

# M9L1. Integrate Data into Business

## Slide #1



The slide is divided into two main visual sections. The left section is a dark rectangular area containing text and logos. At the top, it features the Texas A&M University Engineering logo, which includes the letters 'ATM' in a stylized font above the words 'TEXAS A&M UNIVERSITY' and 'Engineering'. Below this, the text 'Integrate Data Analytics with Human Judgment to Enhance Decision-making' is written in a white, sans-serif font. Further down, the course identifier 'TCMT 612' is displayed in a yellow font, followed by a vertical line and the words 'Technical Management Decision Making' in a smaller white font. At the bottom of this dark section, a red horizontal bar contains the text 'MASTERS OF ENGINEERING TECHNICAL MANAGEMENT' in white. The right section of the slide is a light gray image. It depicts a person from behind, wearing a white shirt and dark pants, standing with hands on hips and looking at a large, curved digital display. The display shows a complex network of nodes and lines, resembling a data visualization or a molecular structure. To the right of the network, there are several hexagonal icons containing different types of data visualizations: a bar chart, a line graph with plus signs, a network diagram, and a waveform. The background of the right section is a blurred image of a modern building.

ATM  
TEXAS A&M UNIVERSITY  
Engineering

Integrate Data Analytics  
with Human Judgment to  
Enhance Decision-making

TCMT 612 | Technical Management  
Decision Making

MASTERS OF ENGINEERING TECHNICAL MANAGEMENT

## Slide #2

### Objectives

- Understand the integration of data analytics into businesses to achieve strategic objectives.
- Three case studies:
  - Amazon.com: global e-commerce
  - Netflix: global entertainment
  - Zillow Offers: emerging iBuying business



The objective of this module is to understand the integration of data analytics into business to achieve strategic objectives.

In the last module, we learned business strategy and what a company can do to build competitive advantage over other players in the industry.

In this module, we are going to learn what type of role data analytics can play in a company's competitive capabilities, and also how to integrate the data analytics into the business operations of a company.

We're going to use three case studies to illustrate the integration of data analytics into business.

One example is Amazon.com, which is the global e-commerce giant.

The second example is Netflix, which is a global entertainment company.

And the third example is Zillow Offers, which is the emerging iBuying business.

We will discuss the success and failure of those cases to help us understand the key factors that a company needs to consider in order to integrate data analytics into business and make a successful business out of the data.

### ***Slide #3***

## Introduction

Increase in applications of data analytics due to:

- reduced cost of data collection and processing
- accessibility to cloud based tools
- market penetration of online platforms

Applications of data analytics in business rapidly grow partially because of the reduced cost of data collection and processing, open accessibility to cloud based analytical tools, as well as deep market penetration of online platforms.



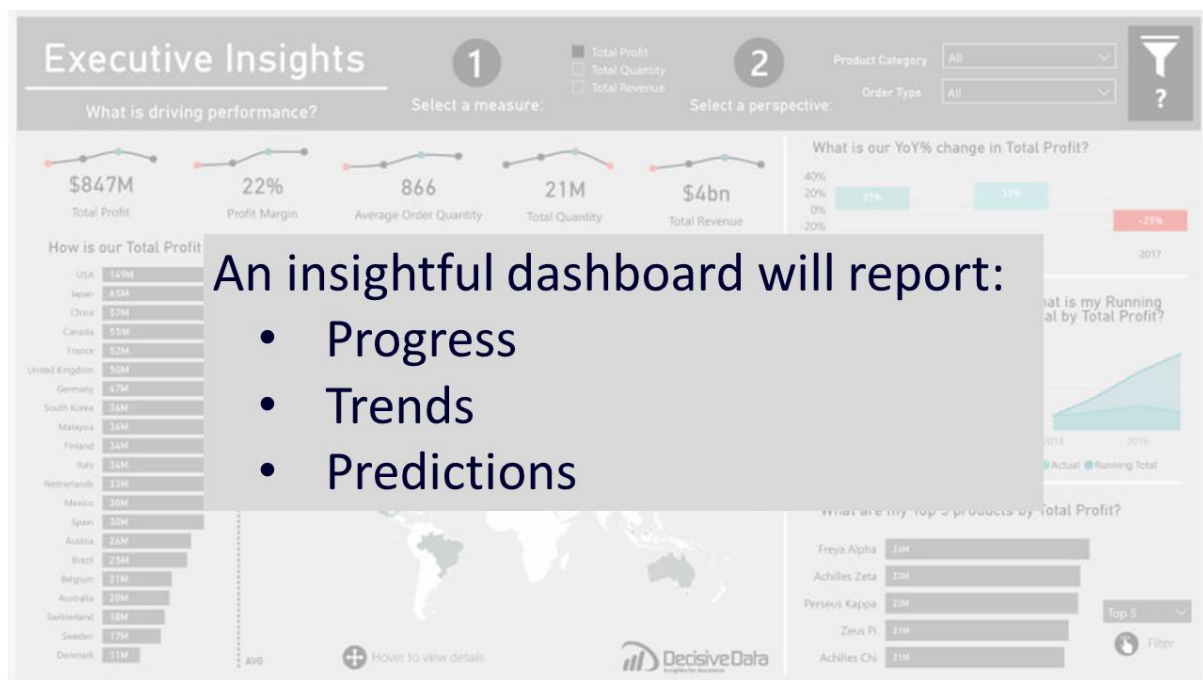
## Slide #4



A traditional area of data driven application is compiling a dashboard for informed decision making.

Business analysts collect, extract, and visualize different metrics and supporting data in a user-friendly format to provide decision makers an overview of reliable information relevant to their objectives.

## Slide #5



An insightful dashboard would be thoughtfully designed to report progress, trends, and prediction of key business performance indicators.

## Slide #6

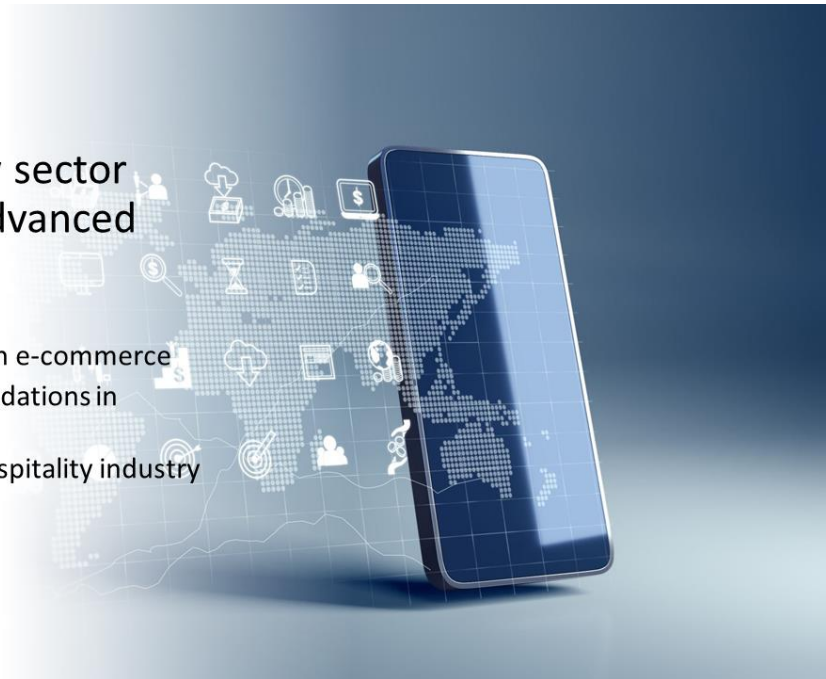


Otherwise, presenting excessive data weakly aligned with strategic objectives will distract the business from making timely decisions, because human beings tend to be indecisive when overwhelmed with unclear patterns and trends.

## Slide #7

In the technology sector applications of advanced analytics include:

- Optimizing marketing in e-commerce
- Customized recommendations in streaming services
- Pricing in travel and hospitality industry



In recent years, advanced data analytics played a decisive role in many technology sectors, such as optimized marketing in the e-commerce business, customized video recommendations in the media industry, and agile pricing for travel and hospitality booking websites.

The application examples clearly demonstrated the power of data analytics for situations involving many stakeholders or customers.

## Slide #8

Advanced analytics are useful in situations involving multiple stakeholders.



FINDING  
CORRELATIONS



DERIVE PATTERNS



GENERATE  
CUSTOMIZED SERVICES

The success of those well-known applications is consistent with the nature of statistical analysis.

Finding correlations between variables to derive patterns and trends.

Businesses use the insights derived from the algorithms to generate customized services for customers with similar preferences or needs.



## *Slide #9*



Data analytics have become a powerful catalyst of innovative solutions in different industries, government, and education sectors as its applications appear endless and its impacts are game changing.

In this module, we're going to learn those three case studies and discuss how to integrate the analytics into the businesses to create value that the company desires to achieve.