

The Art of Data Science

How it is shaping the future!

K P A C



Presenter:

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Agenda

- **Demystifying terms**
- Examples of how it has changed the world
- How can you be an actuary who masters data science?
- Questions



Statistics – something we already know!

It's the *science* of
collecting, exploring and presenting data
to discover underlying
patterns and trends.

- More intuition based – with intuition being validated through Statistical Techniques!
- What has changed or is changing now:
 1. ***Computational abilities***
 2. ***Availability of data***
 3. ***Ability of machines to learn***



Computing powers started increasing.....



- Data mining identifies and discovers a hidden pattern in large datasets.
- Data Analysis gives insights or tests hypothesis or model from a dataset.
- Data mining is one of the activities in Data Analysis.
- Data Analysis is a complete set of activities which takes care of the collection, preparation, and modeling of data for extracting meaningful insights or knowledge.
- Both are sometimes included as a subset of Business Intelligence.

DATA MINING



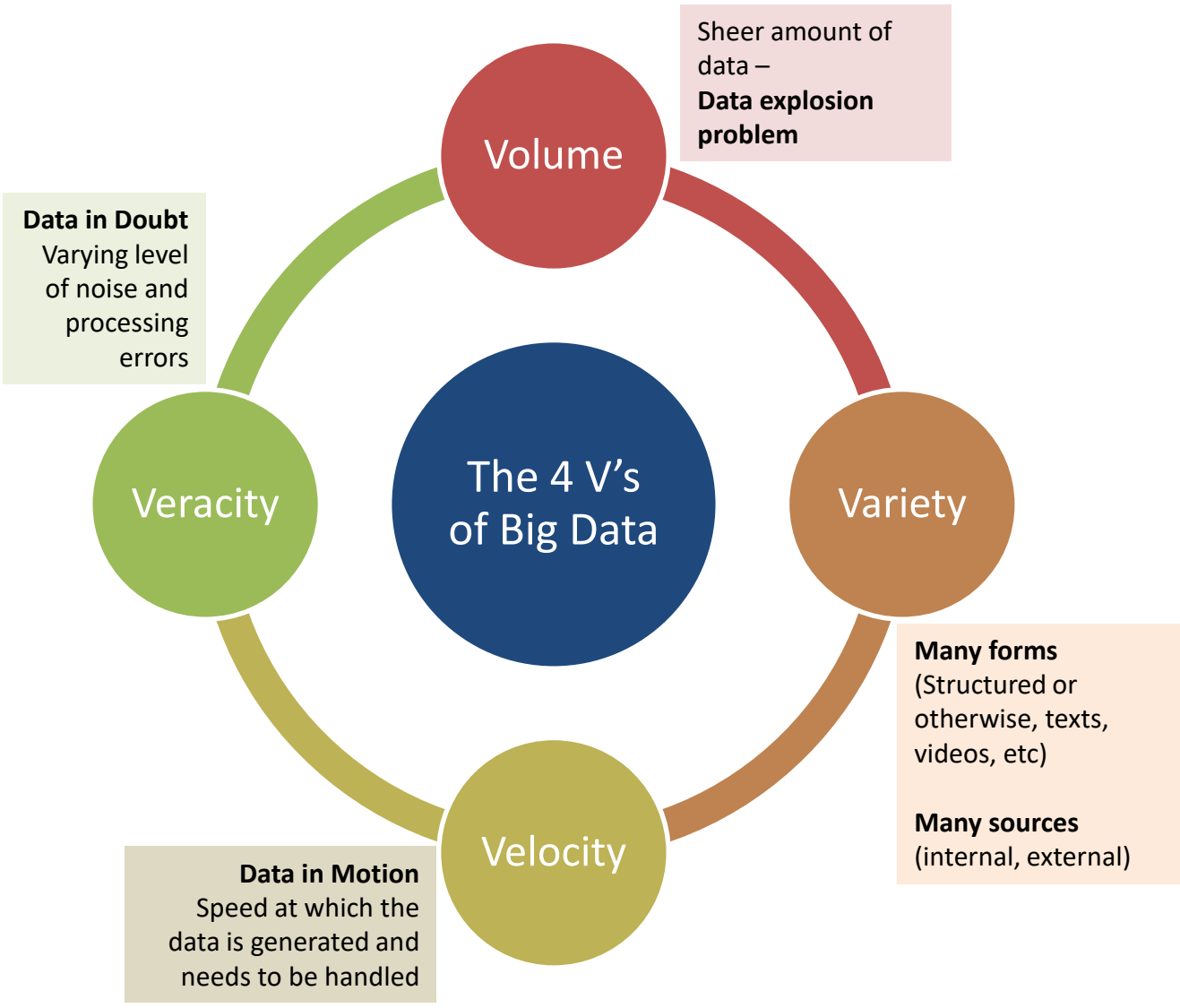
One of major application of Data mining is in the E-Commerce sector where websites display the option of "those who purchased this also viewed"

DATA ANALYSIS

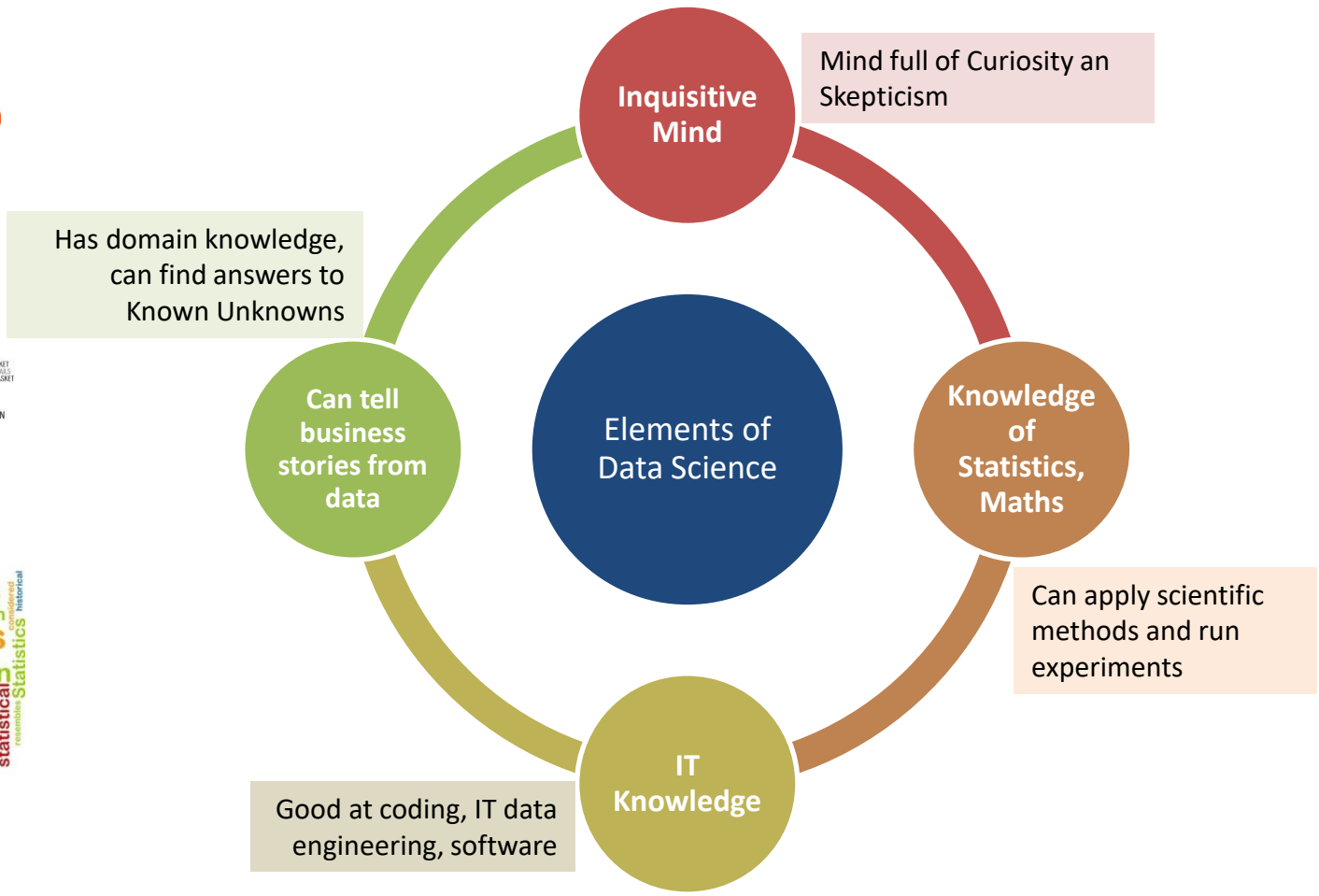


An example of Data Analysis could be "time series study of unemployment during last 10 years"

Data capturing started happening at high scale...



Who is a Data Scientist?



Data Scientists
know more about Statistics than Software Engineers
 and
know more about Software than Statisticians ...

Data Science – the reality!



- Although the term Data Science is new, the profession has existed for a long time.
- However, it is the advances in high-performing computing and the explosion of data which has made Data Science an important field.
- In fact, Data Science has been dubbed by Harvard Business Review (October 2012) as “the Sexiest Job of 21st Century”.
- Although the buzzwords describing the field keep changing – from “Data Mining” to “Data Analytics” to “Predictive Analysis” to “Data Science”, the essence has remained the same, which is:

Discovery of what is True and Useful
in the Mountains of Data

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Examples of how it has changed the world

- **A Ted Talk**

What's the future of big data-driven technology and design? In a thrilling science talk by Kenneth Cukier that looks at what's next for machine learning -- and human knowledge.

https://www.ted.com/talks/kenneth_cukier_big_data_is_better_data

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The truth which must be realised....

Data Science

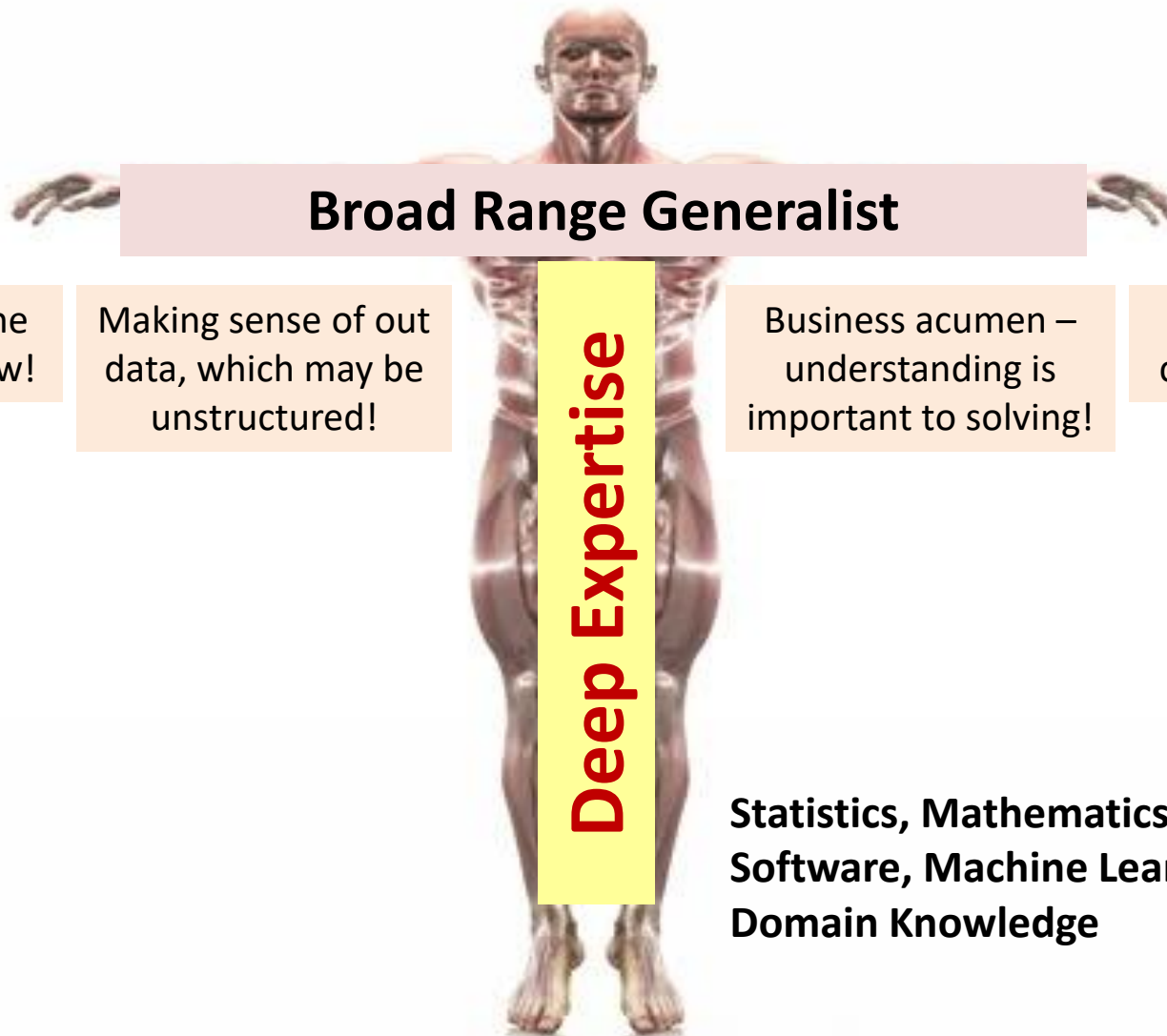


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Actuarial Science

Getting a job

T Shaped skill set for data science...



Broad Range Generalist

Art of applying the Sciences you know!

Making sense of out data, which may be unstructured!

Business acumen – understanding is important to solving!

Communication – can u narrate story?

Deep Expertise

**Statistics, Mathematics
Software, Machine Learning
Domain Knowledge**

Questions?



Thank you!

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