

Pareto Principle

“The Vital Few and Trivial Many
Rule”

“80:20 Rule”



Named after Vilfredo Pareto an Italian economist

- He observed in 1906 that 20% of the Italian population owned 80% of Italy's wealth.
- He then noticed that 20% of the pea pods in his garden accounted for 80% of his pea crop each year.





The Pareto Principle

- **A small number of causes is responsible for a large percentage of the effect**
-usually a 20-percent to 80-percent ratio.
- **This basic principle translates well into quality problems - most quality problems result from a small number of causes.**
- **You can apply this ratio to almost anything, from the science of management to the physical world**

Examples of Pareto Principle:

- *20% of the input creates 80% of the result.*
- *20% of the bugs cause 80% of the crashes.*
- *80% of customer complaints arise from 20% of your products or services.*
- *80% of the **work** is usually done by 20% of the **people**.*

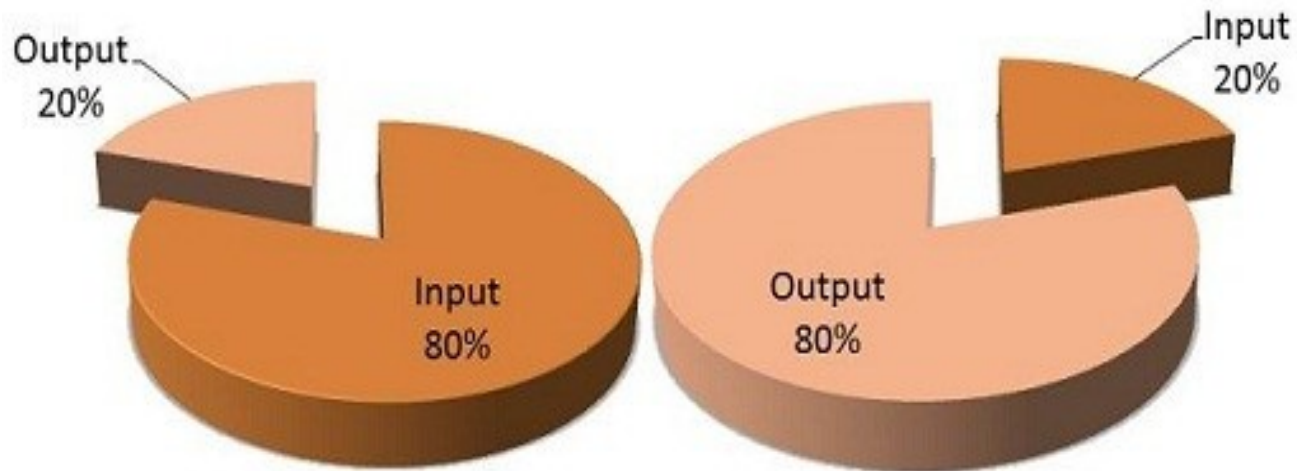


- *80% of the **quality** can be gotten in 20% of the time perfection takes 5 times longer.*
- *80% of your staff headaches come from 20% of our employees*
- *80% of our personal telephone calls are to 20% of the people in our address book.*
- *In most parties 80% of the beer will be consumed by 20% of people.*



The Pareto Principle

Where have you applied the 80/20 Rule?



Separating the Vital Few from the Trivial Many

Five ways to Use the Pareto Principle in Work-life

- *To-Do List of the day*
- *Problem Solving*
- *Passion*
- *Relationship*
- *Cut the Clutter*

To-Do list of the day

- *Estimate a value % in terms of goal achievement or satisfaction against each of your tasks for the day – email, customer calls, reports, specific tasks.*
- *What 20% of the tasks listed contribute to 80% of the goals you seek to achieve?*
- *Concentrate on these tasks first in your most productive period of the day.*

Problem Solving

- *Pareto Analysis can really help in identifying the most critical problem to solve as well as the level of criticality. Identify and list problems and their causes.*

Passion

- *In life there are certain “activities” you do (your 20%) that account for the greatest (your 80 %) of your happiness and satisfaction. These activities are the ones that we feel most passionately about.*
- *The key, once you have identified your passions, is to be very careful of the time spent on those 80% activities that produce little satisfaction for you.*

- *No one really benefits if you are not happy or passionate about what you are doing.*
- *Apply Pareto to not only find your passions but also pursue them by comparing the results against the efforts you need to put in.*

Relationships

- *20% of the people you know give you 80% of your joy and support.*
- *Observe your friends, office colleagues and social circle.*
- *Where are you investing your time and energy more?*
- *Compare that to the amount of stress or joy you are getting in return.*

Cut The Clutter

- *Most people only use 20% of what they own on a regular basis.*
- *A good part of the other 80% is things we used in the past or we think we may use in the future.*

- *This basically means that about 80% of our possessions just sit around every day, doing nothing more than gathering dust or occupying space.*
- *Take a look at your desk, cupboard, files on your computer – if you have not used something in the past year, it is highly unlikely you will ever use it. Lighten your load – throw, delete, donate that 80%.*

What is Pareto Chart?

- *A Pareto Chart is a series of bars whose heights reflect the frequency or impact of problems.*
- *The bars are arranged in descending order of height from left to right.*

- *This means the categories represented by the tall bars on the left are relatively more significant than those on the right.*
- *This bar chart is used to separate the “vital few” from the “trivial many”.*

Why should a Pareto Chart be used?

- *A Pareto Chart breaks a big problem down into smaller pieces, identifies the most significant factors, shows where to focus efforts, and allows better use of limited resources.*
- *You can separate the few major problems from the many possible problems so you can focus your improvement efforts, arrange data according to priority.*

How is Pareto chart constructed?

For example, if your business was investigating the delay associated with processing credit card applications, you could group the data into the following categories: no signature, residential address not valid, non-legible handwriting, already a customer, and other.

Step 1: Record the raw data

Analysis sheet

Category	Frequency
No address	9
Non-legible writing	22
Current Customer	15
No Signature	40
Other	8

Step 2:

Order the data. Prepare an analysis sheet, putting the categories in order by placing the one the largest count first.

Analysis sheet

Category	Frequency
No Signature	40
Non-legible writing	22
Current Customer	15
No address	9
Other	8

Step 3:

Determine the percentage that each category represents.

Analysis sheet

Category	Frequency	Percentage
No Signature	40	43%
Non-legible writing	22	23%
Current Customer	15	16%
No address	9	10%
Other	8	8%

Relative frequency:-

$[(\text{Category Contribution}) / (\text{Total of all Categories})] \times 100$

Step 4:

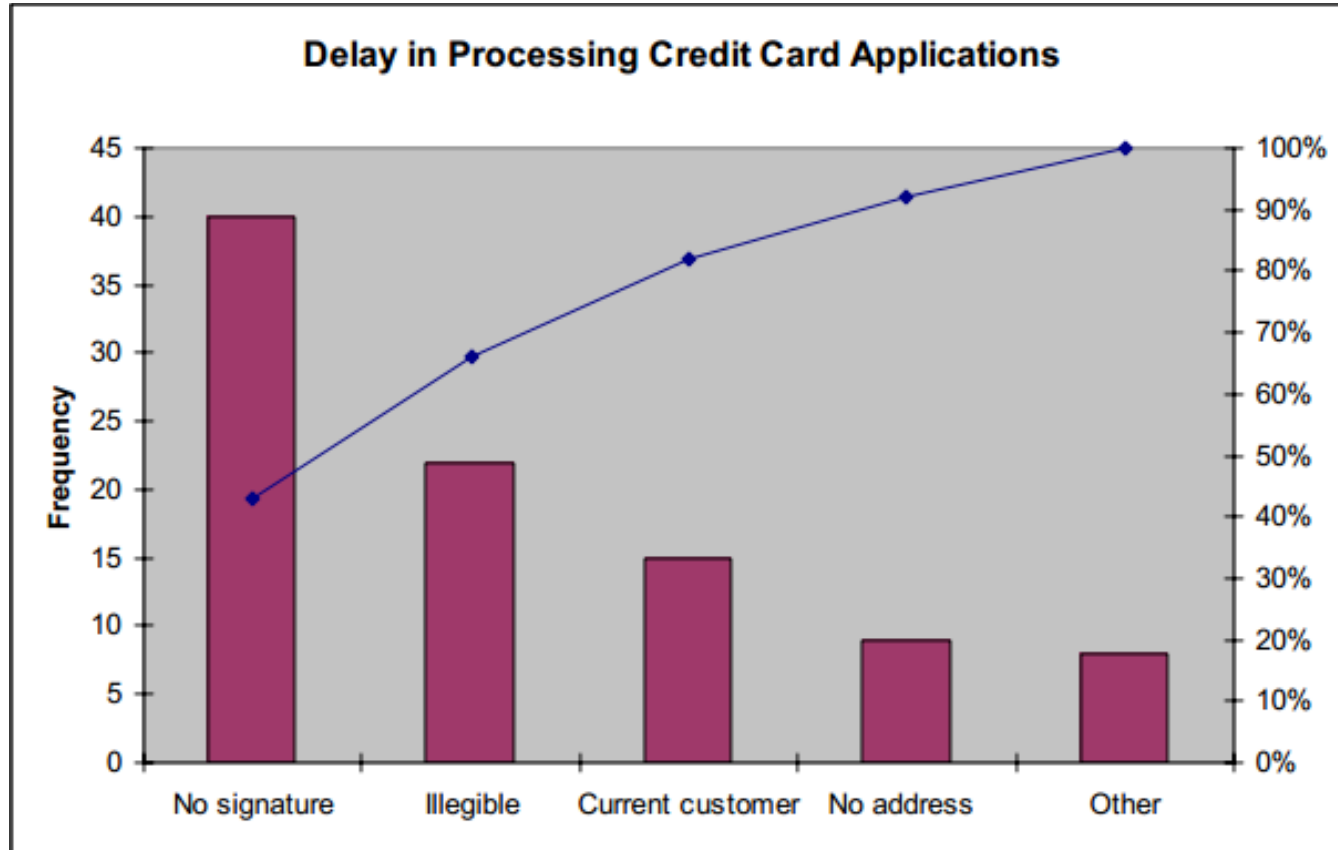
Determine the percentage that each category represents.

Analysis sheet

Category	Frequency	Percentage	Cumulative Percentage
No Signature	40	43%	43%
Non-legible writing	22	23%	66%
Current Customer	15	16%	82%
No address	9	10%	92%
Other	8	8%	100%

*Cumulative Frequency:-
[(Relative Frequency of Category Contribution)
+ (Previous Cumulative Frequency)]*

Step 5:



Breaking Point

The percentage point on the line graph for Cumulative Frequency at which there is a significant decrease in the slope of the plotted line.

