



Deployment, Scaling Up / Out options & Security

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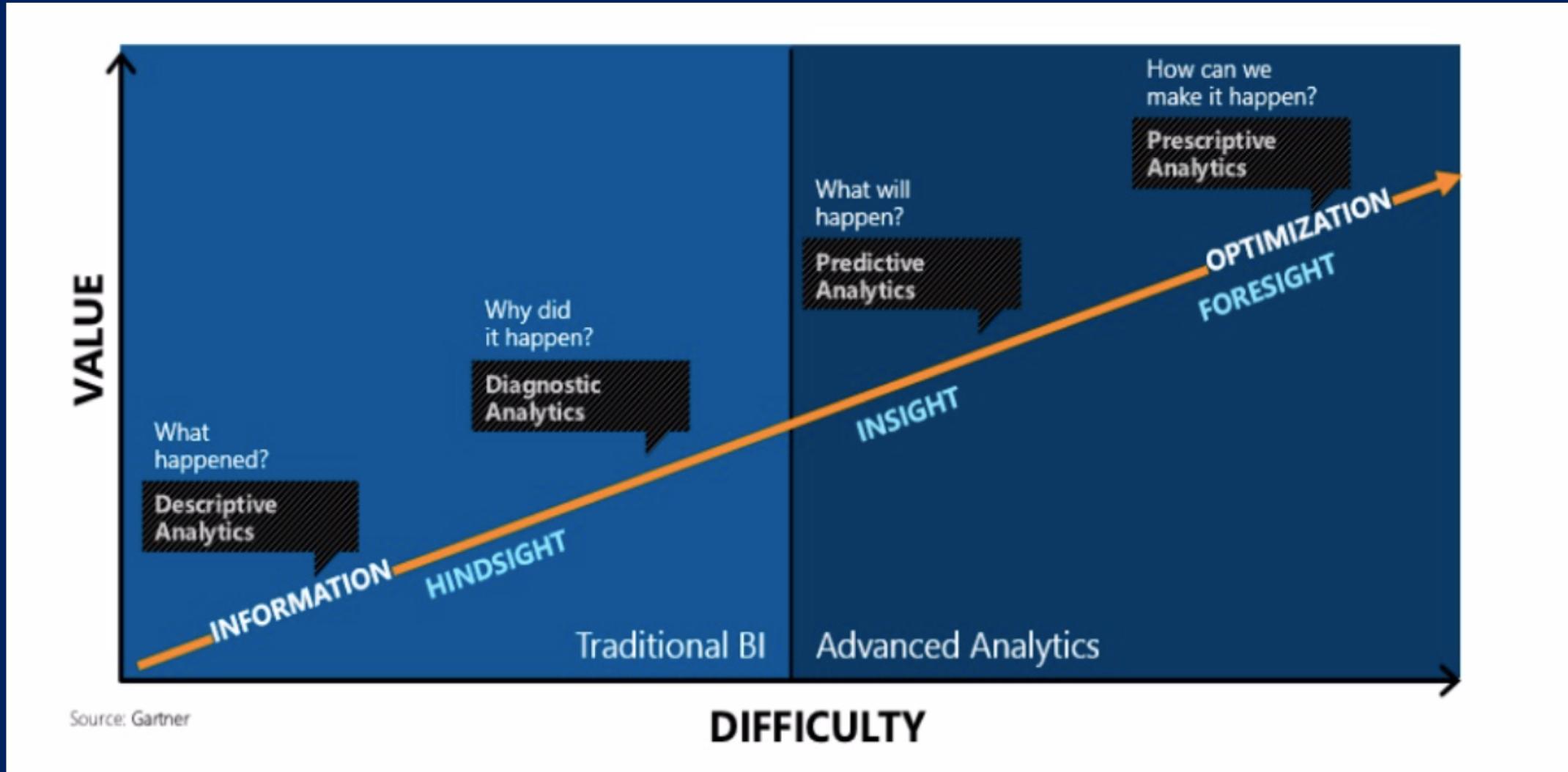


Microsoft

Agenda:

- Machine Learning Workbench
- Azure Auto ML
- Cognitive Services
- Bot Service
- Microsoft Cognitive Tool Kit (CNTK)
- Data Science Virtual Machines (DSVM)

Azure Analytics Defined

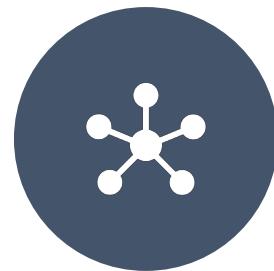


What Azure ML can do for you?

Microsoft Azure Machine Learning



FULLY
MANAGED



INTEGRATED



BEST IN CLASS
ALGORITHMS



DEPLOY IN
MINUTES

Cortana Analytics Process (CAP)

Process



CAP – Data Science Environment on Cloud

- Virtual Machines for Data Science
- Hadoop Clusters for Data Science
- Azure ML Workspace, Storage Accounts, etc.,

CAP – Move Data from On-Premise to Cloud

- Large, medium and small data scenarios
- Different sources and destinations

CAP – Explore and Understanding Data

- Visualize Data – Ipython, Notebook, PowerBI
- Preparing data for model – pre-processing data, clean data and engineer features
- Sample data for Azure ML

CAP – Build a model with Azure ML

- Manipulate data
- Train, Evaluate and Tune model(s)
- Deploy and Consume model(s)

Business Scenario

"Naju owns a company that operates vending machines in Tamil Nadu. Her job is to ensure that all 100 vending machies are selling drinks and obtaining revenue."

"Naju wants her business to be high to be keep the business at positive phase.."

Business Scenario - Drawbacks

Sadly, vending machines will occasionally break and they take upto 7 days to get it fixed.

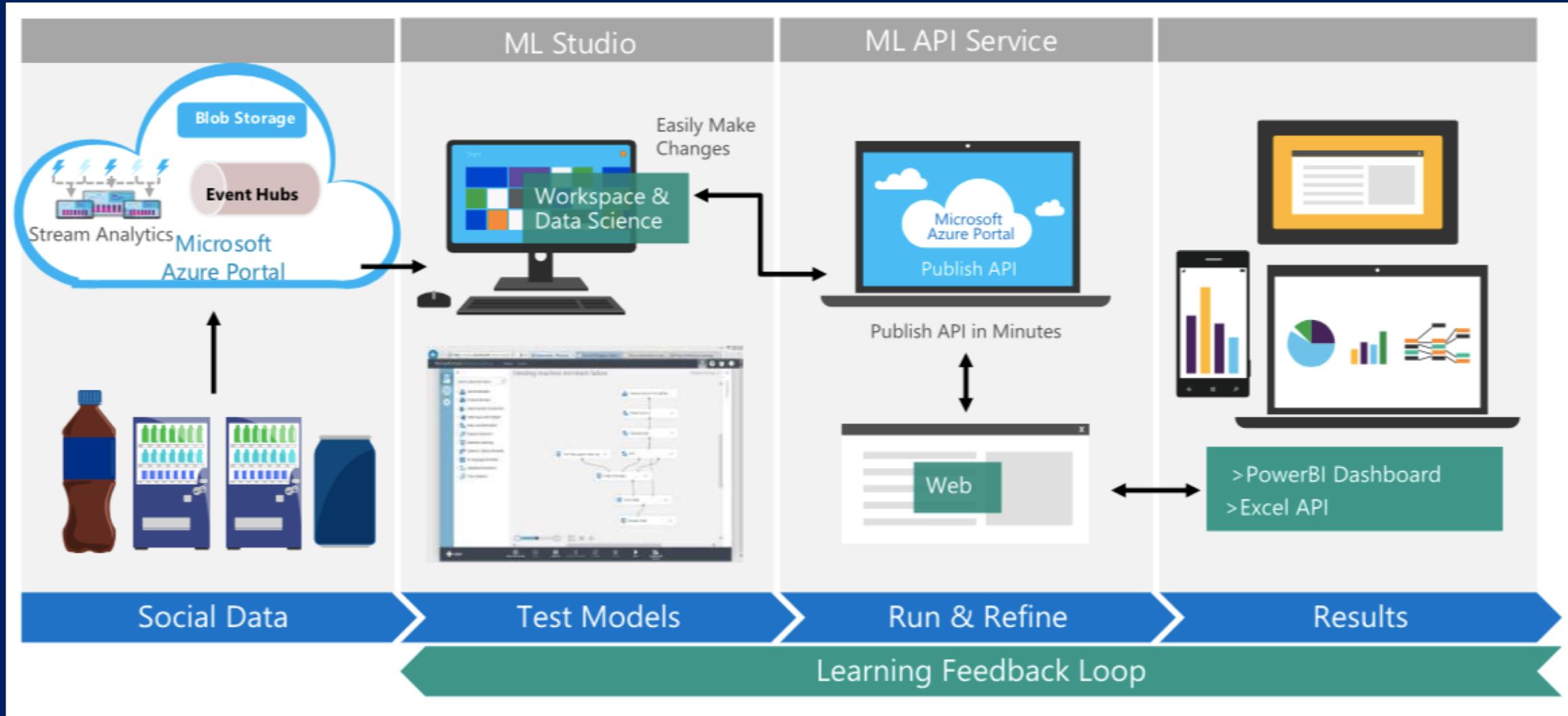
To overcome this, Naju is supposed to maintain operations and figure out the best way to utilize resource inorder to optimize the revenue.

Business Scenario - Questions

Come up with a solution for all three cases:

- *Which machines have failed?*
- *Which machines will soon fail?*
- *How to plan the maintenance?*

Azure Architecture:

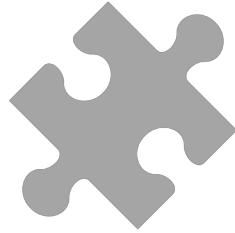


Microsoft Cognitive Services

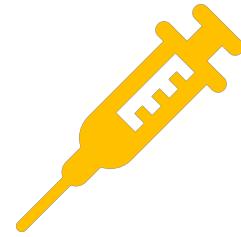
Why Microsoft Cognitive Services?



Easy



Flexible



Tested

Microsoft Cognitive Services



VISION



SPEECH



LANGUAGE



KNOWLEDGE



SEARCH

Microsoft Cognitive Services - Vision

"From faces to feelings, allow your apps to understand images and videos.."

Microsoft Cognitive Services – Vision



COMPUTER
VISION API



FACE API



EMOTION API



VIDEO API

Microsoft Cognitive Services - Speech

"Hear and speak to your users by filtering noise, identifying speakers and understanding intent"

Microsoft Cognitive Services - Speech



BING SPEECH API



SPEAKER RECOGNITION
API



CUSTOM RECOGNITION
INTELLIGENT SERVICE

Microsoft Cognitive Services - Language

"Process text and learn how to recognize what the user want"

Microsoft Cognitive Services - Language

- Bing spell check API
- Web Language Model API
- Linguistic Analysis API
- Language Understanding Intelligent Service
- Text Analytics API

Microsoft Cognitive Services - Knowledge

"Tap into rich knowledge amazded from the web, academia or your own data"

Microsoft Cognitive Services - Knowledge



ACADEMIC
KNOWLEDGE API



KNOWLEDGE
EXPLORATION SERVICE



ENTITY LINKING
SERVICE



RECOMMENDATIONS
API

Microsoft Cognitive Services - Search

"Access billions of web pages, images, videos and news with the power of Bing API's.."

Microsoft Cognitive Services - Search

- Bing Web Search
- Bing Autosuggest
- Bing Image Search
- Bing Video Search
- Bing News Search

Demo - API's in action

Microsoft Cognitive ToolKit (CNTK)

Microsoft CNTK

- Cortana
- Hololens
- Bing and Bing Ads
- Skype Translator
- Windows
- Office
- Microsoft Cognitive Services
- Microsoft Research

Microsoft Cognitive Tool Kit



SPEED & SCALABILITY



COMMERCIAL GRADE
QUALITY



COMPATIBILITY

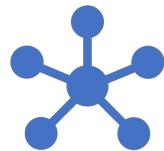
Microsoft CNTK - Features



Highly optimized,
built in components



Efficient resource
usage



Easily express your
own networks



Training and
hosting with Azure

Thank You