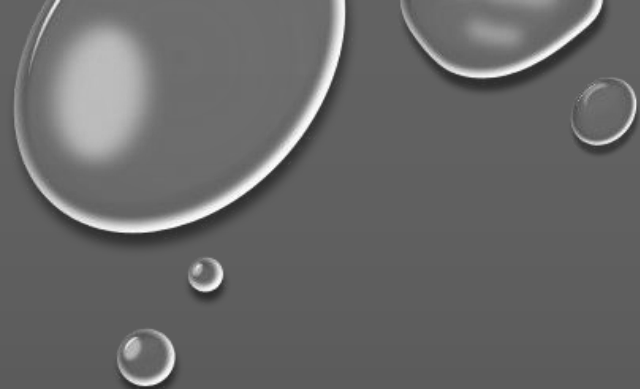


The background is a gradient of purple and blue, decorated with several realistic water droplets of various sizes. The droplets are rendered with highlights and shadows, giving them a three-dimensional appearance. They are scattered across the top and right sides of the frame.

# DEMYSTIFYING ANALYTICS

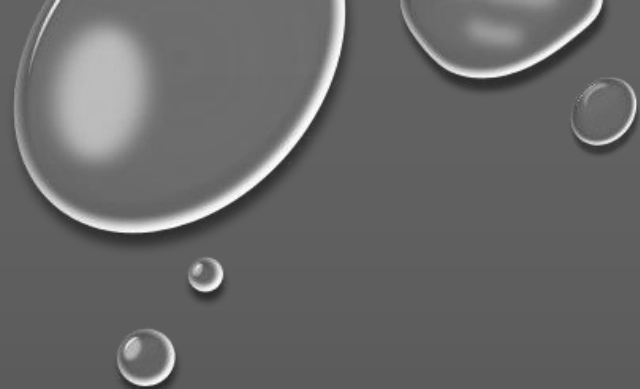
GREGORY RICHARDS

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SOME  
INITIAL  
IDEAS-TRUE  
OR FALSE?

- ARTIFICIAL INTELLIGENCE IS A FORM OF ANALYTICS
- MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE MEAN THE SAME THING
- ARTIFICIAL INTELLIGENCE CAN HELP IMPROVE DELIVERY OF PROGRAM RESULTS



**YOUR  
REALITY**

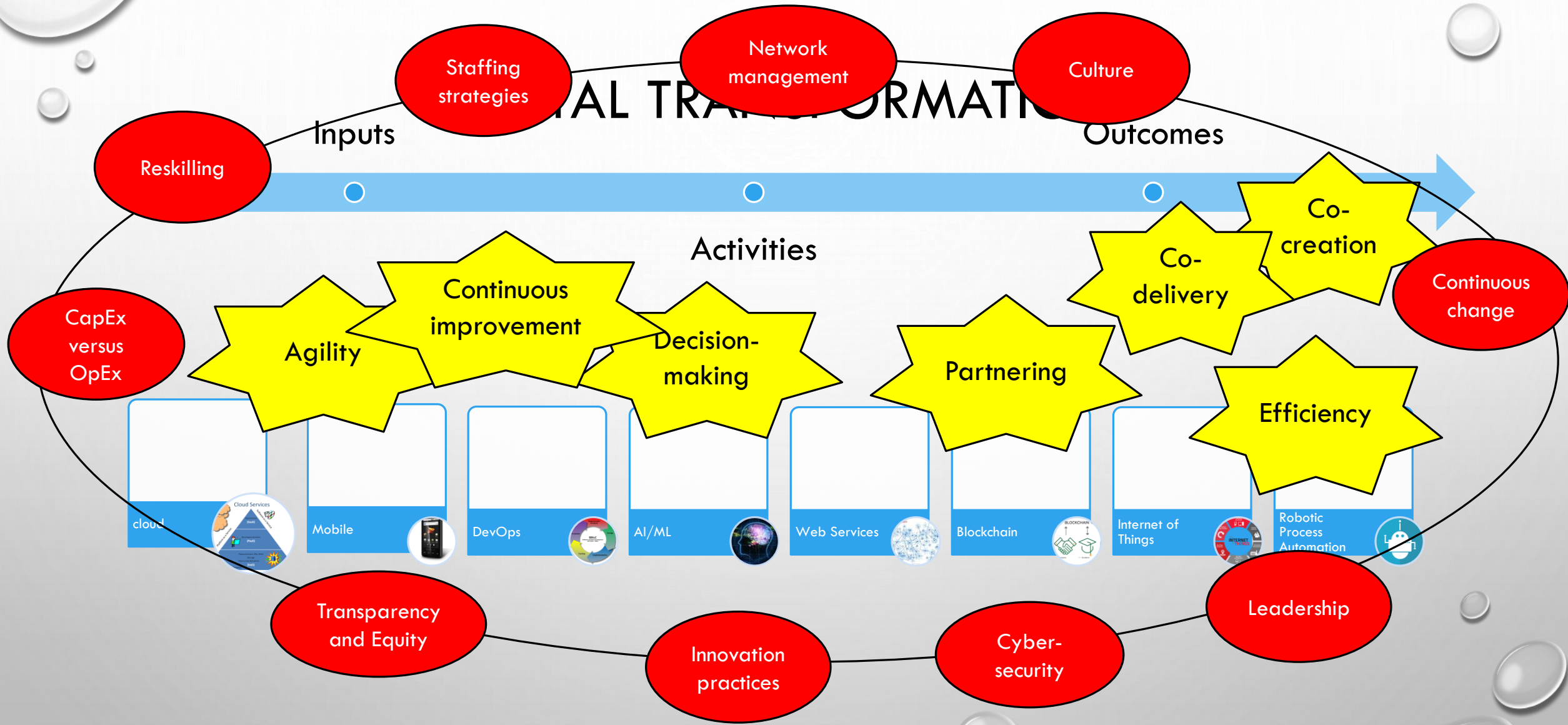
**FASTER**

**BETTER**

**LESS COSTLY**

**MORE RESPONSIVE**

# DIGITAL TRANSFORMATION





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# SOME DEFINITIONS



“Business analytics refers to the methodology employed by an organization to enhance its business and **make optimized decisions** by the use of statistical techniques i.e. collecting data, assembling and analyzing it to better their products, services, marketing etc.”



“Business analytics is a term that refers to the applications, practices, skills, and technologies that are necessary for a **complete investigation** of a company's past business performance.”



“Business analytics is the practice of iterative, methodical exploration of an organization's data with **emphasis on statistical analysis**. Business analytics is used by companies committed to data-driven decision making.”



“Business analytics can be defined as the extensive use of data, statistics, and modeling to make or **better understand past events and better predict future events**.”



Business analytics is a subset of BI based on **statistics, prediction, and optimization**.

# THE CASE STUDY



DEPARTMENT OF  
EDUCATION



4200 EMPLOYEES



HIERARCHICAL AND  
REGIONALIZED



SYSTEM OF  
SCHOOL BOARDS,  
SCHOOLS, TRUSTEES



HIGHLY UNIONIZED



4000 SCHOOLS-  
ELEMENTARY AND  
SECONDARY

# THREE THINGS TO CONSIDER



Humans don't  
act until they  
“know”



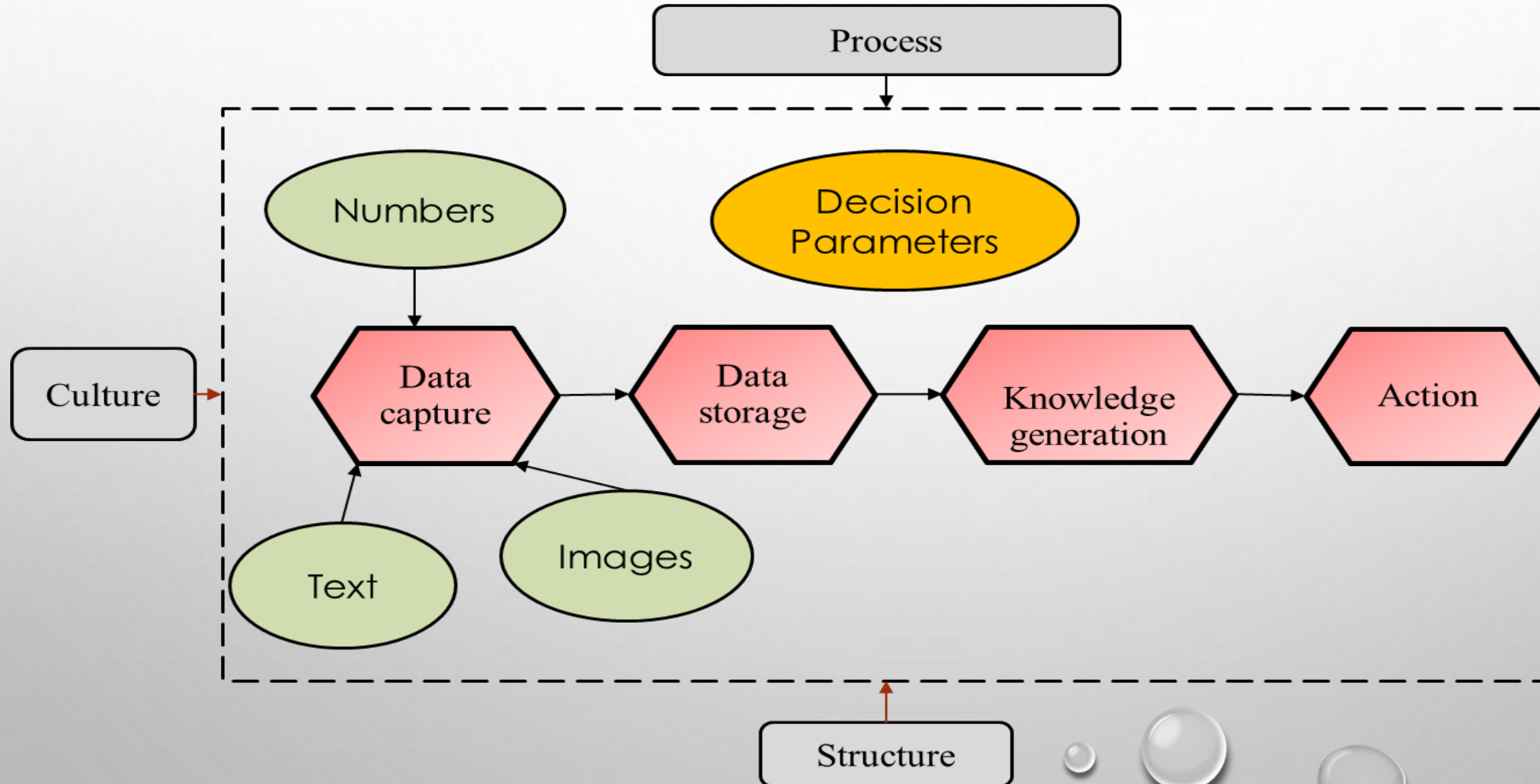
Coordinated  
human  
activities,  
especially  
those involving  
transactions,  
are based on  
trust



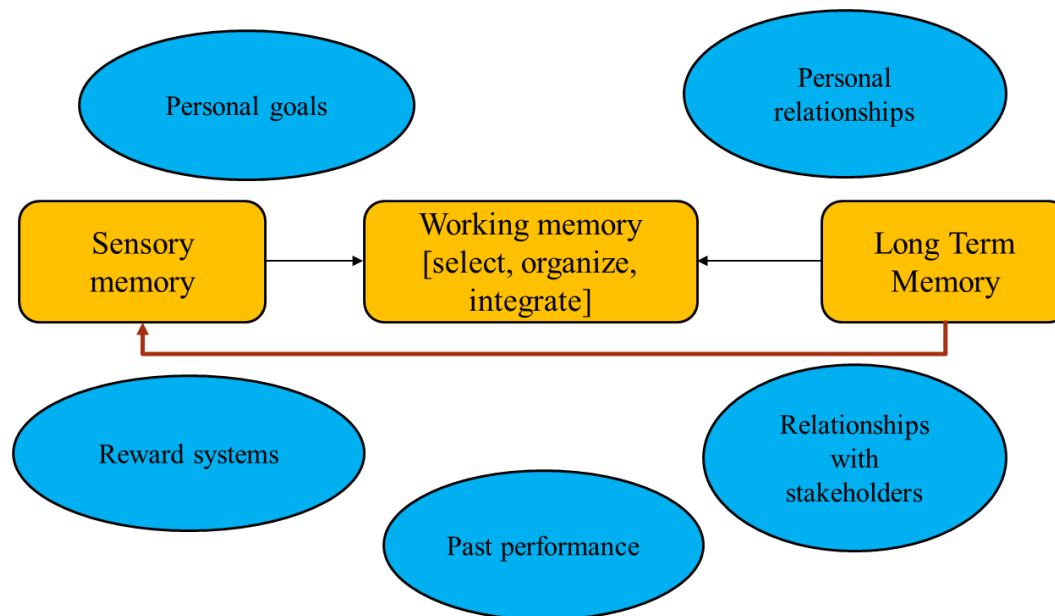
Trust includes  
freedom to  
speak the  
“truth”: a belief  
that is evidence-  
based, relevant,  
and timely



# THE TECHNICAL SYSTEM

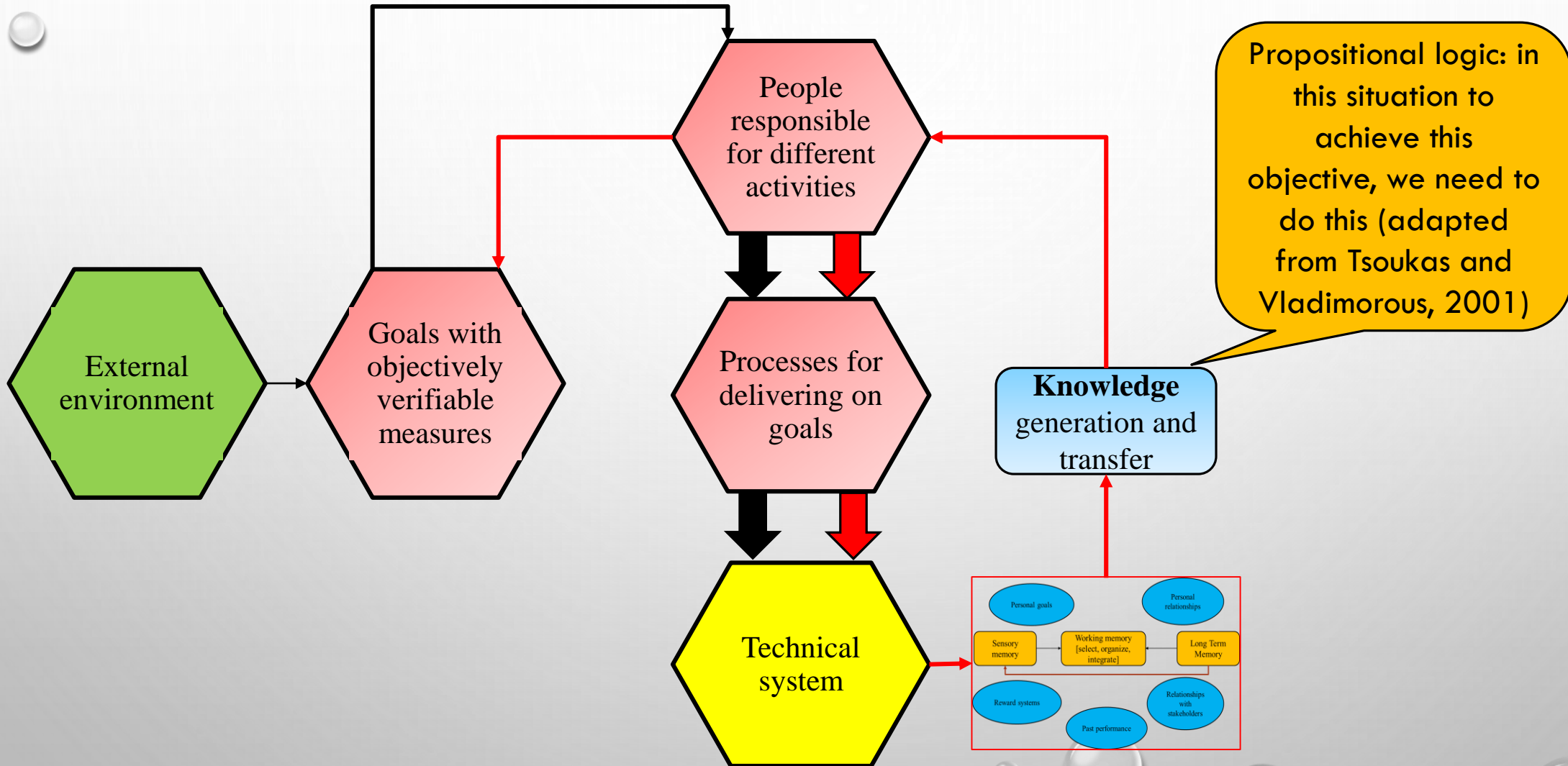


# THE SOCIAL SYSTEM



# THE SOCIO-TECHNICAL SYSTEM

11



A blue vertical bar on the left side of the slide, decorated with several realistic water droplets of various sizes. The droplets are rendered with highlights and shadows, giving them a three-dimensional appearance.

# DEMYSTIFICATION POINT NUMBER 1

THE USE OF ANALYTICS IS NOT  
ABOUT TECHNOLOGY

The background is a gradient of purple, transitioning from a lighter shade at the top to a darker shade at the bottom. Scattered across the background are several realistic water droplets of various sizes, some with highlights and shadows, giving them a three-dimensional appearance. The text "THE CASE STUDY" is centered in the middle of the image.

# THE CASE STUDY



# THE FIRST MANAGEMENT QUESTION

*HOW WILL MORE, OR BETTER  
ANALYZED DATA HELP US DELIVER  
ON PROGRAM OUTCOMES?*

HOW THE CASE  
STUDY  
ORGANIZATION  
ANSWERED THE  
FIRST  
QUESTION...BY  
FRAMING  
RESEARCH  
QUESTIONS

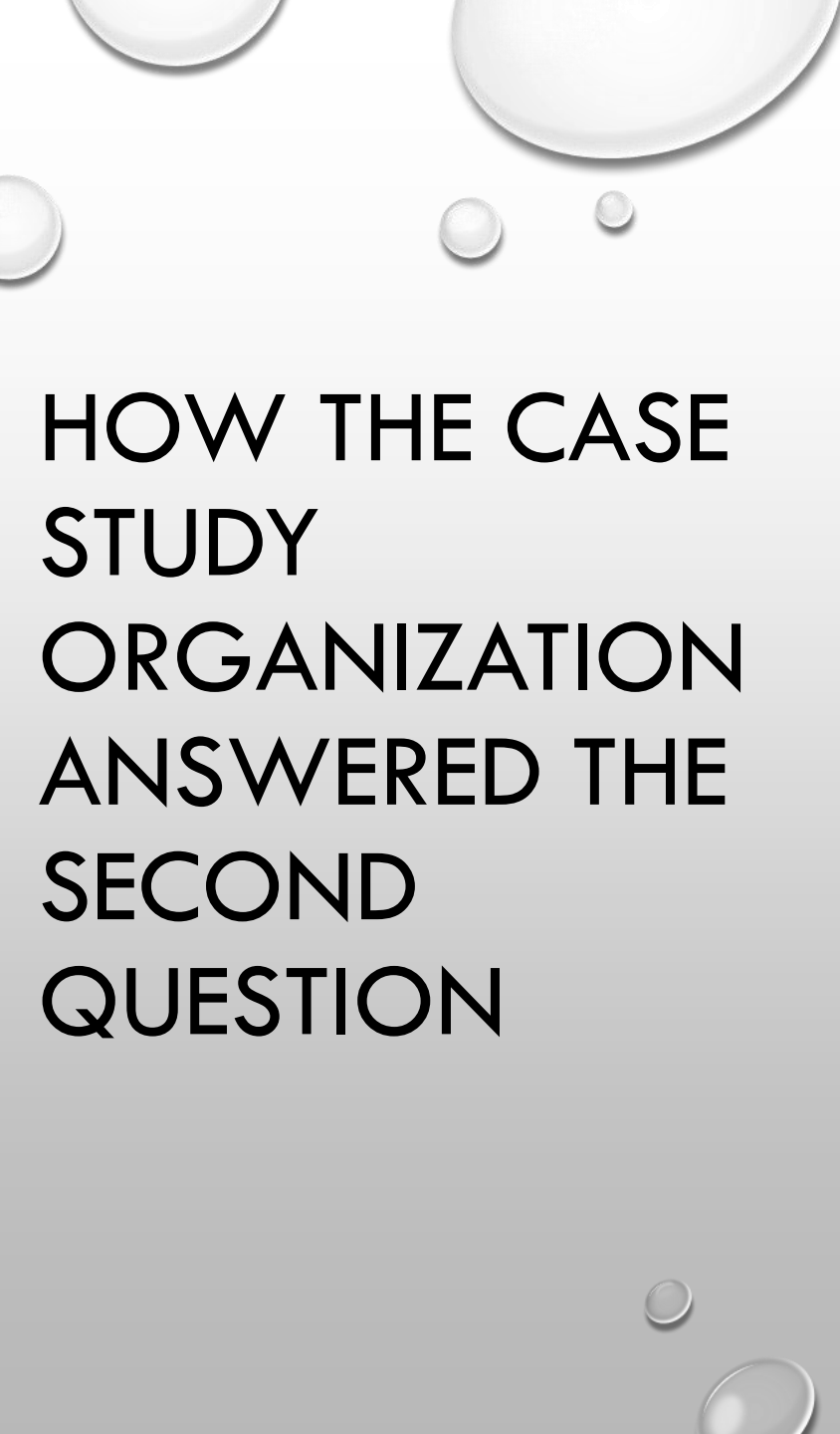
WHAT DON'T WE KNOW ABOUT  
GRADUATION RATES? SPECIFICALLY,  
WHAT IS THE CURRENT STATE? WHAT  
FACTORS INFLUENCE THE CURRENT  
STATE?



**THE SECOND  
MANAGEMENT  
QUESTION**

*WHAT DATA ARE AVAILABLE TO  
HELP US EXPLORE THE RESEARCH  
QUESTION?*





HOW THE CASE  
STUDY  
ORGANIZATION  
ANSWERED THE  
SECOND  
QUESTION

WHO KNOWS ANYTHING ABOUT  
GRADUATION RATES? WHO HAS  
ACCESS TO THE DATA? WHAT  
HYPOTHESES CAN WE GENERATE?  
HOW DO WE PROVE OR DISPROVE  
THE HYPOTHESES?

A blue vertical bar on the left side of the slide, decorated with several realistic water droplets of various sizes. The droplets are rendered with highlights and shadows, giving them a three-dimensional appearance.

# DEMYSTIFICATION POINT NUMBER 2

IN THE AGE OF DATA SCIENTISTS: WE  
NEED “MANAGER SCIENTISTS”



# THE THIRD MANAGEMENT QUESTION

*HOW CAN WE VALIDATE THE  
FINDINGS?*

A blue vertical bar on the left side of the slide, decorated with several realistic water bubbles of various sizes. The bubbles are rendered with highlights and shadows, giving them a three-dimensional appearance.

## DEMYSTIFICATION POINT NUMBER 3

THE “ANSWER” ONLY BECOMES TRUE  
IF IT IS SOCIALIZED



# THE FOURTH MANAGEMENT QUESTION

*HOW CAN WE BUILD  
ENGAGEMENT AROUND THE  
PROPOSED SOLUTION?*

A blue vertical bar on the left side of the slide, decorated with several realistic water droplets of various sizes. The droplets are rendered with highlights and shadows, giving them a three-dimensional appearance.

## DEMYSTIFICATION POINT NUMBER 4

**SOCIALIZATION REQUIRES EVIDENCE,  
VALIDATION AND PATIENCE**



# THE FIFTH MANAGEMENT QUESTION

*HOW CAN WE ROLL OUT THE  
SOLUTION WITHOUT CREATING  
TOO MUCH TURBULENCE?*



## THE ANSWER TO QUESTION 5

- *PILOT, REFLECT AND ADJUST*
- *COUNT ON “GOING VIRAL” AS  
OPPOSED TO PUSHING  
ADOPTION*
- *UNDERSTAND AND MITIGATE  
THREATS TO INDIVIDUALS AND  
GROUPS*





## SUMMARY: FIVE QUESTIONS

1. HOW WILL MORE, OR BETTER-ANALYZED DATA HELP US DELIVER ON PROGRAM OUTCOMES?
2. WHAT DATA ARE AVAILABLE TO HELP US EXPLORE RESEARCH QUESTIONS RELATED TO THE OUTCOMES WE ARE SUPPOSED TO DELIVER?
3. HOW CAN WE VALIDATE THE FINDINGS?
4. HOW CAN WE BUILD ENGAGEMENT AROUND THE PROPOSED SOLUTION?
5. HOW CAN WE ROLL OUT THE SOLUTION WITHOUT CREATING TOO MUCH TURBULENCE?



## SUMMARY- DEMYSTIFICATION POINTS

1. THE USE OF ANALYTICS IS NOT ABOUT TECHNOLOGY
2. IN THE AGE OF DATA SCIENTISTS: WE NEED “MANAGER SCIENTISTS”
3. THE “ANSWER” ONLY BECOMES TRUE IF IT IS SOCIALIZED
4. SOCIALIZATION REQUIRES EVIDENCE, VALIDATION AND PATIENCE

The background is a gradient of purple, transitioning from a lighter shade at the top to a darker shade at the bottom. Scattered across the background are numerous water droplets of various sizes, some with highlights and shadows, giving them a three-dimensional appearance. The droplets are most concentrated in the top-left and bottom-right corners.

THANK YOU

GREGORY RICHARDS

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