Optimization Models and Algorithms for Data Science

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Introduction

The program of this course on **Operations Research** is:

1. Modeling Optimization Problems
2. Network Flows Models and Algorithms
3. Linear Programming (LP)
4. Integer Linear Programming (ILP)

Introduction

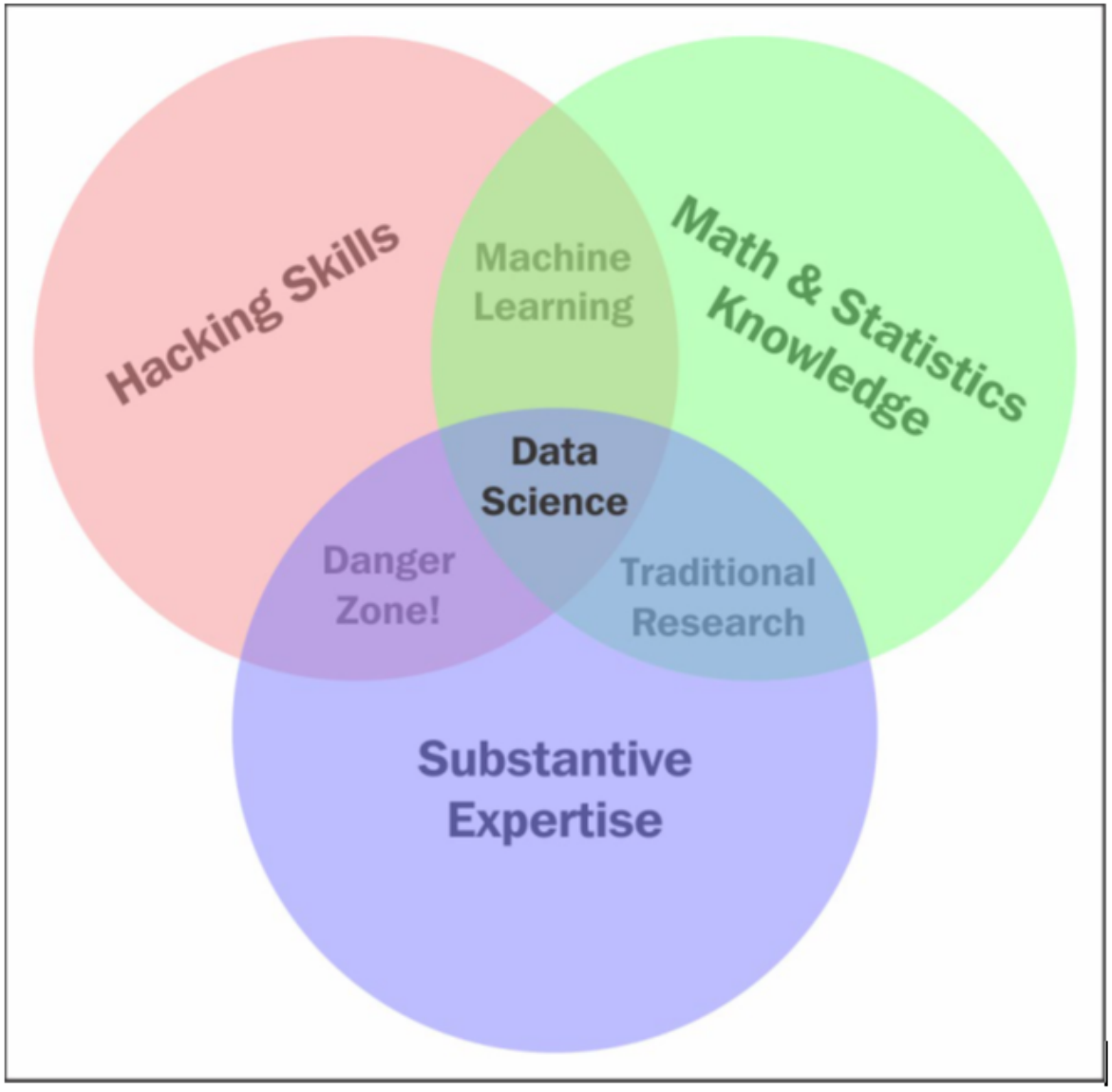
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In this lecture

What is **Data Science** and how it is related to **Constrained Optimization**?

Data Science: Traditional View



Data Science in 5 minutes

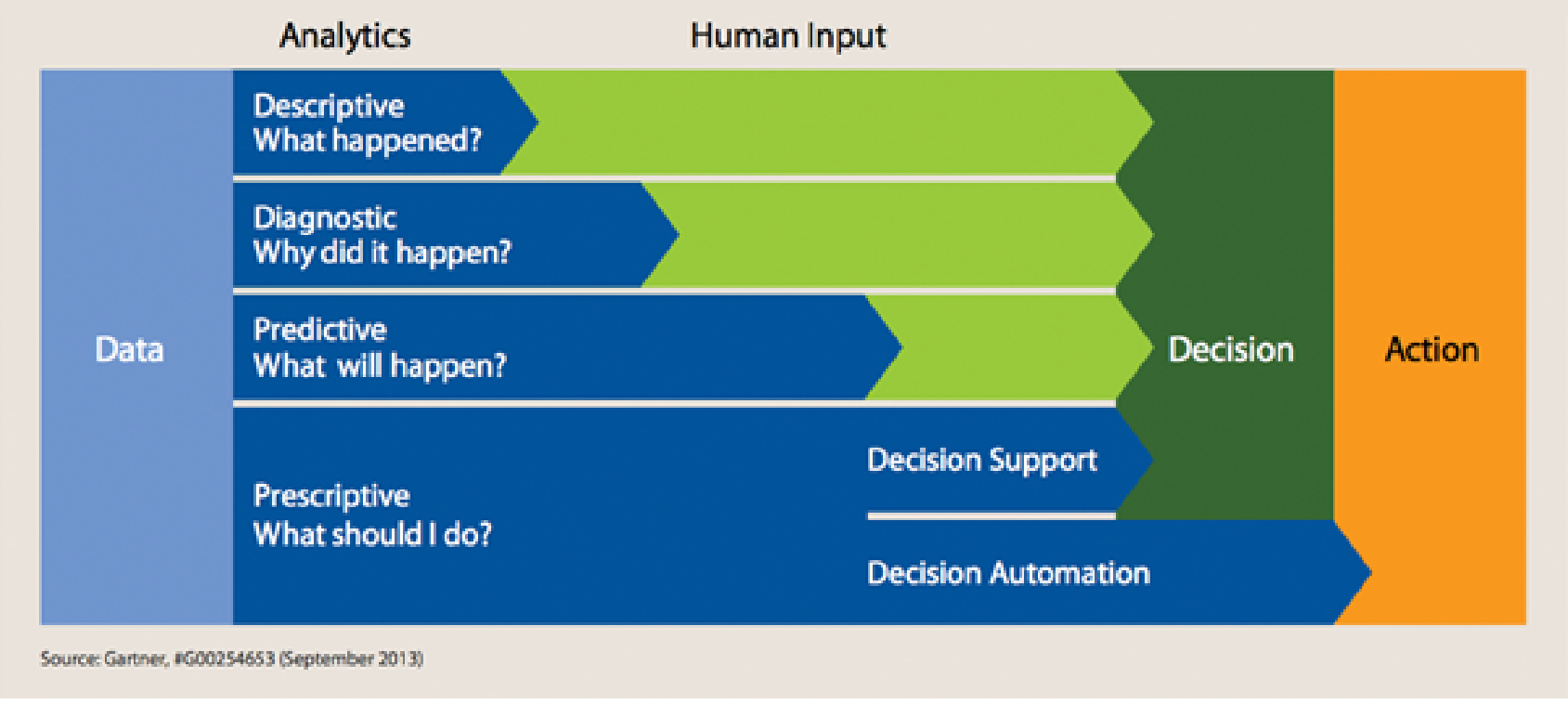
https://www.youtube.com/watch?v=X3paOmcrTjQ

The Analytics Landscape

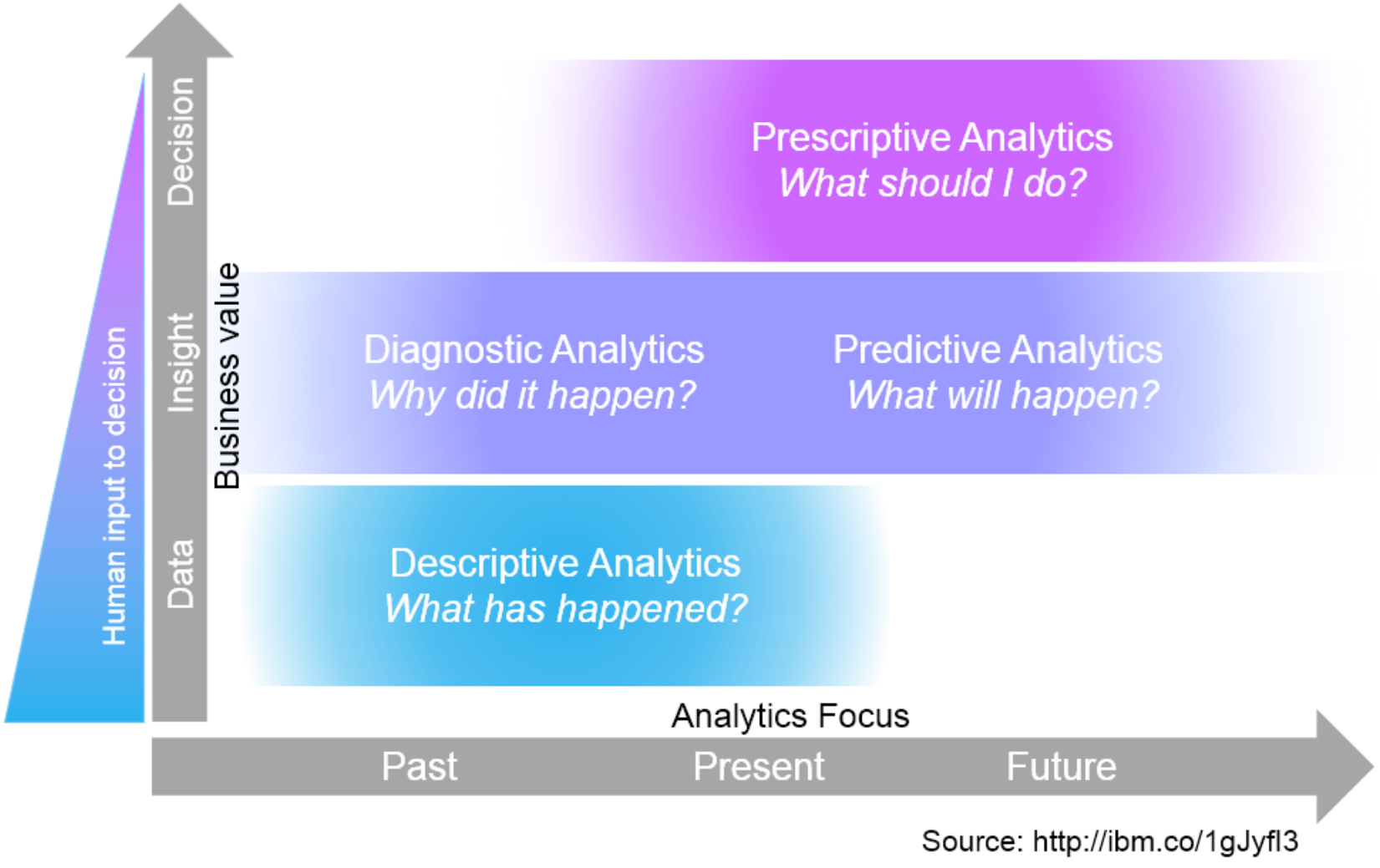
Recommended Reading:

https://www.ibm.com/developerworks/community/blogs/jfp/entry/Analytics_Models

The Analytics Landscape

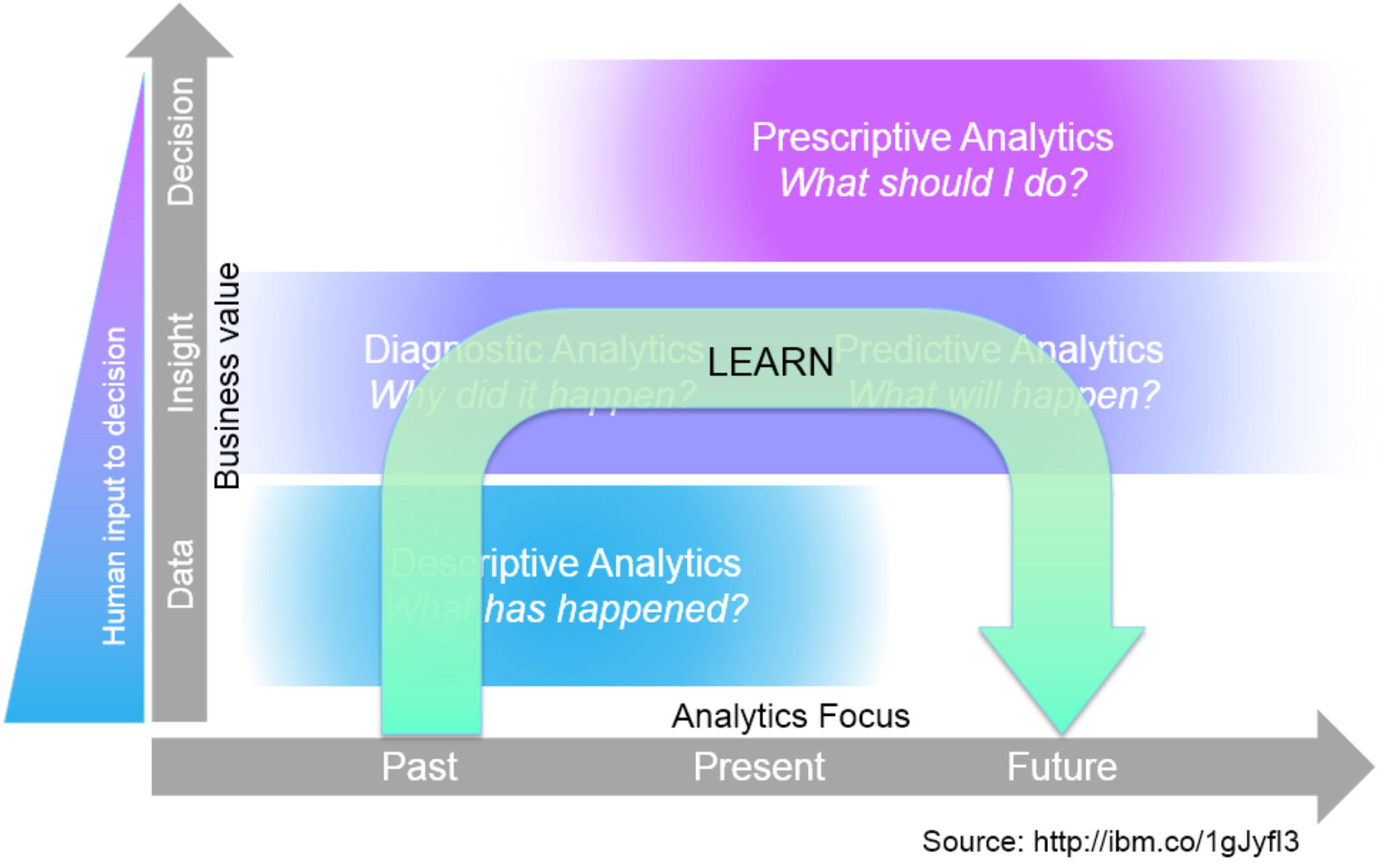


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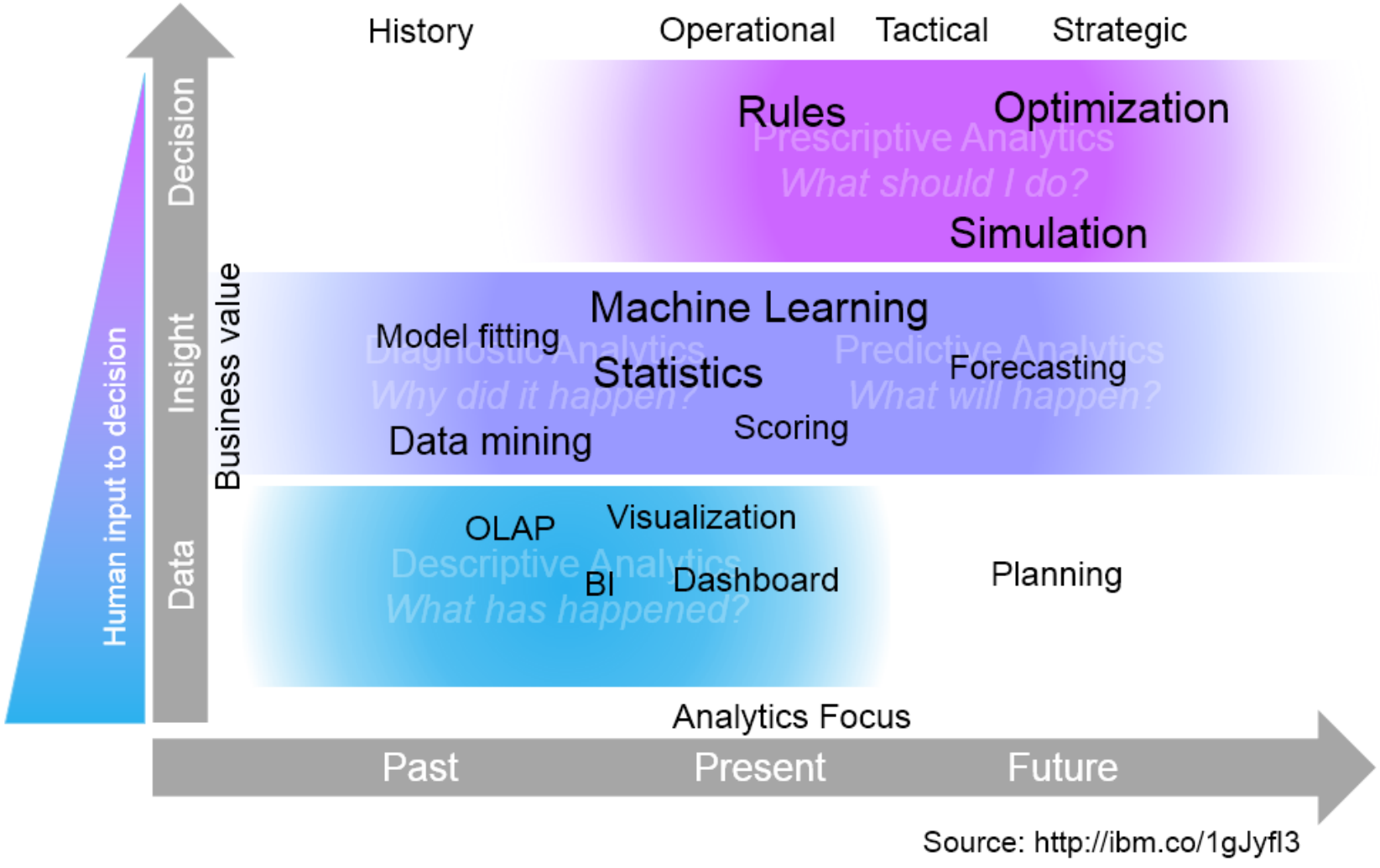
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The Analytics Landscape



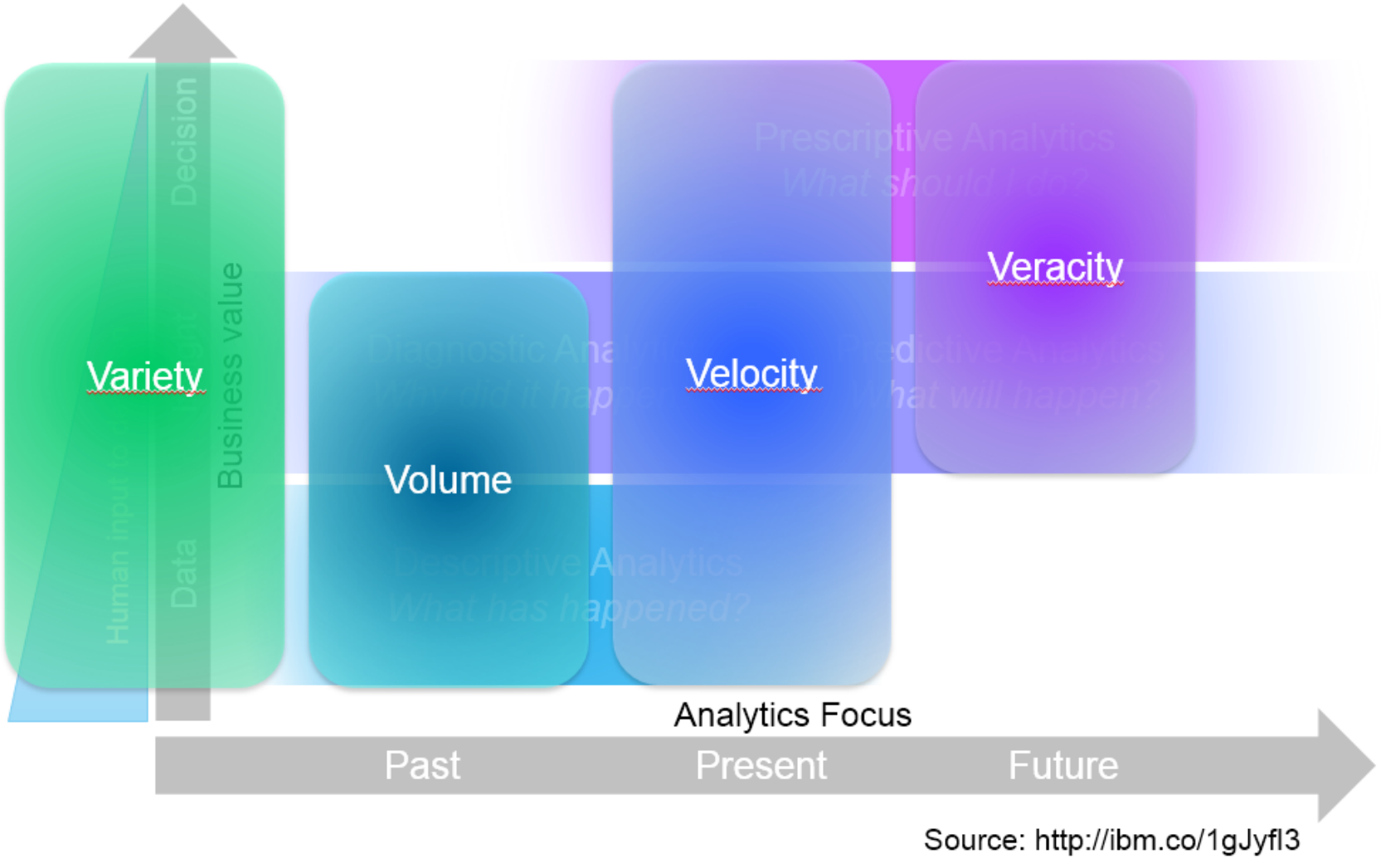
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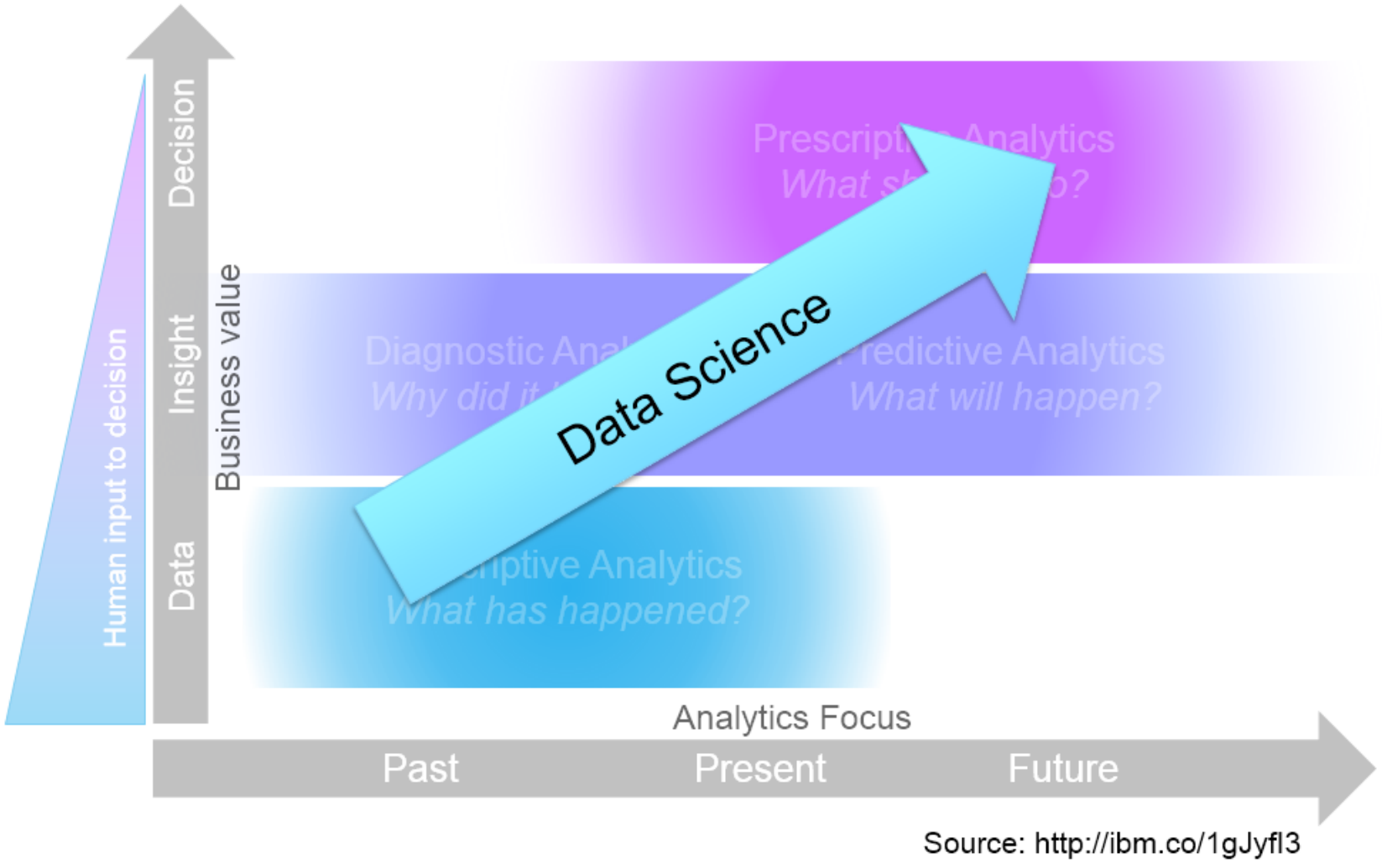
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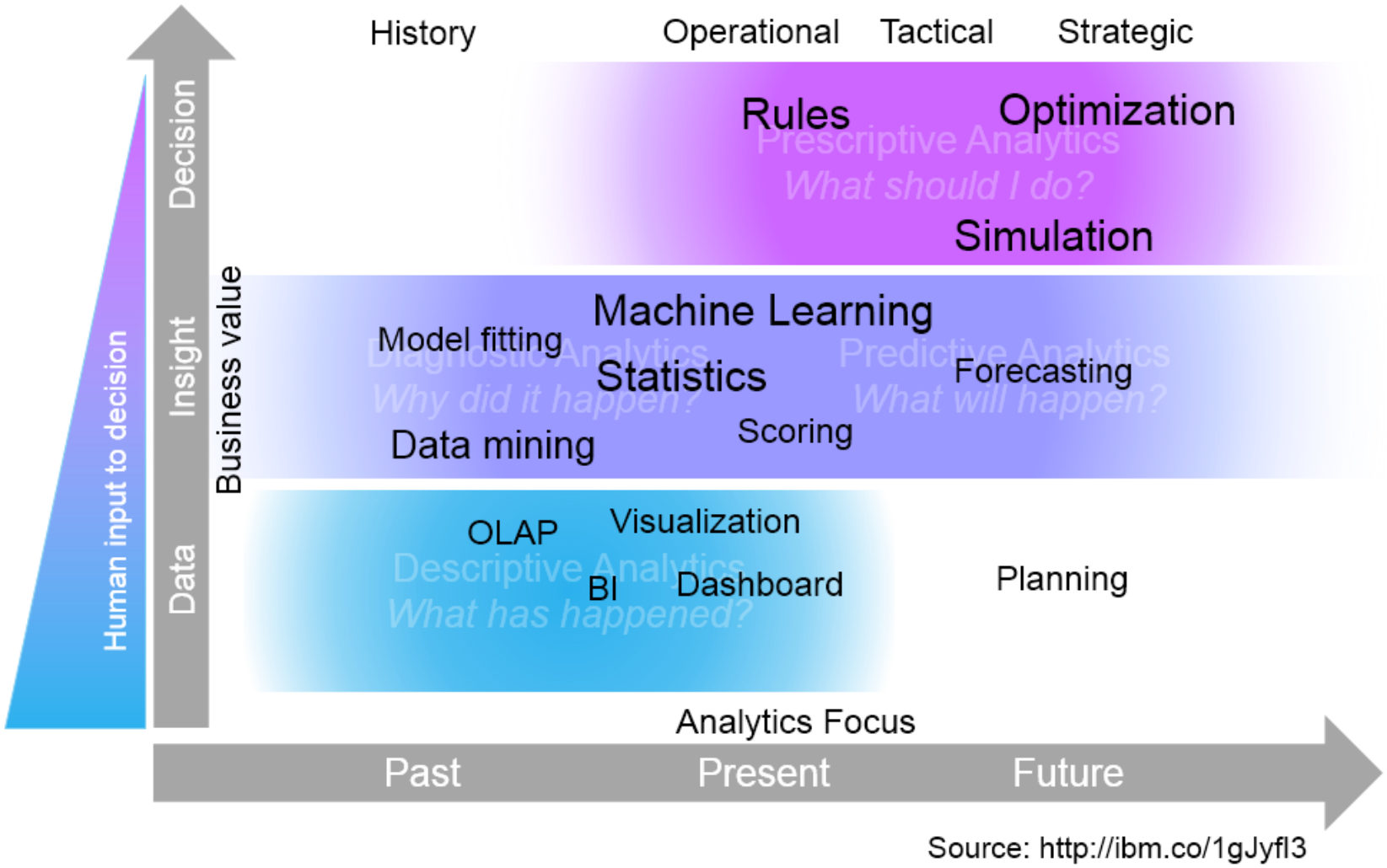
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MACHINE LEARNING: you make best use of the past

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MACHINE LEARNING: you make best use of the past

MATH OPTIMIZATION: you make best use of the future

Anything you can do, I can do it better!

Recommended Video:

`https://youtu.be/Dc38La-Xvog`