



01. DATA ANALYSIS INTRO

M5U3P1

WHAT IS



?

DATA ANALYSIS

- After we have gathered the information and prepared the data our next step is data analysis
- This will give us a deep understanding of information such as
 - Relationships
 - Patterns
 - Trends
- That can be used to make decisions, answer questions or answer hypotheses

DATA ANALYSIS

- Data analysis is a process of turning information into a valuable resource by using the results obtained from the analysis



- In modern days we have a large number of information from both inside and outside of the organization
- Both public and private sectors such as governments, universities, schools, hospitals, banks, insurance companies... release some, if not all of their information
- A large number of that information can be analyzed for maximum benefit
- Knowledge and understanding of data analysis is very important
- In order to understand the concept of data analysis, we will study an example even from a lion king's perspective

PLANNING IN THE LION KINGDOM

- Deep down in the African jungle there is a large lion kingdom
- That lion kingdom has a king
- He is also a lion
- The king wants to make a plan for his kingdom for the next 3 years



PLANNING IN THE LION KINGDOM

- The lions contacted a fox who worked as a data scientist
- He was in charge of planning various related activities for their herd
- The king explained to him what he wanted to do
- Fox's first job was to gather relevant information to answer the lions' questions.



PLANNING IN THE LION KINGDOM – STEP 1

- The fox gathered information from sources where the information were made public
- Such as the number of wild cattle and zebra by the Forest Statistics Office
- And forest temperature data using information from Department of Forest Science



PLANNING IN THE LION KINGDOM – STEP 2

- When he got the information, before answering any questions, the fox must do what?

PLANNING IN THE LION KINGDOM – STEP 2

- When he got the information, before answering any questions, the fox must clean up the data to verify that there are no mistakes in the data



PLANNING IN THE LION KINGDOM – STEP 3

- Because the fox used information from multiple sources, all information has to be connected together
- This way we can see the relationship between the data



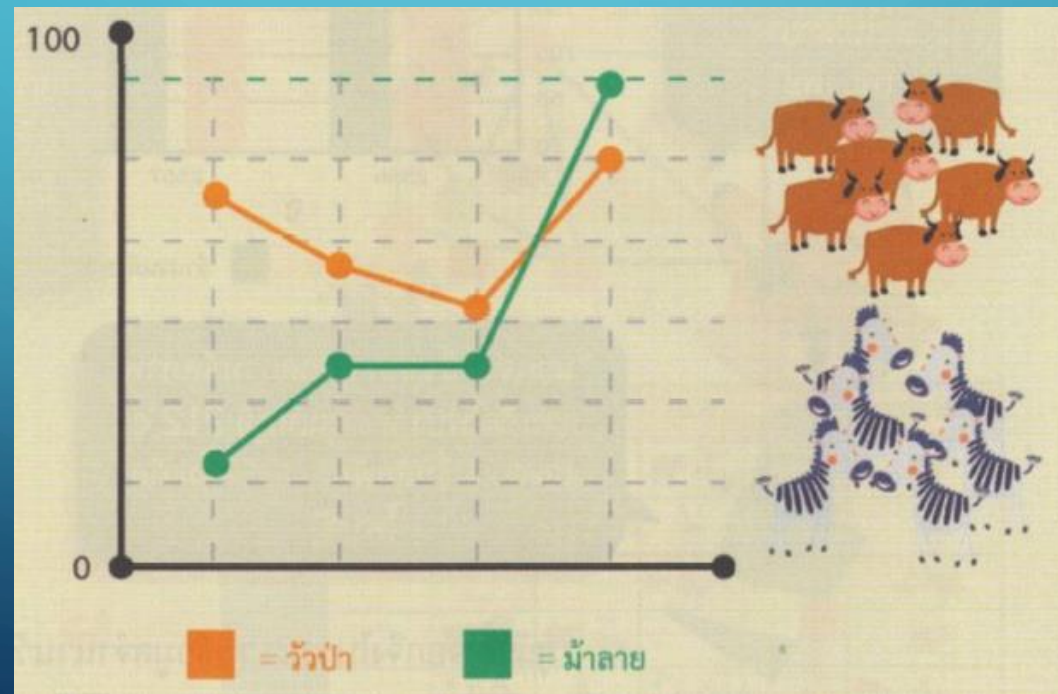
PLANNING IN THE LION KINGDOM –STEP 4

- After that the fox analyzed the data to understand the distribution characteristic patterns and to get an overview of the data



PLANNING IN THE LION KINGDOM

- The information on the number and the habitat of prey that the fox has collected will help the lion analyze where it should go to hunt for its prey



PLANNING IN THE LION KINGDOM

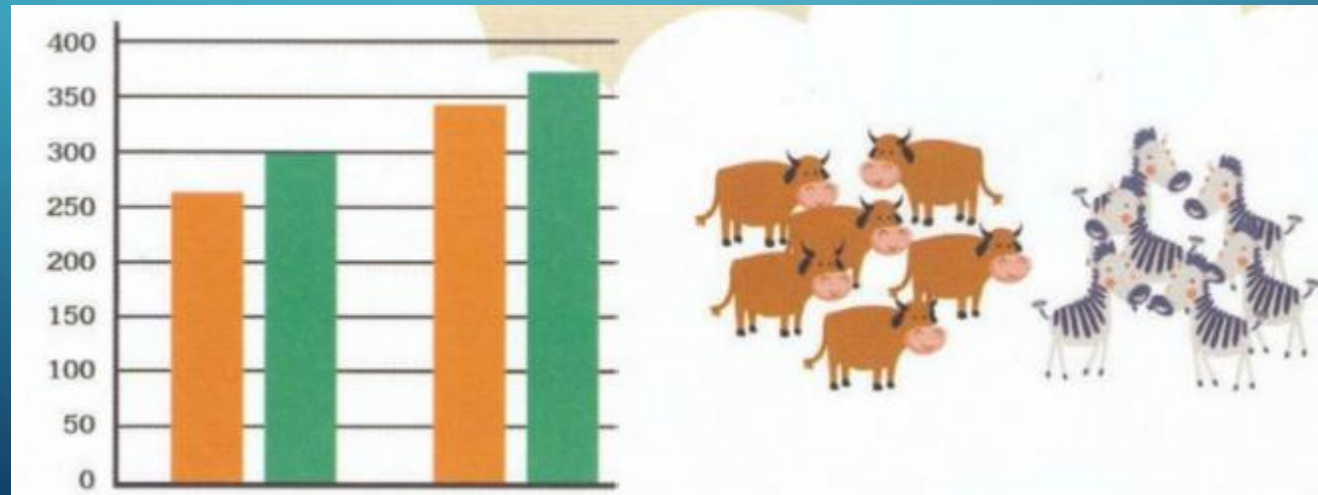
- The lion wanted to know will there be enough food for hunting in the next 3 years, and what problems could they have with the wildfire
- How can the wildfire affect the lions kingdom?

PLANNING IN THE LION KINGDOM

- The lion wanted to know will there be enough food for hunting in the next 3 years, and what problems could they have with the wildfire
- The fires are a big problem in the jungle because it will make the lions food either die or it will move to another place

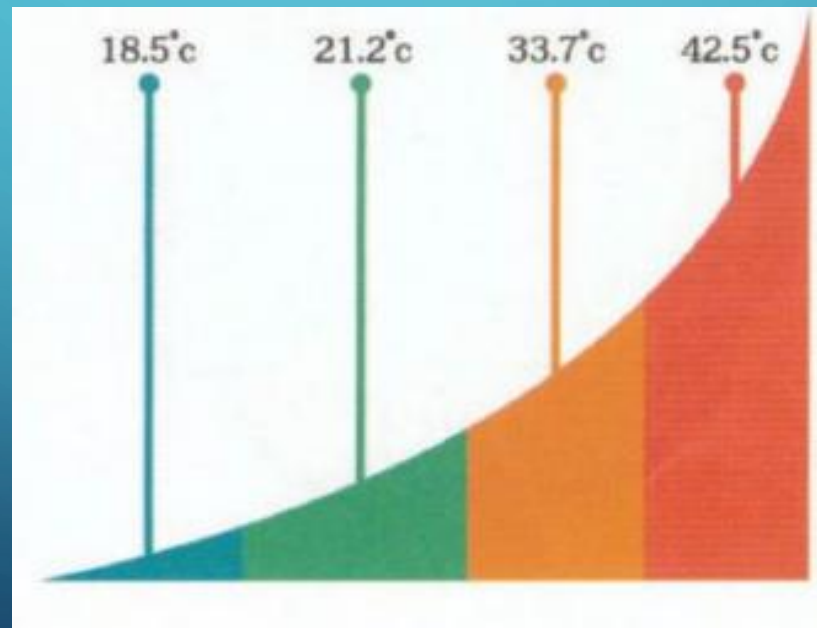
PLANNING IN THE LION KINGDOM - FOOD

- From the data that the fox has collected by comparing the number of zebras and wild cattle that there are currently in the wild and the number of how many they eat per year, they came up with the conclusion that there should be more than enough of food



PLANNING IN THE LION KINGDOM - WILDFIRE

- By analyzing the collected information about the wildfires they have noticed when the wildfires happen, and what are the most frequent places

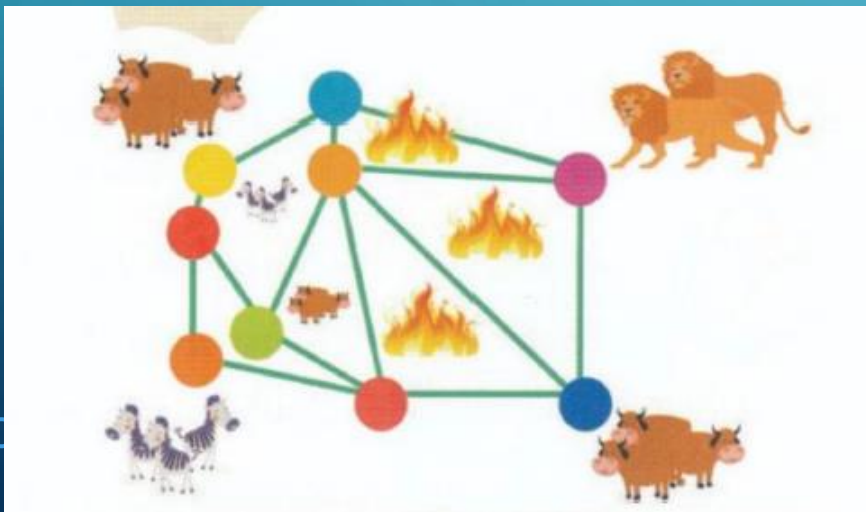


PLANNING IN THE LION KINGDOM

- Now that the lion king has all the information he wants to create a hunting plan so that at any time of the year they have enough food and that there won't be any problems

PLANNING IN THE LION KINGDOM

- The foxes go back to work to create a hunting map for avoiding fires and with the fastest route to the animals
- They also make a plan on how the group should hunt so that there is enough food everyday



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สิงโต1						
สิงโต2						
สิงโต3						
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สิงโต8						

การวิเคราะห์เชิงพรรณนา
“เกิดอะไรขึ้น”

“สภาพป่าที่เราอาศัยอยู่เป็นอย่างไรบ้าง
ยังอุดมสมบูรณ์ดีอยู่ไหม”

การวิเคราะห์เชิงทำนาย
“จะเกิดอะไรขึ้น”

“ฝูงของเราก็มีอาหารเพียงพอที่จะดำรง
ชีวิตอยู่ต่อไปได้อีกนานไหม และจะเกิด
ไฟป่าขึ้นเมื่อใด”

การวิเคราะห์เชิงแนะนำ
“ควรจะทำอะไร”

“เราควรจะทำอย่างไรให้ดำรงชีวิตอยู่ได้
อย่างยั่งยืน”

3 TYPES OF ANALYTICS

- Those 3 questions are the main questions that humans use in work and life as well
- The answers can be obtained from analyzing 3 types of data:
 - Descriptive analytics
 - Predictive analytics
 - Prescriptive analytics

DESCRIPTIVE ANALYTICS

- It's a fundamental analysis
- Gives an overview of data and the relationship between it
- Explains what happened in the past so it will help us make choices for the future

PREDICTIVE ANALYTICS

- It is an analysis that helps predict or predicts what is likely to happen in the future
- By using the historical data we can possibly predict what can happen
- This allows individuals or organizations to plan effective operations
- What operations can we plan like this?

PRESCRIPTIVE ANALYTICS

- It is an analysis to build on the predictions that may happen
- We simulate the possible options of a simulation and predicting the outcome of each situation
- This way we can suggest which situation would be the best and it's possible results
- It can be used for advertising products that will generate the highest sales volume

CONCLUSION

- Data analysis will give an overview of the data
- It will help us predict the future results and suggest the most appropriate options for making decisions



ANY QUESTIONS?

HOMEWORK

- Research online about Cognitive analytics
- What is it, where is it used, how can we use it....
- Write on a paper what you have learned



THE END