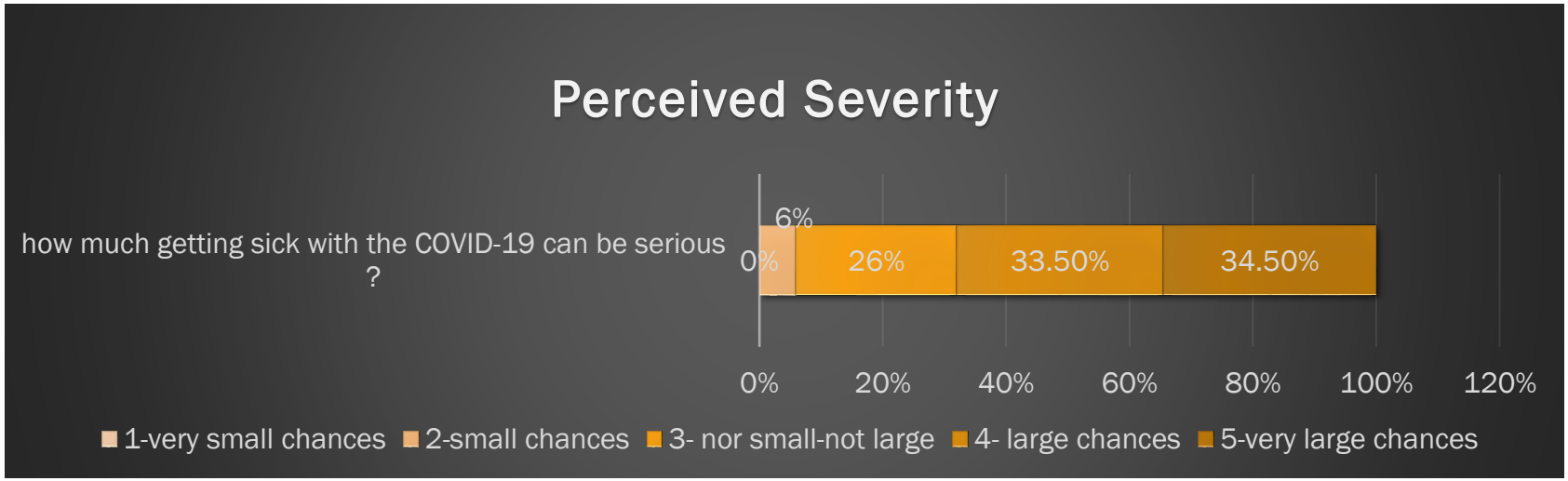
The total mean risk perception scores



Level of Worry Towards Covid-19

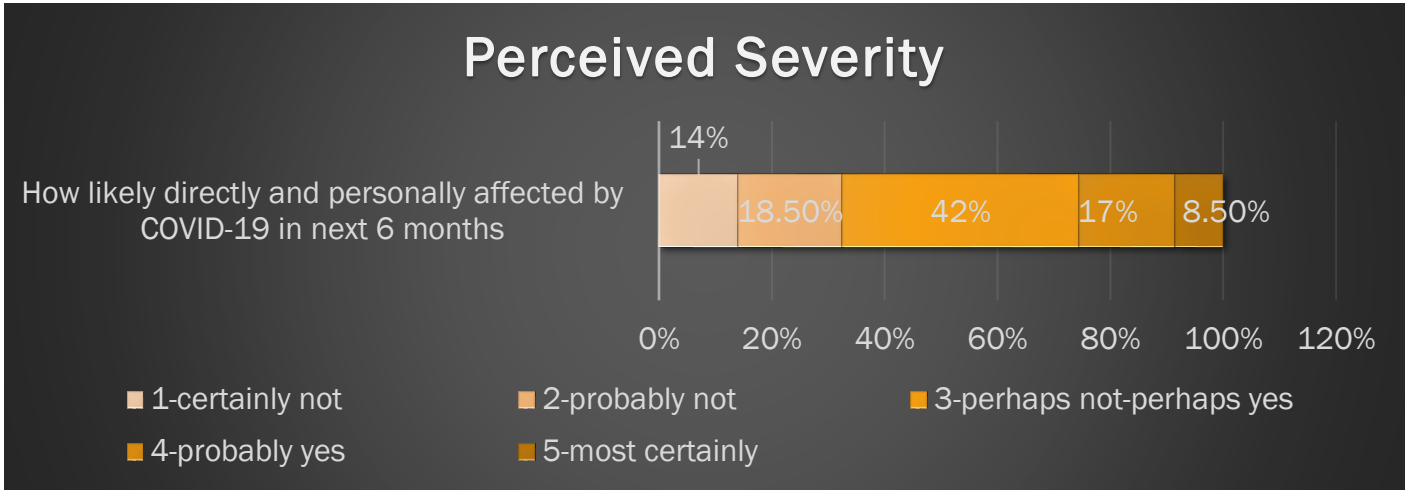
Perceived severity

The patient's Perceived severity towards Covid-19 among youth showed that most of the respondents think it as highly serious infection is given in the fig below:



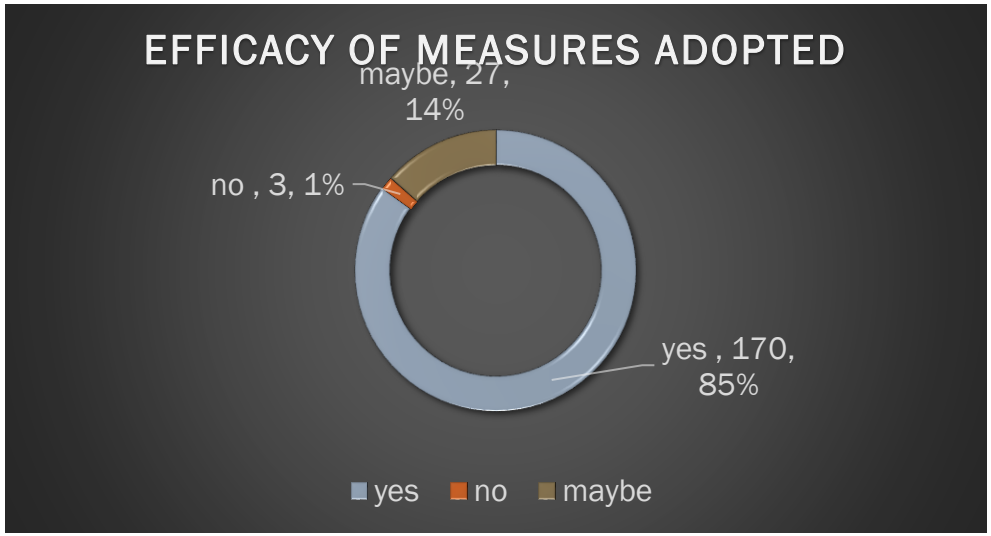
Perceived Severity among respondents

3. Susceptibility:



Susceptibility Level scores

4. Self-efficacy:



Efficacy of preventive measures adopted

- 3 most important topics related to covid-19 regarding which the youth want to receive the information at this time are as follows:

1.	How Covid-19 Can Be Treated
2.	What Can You Do to Prevent Acquiring COVID-19
3.	The Chance That You Acquiring COVID-19

- The insight of platform through which the youth want to receive information (in what manner) is summarized below:

1.	Information on the website (MoHFW)
2.	Internet search engine (e.g. Google)
3.	Arogya Setu App

Discussion

- The individuals' judgments and how they evaluate threats is guided by the risk perceptions which limit public and is reflected in responses to that preventive measures communicated .

- All dimensions of people's risk perceptions need to be understood for better communication and seeking attention in order to do the jobs done effectively.

<u>The Study Limitations</u>:

Many major dimensions of risk perception were measured, there were some information deficient, for example, assessing the knowledge related to COVID-19,.

Conclusions

- This survey showed that perception of risk has a strong social dimension.

- The results of this study support the validity of the Protection Motivation Theory for investigations of potential determinants of precautionary behaviors for emerging infectious diseases (i.e. COVID-19).

- People's risk perception towards COVID-19, is one of the factors contributing to an increase in public participation in adopting preventive measures taking place like hand washing, use of mouth masks, social distancing, etc."

It could be recommended that risk communication should be based on a sound understanding of the factors underlying risk perception, risk attitudes and trust towards communicating authorities.

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Annexure:

For details, the online google survey form which was used to collect the data is :

https://forms.gle/ShYhiNqzLsiWa8wi8

Data Analytics for Lean Six Sigma

(offered by University of Amsterdam, Netherlands)

PART -2 :Online Course

DURATION OF COURSE

15 hours (2-4 hours per week, for 5 weeks), 21st April2020 – 26th May 2020

COURSE OBJECTIVE

- To Understand how to interpret and use data using lean six sigma
- Learning the differences between numerical and categorical data.
- To understand the Basics of data analysis
- To Learn different data analysis tools
- To Understand and visualize data
- To be able to Distinguish between different types of probability distributions (normal, lognormal, weibull)

CONTENTS OF THE COURSE

Module	Date covered	No. Of hrs.	Methodology
Data and Lean Six Sigma	21st April-27th April 2020	4 hrs	11 videos, 4 readings, 1 practice quiz
Understanding and visualizing data	28th April – 4th May2020	3.5 hrs	8 videos, 3 readings, 1 practice quiz
Using probability distributions	5th may- 11th May2020	3 hrs	7 videos, 1 reading, 1 practice quiz
Introduction to testing	12th may- 18th May2020	1 hr	3 videos, 1 reading, 1 practice quiz
Testing: numerical Y and numerical Y	19th may- 26th May2020	3.5 hrs	7 videos, 1 reading, 1 practice quiz

Course Description

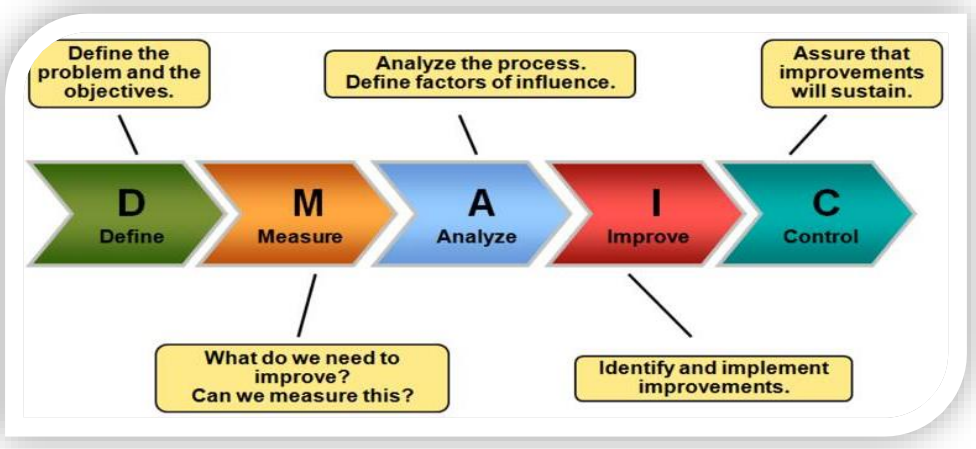
Week 1: Data and Lean Six Sigma

Data analytics is all about extracting the meaning from raw data by using specialized computer systems. Data analysis has significant role to understand problems facing an organization, and to explore data in sensible ways. Data in itself is merely the facts and figures. Data analysis organizes, interprets, structures and presents the data into useful information that provides context for the data.

Six Sigma is a data-driven problem-solving methodology. The focus is on process variations and emphasis is given to customer satisfaction.

"Continuous process improvement with low defects is the goal of this method".

Any lean Six Sigma project will consist of five DMAIC phases:



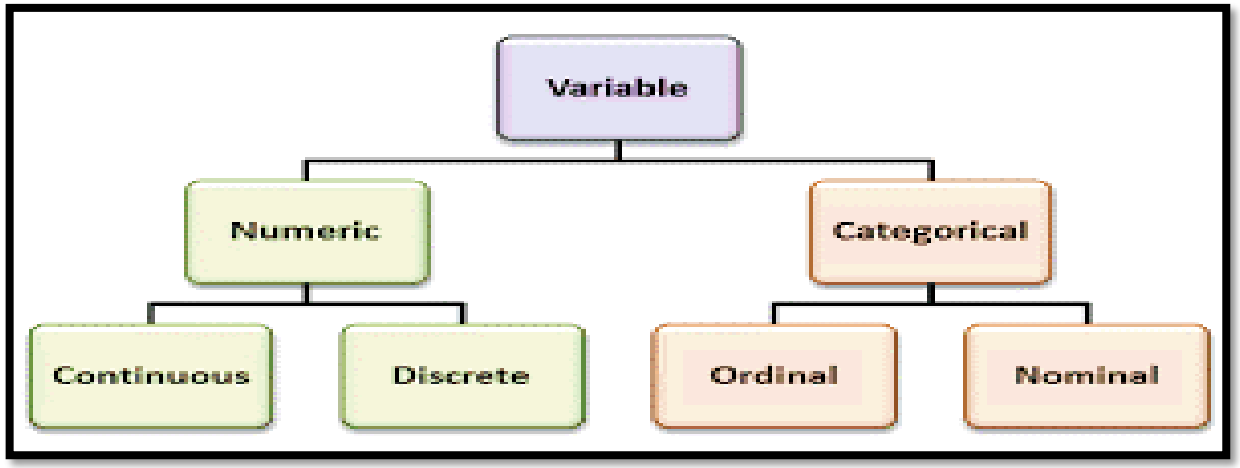
Critical to Quality (also known as a CTQ)

- A CTQ is a property of a process, product, or service that is relevant to the project objective.
- CTQ is Lean Six Sigma terminology.
- Critical to Quality (also known as a CTQ Tree) is a Six Sigma tool used to identify the needs of the customer and translate that information into measurable product and process requirements.

Week 2 : Understanding and visualizing data

Variable

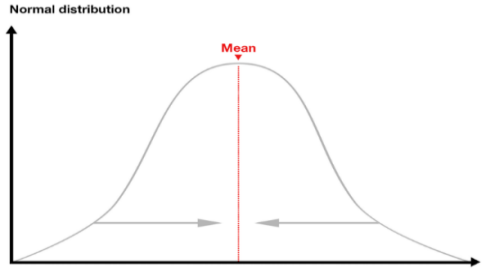
Any attributes, number, or amount that can be estimated or tallied is a variable. It is also known as known a data item. Age, sex, business pay and costs, nation of birth, class grades, shade of eyes, hairs and vehicle type are instances of factors



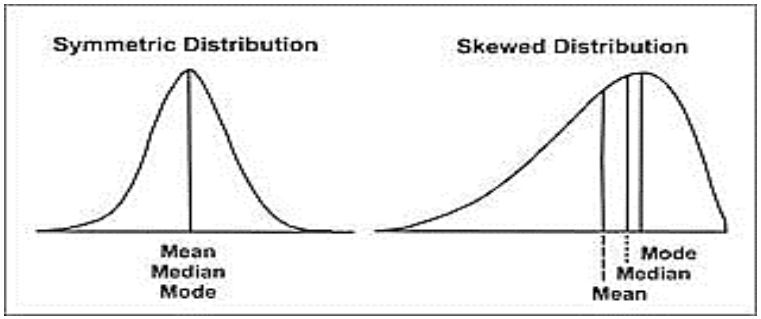
Descriptive statistics

The Descriptive statistics term is given to the analysis of data that can help describe, show or summarize data in a meaningful way, for example, patterns might emerge from the data we have taken.

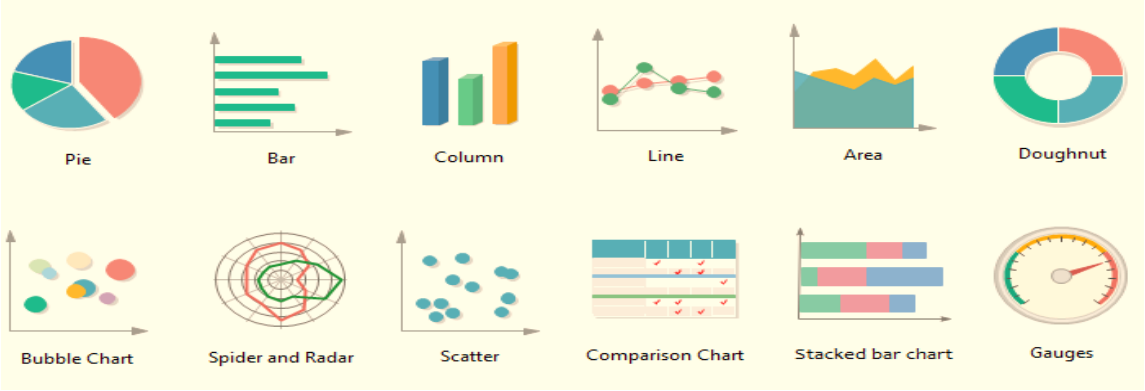
- The Arithmetic Mean is the average of the numbers: a calculated "central" value of a set of numbers.



- When there are outliers in the sequence, the **median** is sometimes used as opposed to the mean, that might skew the average of the values.



Initially get familiar with the differentiation among numerical and clear-cut information i.e. numerical and categorical data.

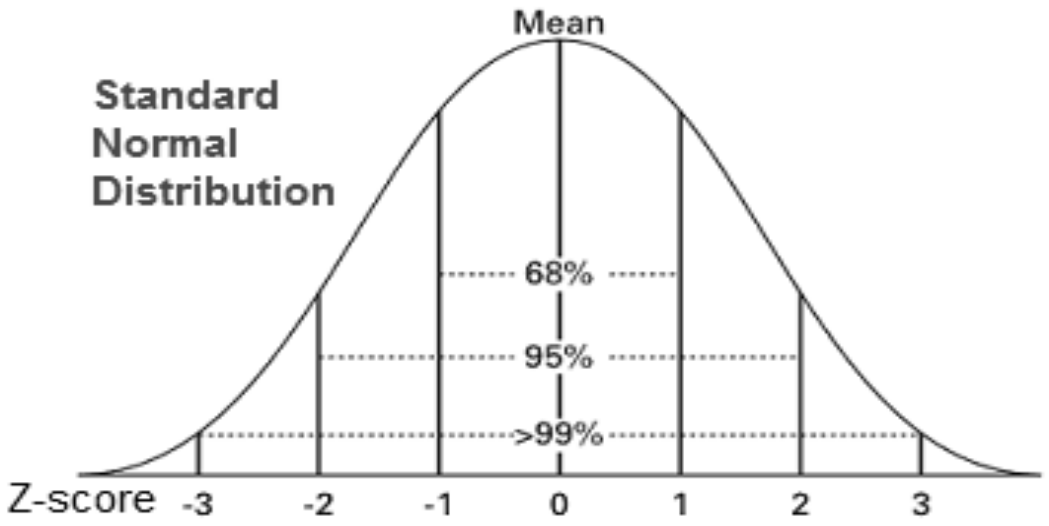


Week 3: Using probability distributions

A sample is a subset of the entire population, and the sample is used to say something about the population. A sample can be defined as a part of population with an unbiased number of observations.

Its Symmetric bell in shape. A variable that is normally distributed will always be:

- 68% -1 sigma.
- 95% -2 times sigma.
- 99% -2.5 times sigma
- 99.7 % -3 times sigma.



Week 4: Introduction to testing

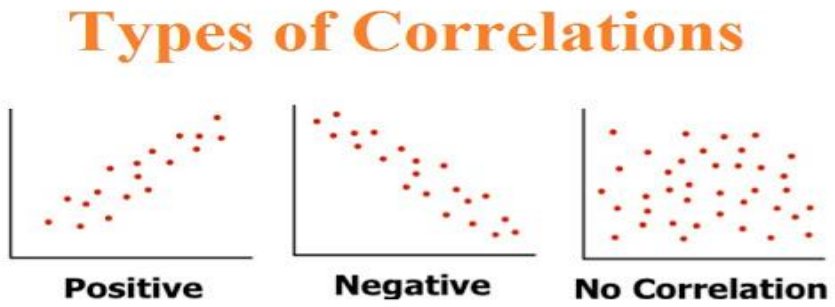
To analyze if two variables are related, determine which variable is influence factor, and which variable is CTQ. Next, determine whether variables are categorical or numerical. Once we determine what type of data we have.

Methods that we can use for that data-based testing of ideas and improvements in your Lean Six Sigma project.

- If Y variable numerical and X variable also numerical -- regression analysis.
- If Y variable numerical and X variable categorical -- ANOVA.
- If Y variable categorical and X variable numerical-- logistic regression.
- If Y variable categorical and X variable also categorical-- chi-square analysis.

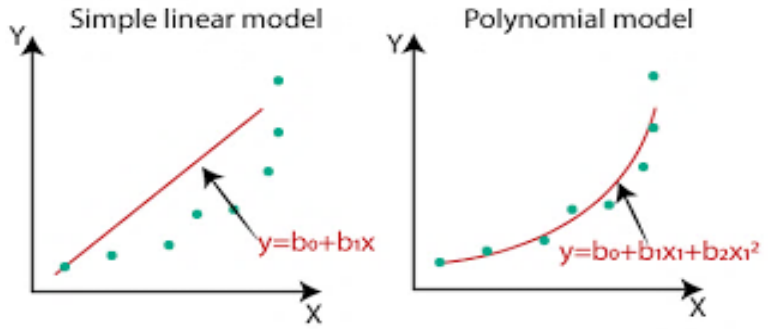
Week 5 Testing: numerical Y and numerical X

Correlation is an index that expresses how strong a relationship between two numerical variables is. This index is always between minus 1 and plus 1.

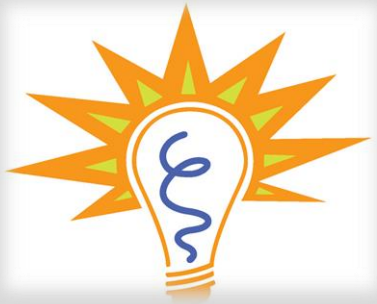


Quadratic regression is found to get condition for a lot of information formed like a parabola.

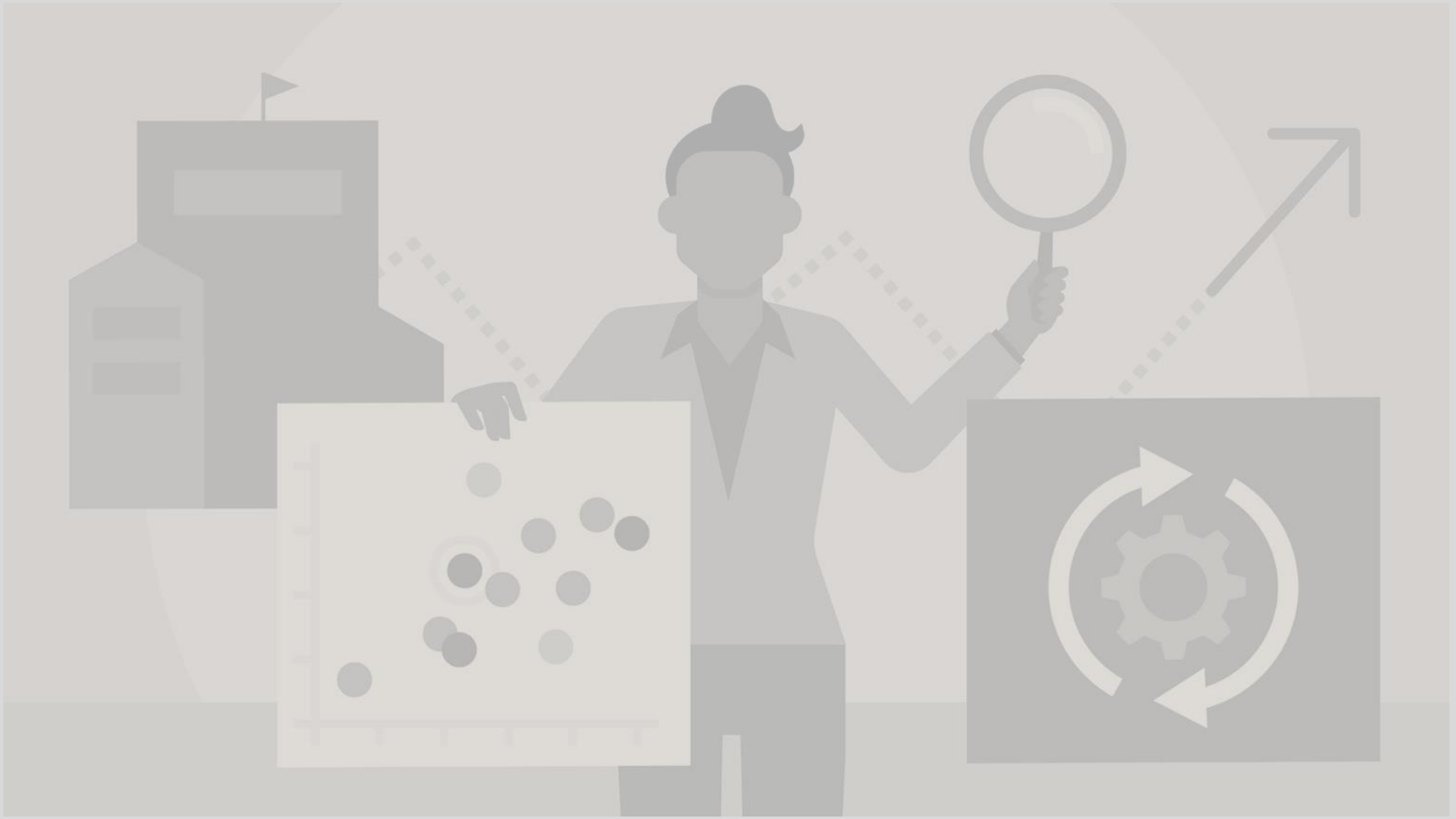
Quadratic regression is a way to model a relationship between two sets of variables. Many Predictions about a data can be made using a equation of quadratic regression.



Key Learnings From The Course



- Understanding Lean Six Sigma.
- Difference between the five phases of DMAIC.
- Learning if data is numerical or categorical.
- Interpreting descriptive statistics
- Understand the relationship between a sample and its population
- Different types of probability distributions (normal, lognormal, weibull)
- Use rules of thumb to compute probabilities for normally distributed variables
- Understand the parameters of the normal distribution
- Identify Xs and Ys in practice, and select the appropriate test



Thank you