

MIS2502:

Data Analytics

The Things You Can Do With Data

Alvin Zuyin Zheng

zheng@temple.edu

<http://community.mis.temple.edu/zuyinzheng/>

Why Data Analytics?

40%

- Of decisions by managers are made by using their “gut”

61%

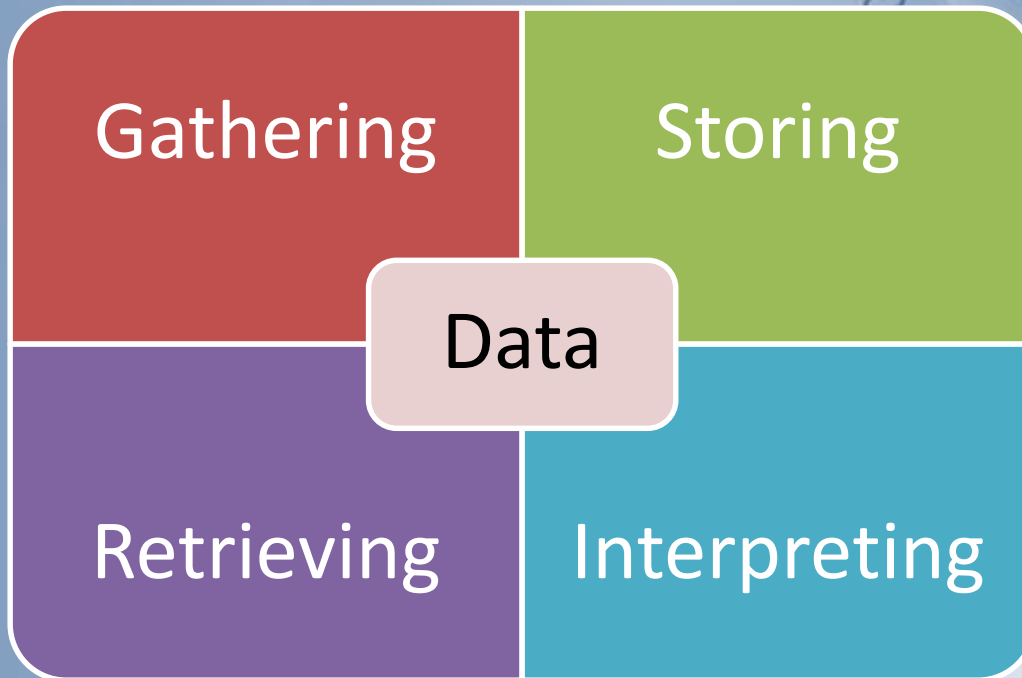
- Say this is because there is “no good data”

72%

- Want to increase their organization’s use of data analytics



It all starts with data



Almost every
business action
requires at least
one of these!

Data versus information

Data

Discrete,
unorganized,
raw facts

Information

The
transformation
of those facts
into meaning

Examples of Data

Data

- Quantity sold
- Course enrollment
- Star rating
- Customer name
- Discount

Information



So then how do you turn data
into information?



Example: Walmart



- Social Genome project
 - Increase effectiveness of advertising on social networks
 - Predict what people want to buy, based on their conversations with friends
- Own search engine Polaris
 - use sophisticated semantic analysis to work out what a customer wants

<https://www.linkedin.com/pulse/big-data-walmart-future-retail-bernard-marr>

<https://www.dezyre.com/article/how-big-data-analysis-helped-increase-walmart-s-sales-turnover/109>

Example: Netflix

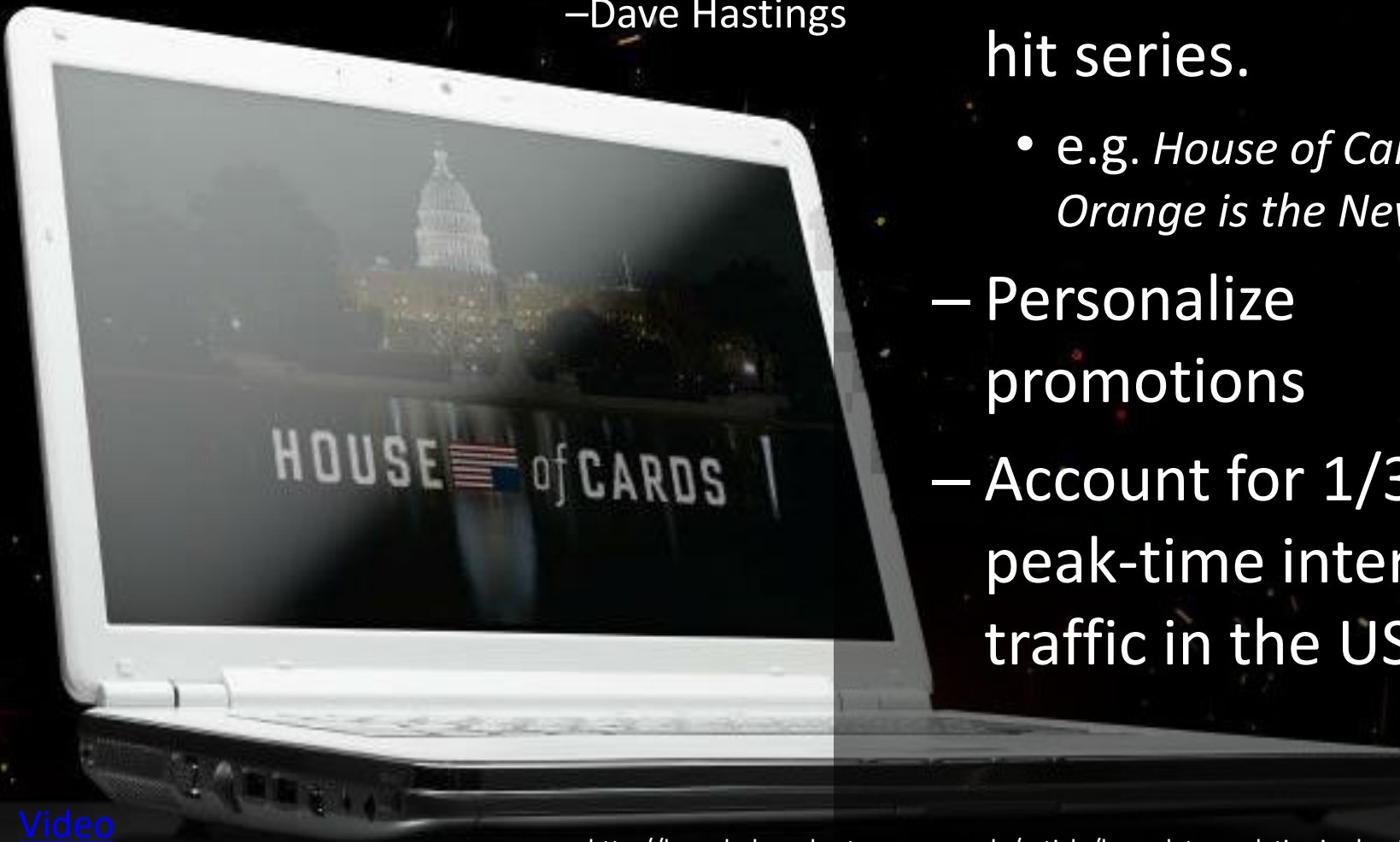
“The foundation of the streaming business was analytics.”

–Dave Hastings

- Predict viewing habits
- Find the next smash-hit series.

- e.g. *House of Cards*,
Orange is the New Black

- Personalize promotions
- Account for 1/3 of peak-time internet traffic in the US.



[Video](#)

<http://knowledge.wharton.upenn.edu/article/how-data-analytics-is-shaping-what-you-watch/>
<https://www.linkedin.com/pulse/amazing-ways-netflix-uses-big-data-drive-success-bernard-marr>
<https://blog.kissmetrics.com/how-netflix-uses-analytics/>

Two types of data

Transactional

- Captures data describing and event
- An exchange between actors
- Real-time

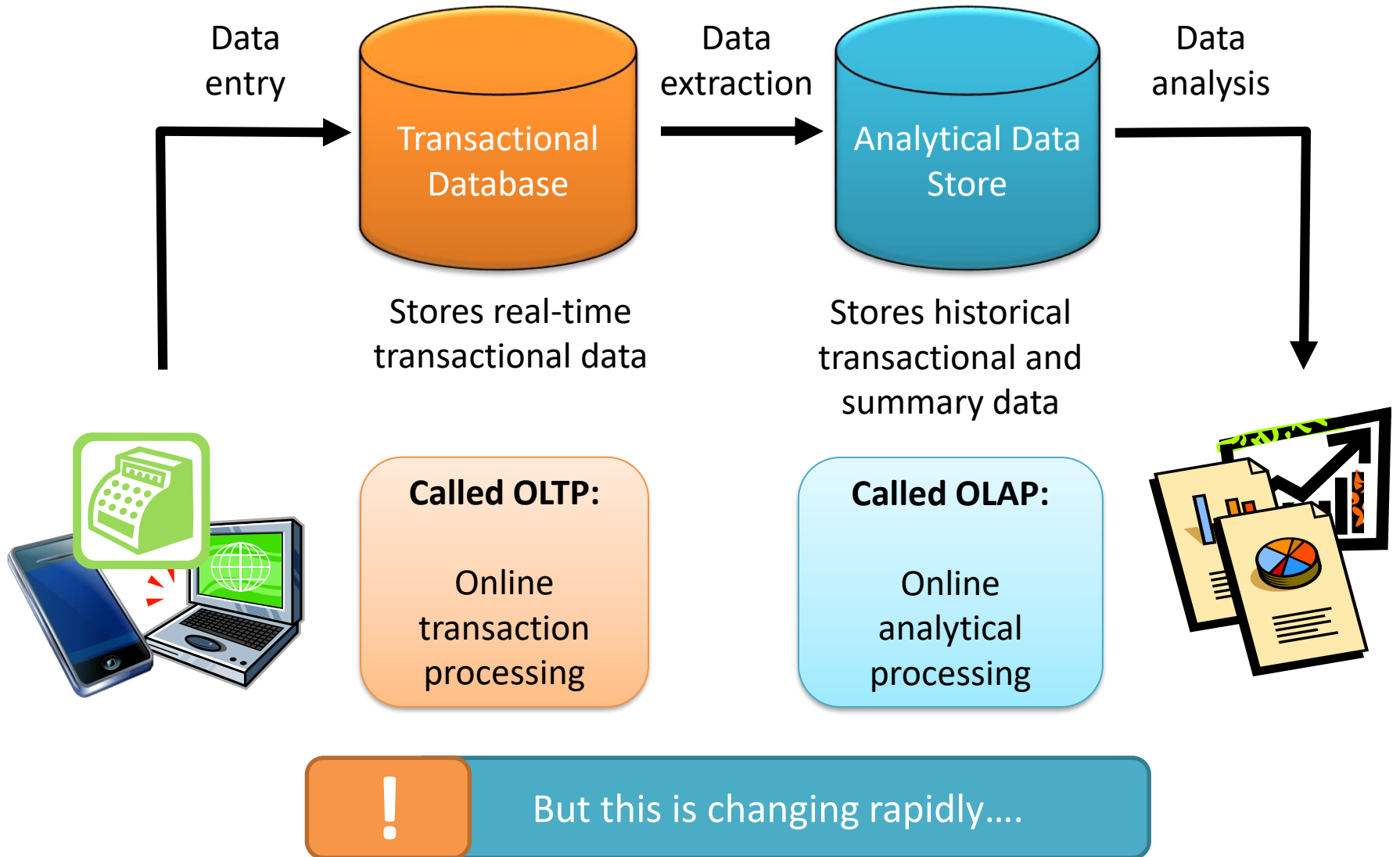
Analytical

- Captures data to support analysis and reporting
- An aggregated view of the business
- Historical



Explain the role of transactional and analytical data in the examples on the previous slides.

The Information Architecture of an Organization



Components of an information infrastructure

Transactional Database

Supports management of an organization's data

For everyday transactions

Analytical Data Store

Supports managerial decision-making

For periodic analysis

This is what is commonly thought of as "database management"

This is the foundation for "advanced data analytics"

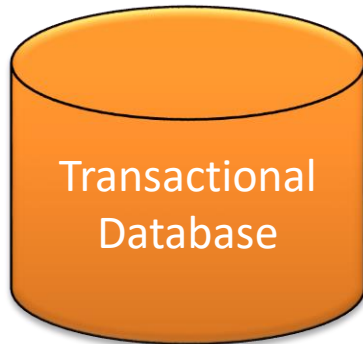
The agenda for the course

Weeks 1 through 6

Weeks
7 through 8

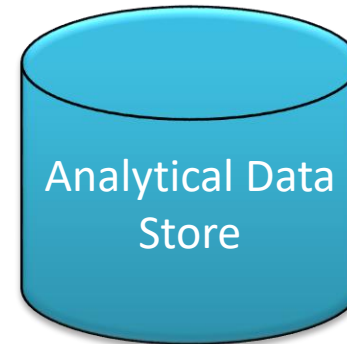
Weeks 9 through 15

Data
entry



Stores real-time
transactional data

Data extraction



Stores historical
transactional and
summary data

Data
analysis

Data interpretation,
visualization, communication

