

How Organizations can gain Strategic Advantage when everyone is applying AI



Ganes Kesari

Gramener

Photo by Samuel Zeller on Unsplash



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@matvelloso

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Difference between machine learning
and AI:

If it is written in Python, it's probably
machine learning

If it is written in PowerPoint, it's
probably AI

6:55 AM - 23 Nov 2018

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204



8.5K



24K



INTRODUCTION

Ganes Kesari
Co-founder & Head
of Analytics



*“Simplify Data
Science for all”*

Insights as Stories

Gramener

100+ Clients



Microsoft



Deloitte.

BILL & MELINDA
GATES foundation

groupm



THE WORLD BANK

Help apply & adopt
Analytics

*Our data science platform,
Gramex is now open-sourced!*

TODAY, WE ARE IN THE AGE OF AI, BUT..

“
80% of analytics insights will not deliver business
outcomes through 2022.

- [Gartner](#), Jan 2019

HOW NOT TO START YOUR AI JOURNEY



WHAT LEADS TO FALSE STARTS?

**Interesting
vs
Impactful**

**Urgent
vs
Strategic**

**Possible
vs
Feasible**

“

Most insights don't deliver business benefits
because they solve the **wrong problem**

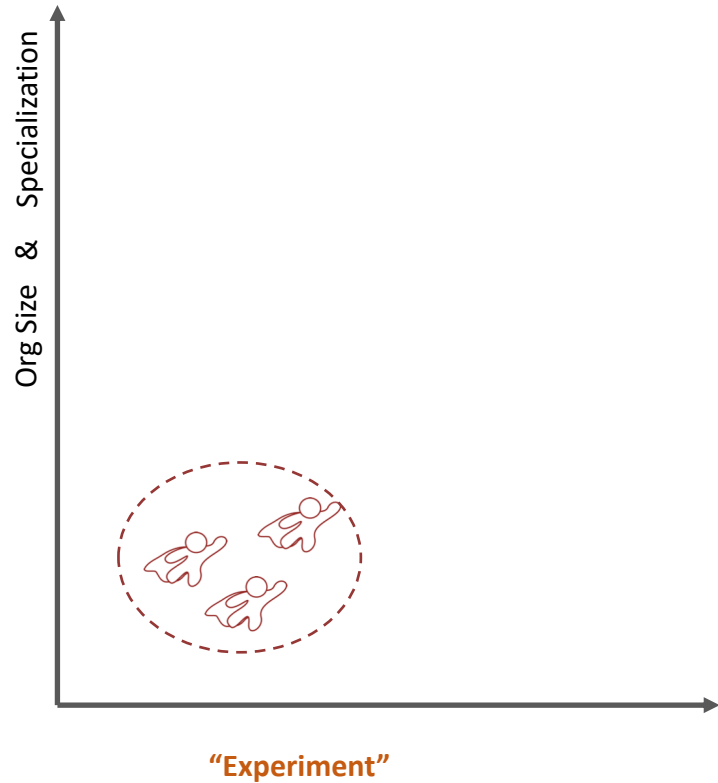
LET'S DO A QUICK POLL

- 1 Open a browser on any laptop, tablet or smartphone
- 2 Go to **slido.com**

THE 3 STAGES TO ORGANIZATIONAL DATA SCIENCE MATURITY



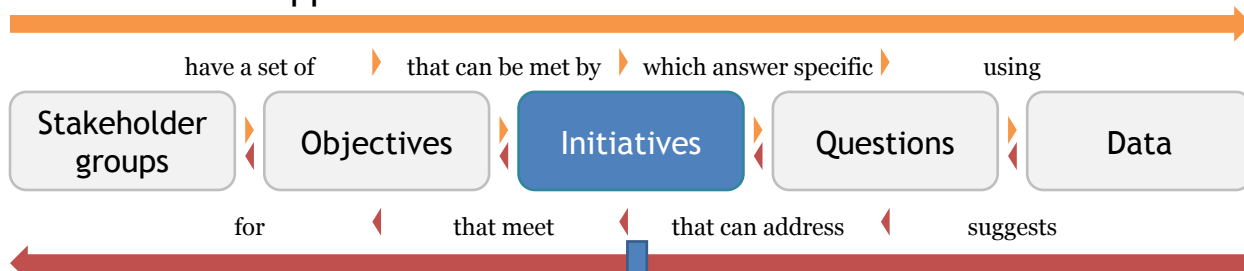
PHASE 1: “EXPERIMENT”



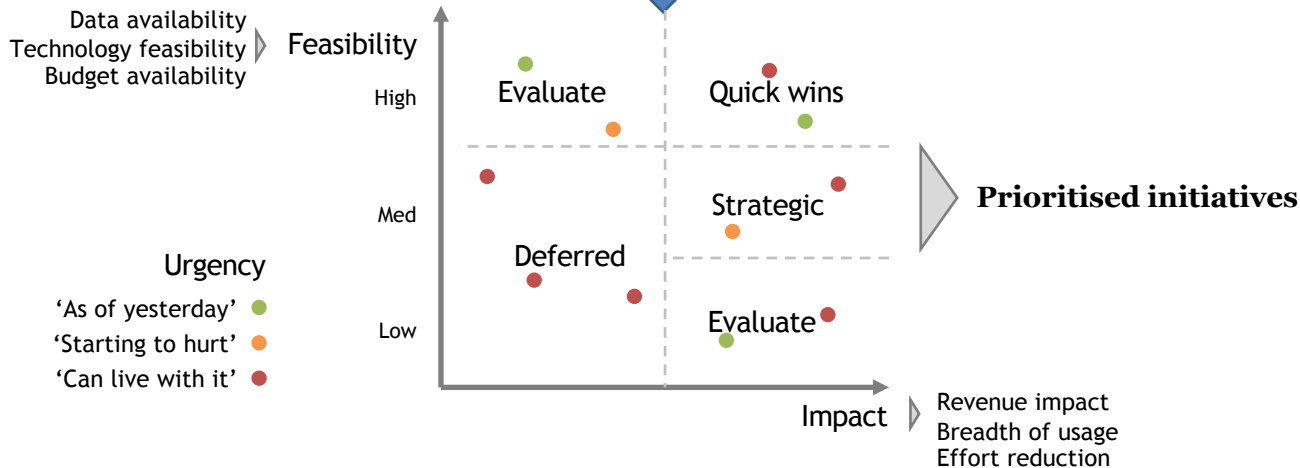
- Start from the top
- Align with strategic priorities
- Build a data science roadmap

ASK EXECUTIVES FOR THEIR TIME, NOT JUST THEIR BUDGET

1 Business driven approach

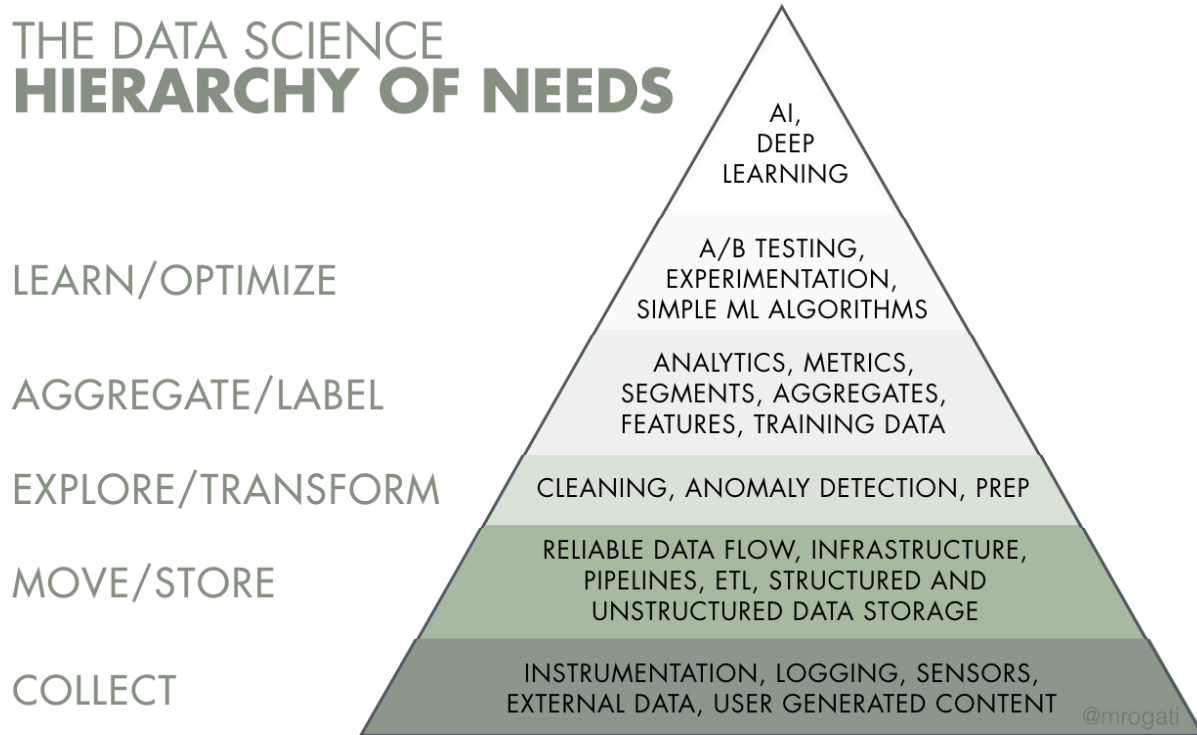


2 Data driven approach

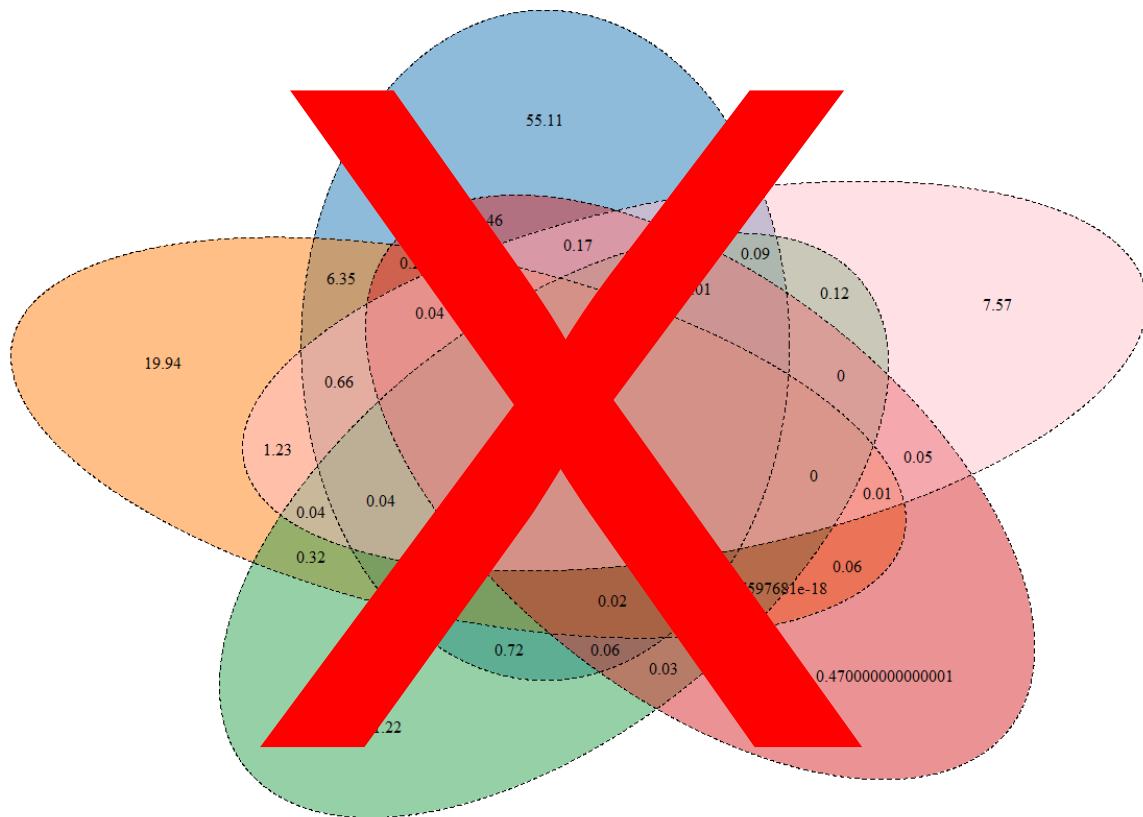


DATA BEFORE AI

THE DATA SCIENCE HIERARCHY OF NEEDS



WHAT SKILLS DO YOU NEED?



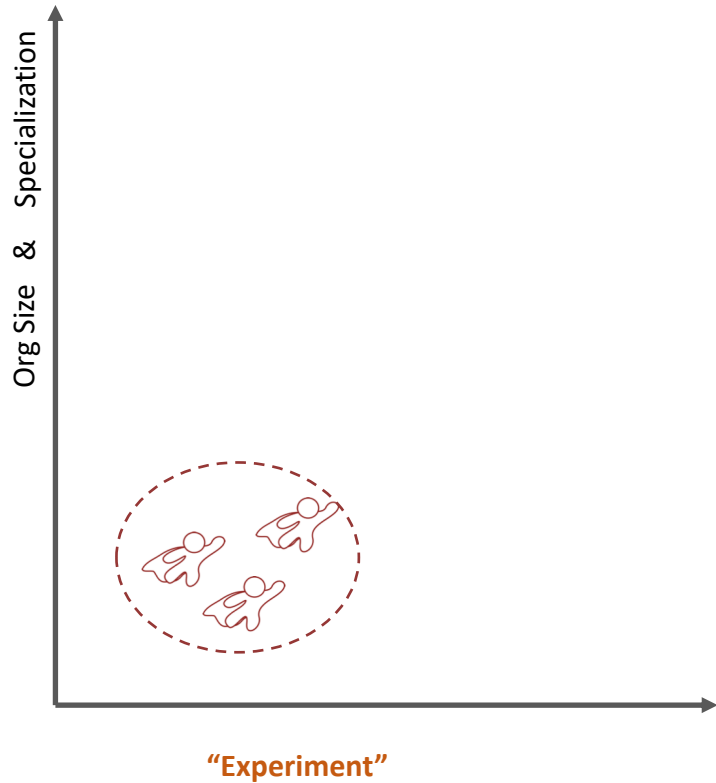
- Start with Generalists
- Breadth, more than depth
- Strong business alignment
- Curiosity
- Learn on the go

WHAT TOOLS DO YOU NEED?

Alteryx	ggplot2	MongoDB	SAS
Amazon EC2	Hadoop	NodeXL	Spark
Azure ML	HP Vertica	Pandas	Spotfire
BigQuery	IBM Watson	Pentaho	SPSS
Birst	Impala	Pivotal	SQL Server
Caffe	Julia	PowerPoint	Stanford NLP
Cassandra	Jupyter Notebook	Power BI	Storm
Cloud Compute	Kafka	Qlikview	SVM
Cloudera	Kibana	R	Tableau
Cognos	Kinesis	R Studio	TensorFlow
CouchDB	Lambda	Random Forest	Teradata
D3	Leaflet	Redis	Theano
Decision tree	Logstash	Redshift	Thrift
ElasticSearch	MapR	Regression	Torch
Excel	MapReduce	Revolution R	Weka
Gephi	Matplotlib	S3	Word2Vec
	Microstrategy	SAP Hana	

The tool does not matter. A person's skill with the tool does.
Pick the person. Let them pick the tool.

PHASE 1: “EXPERIMENT”



- Start from the top
- Align with strategic priorities
- Build a data science roadmap
- Get the data right
- Start with generalists
- The tool doesn't matter
- Organize as a central AI 'hub'

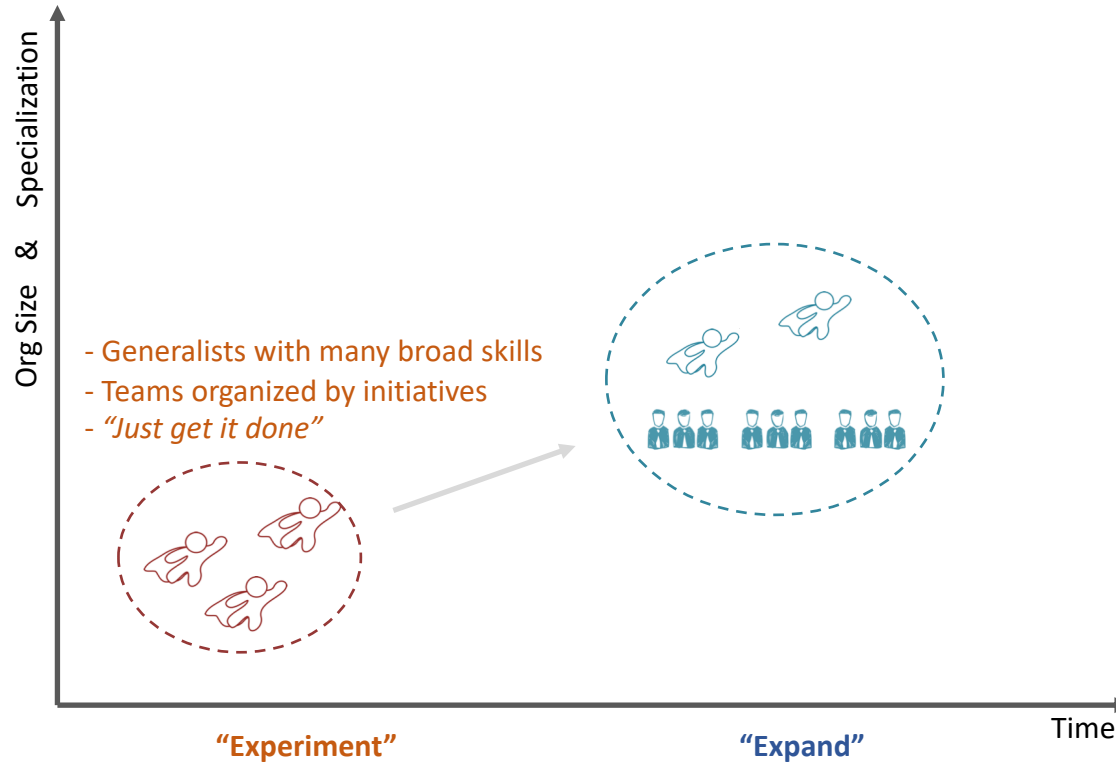
“

Start where you are. Use what you have. Do what you can

- Arthur Ashe

Deep Learning at Google

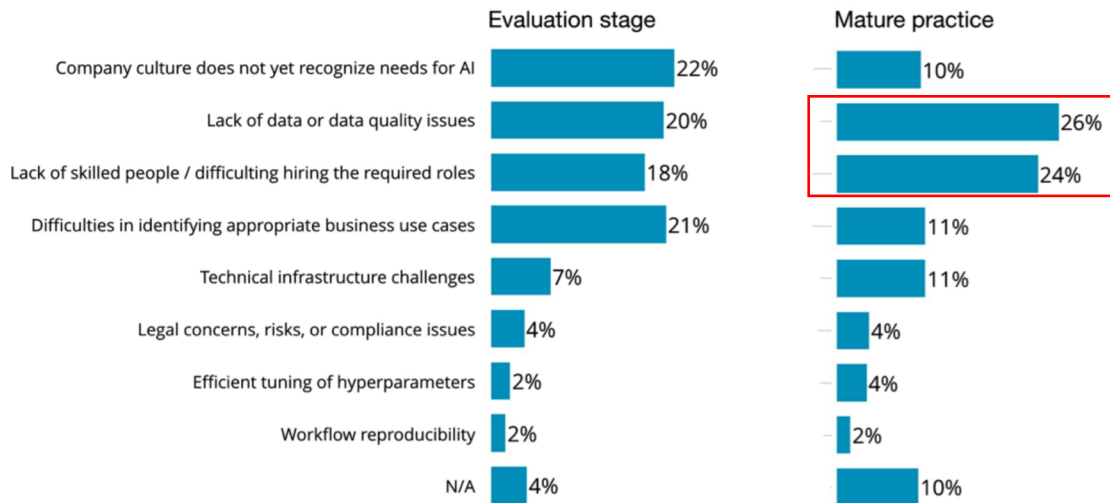
PHASE 2: “EXPAND”



- Transition from pilots to projects
- Map deeper with chosen Business units
- Extend relationship with sponsors
- Expand your data footprint

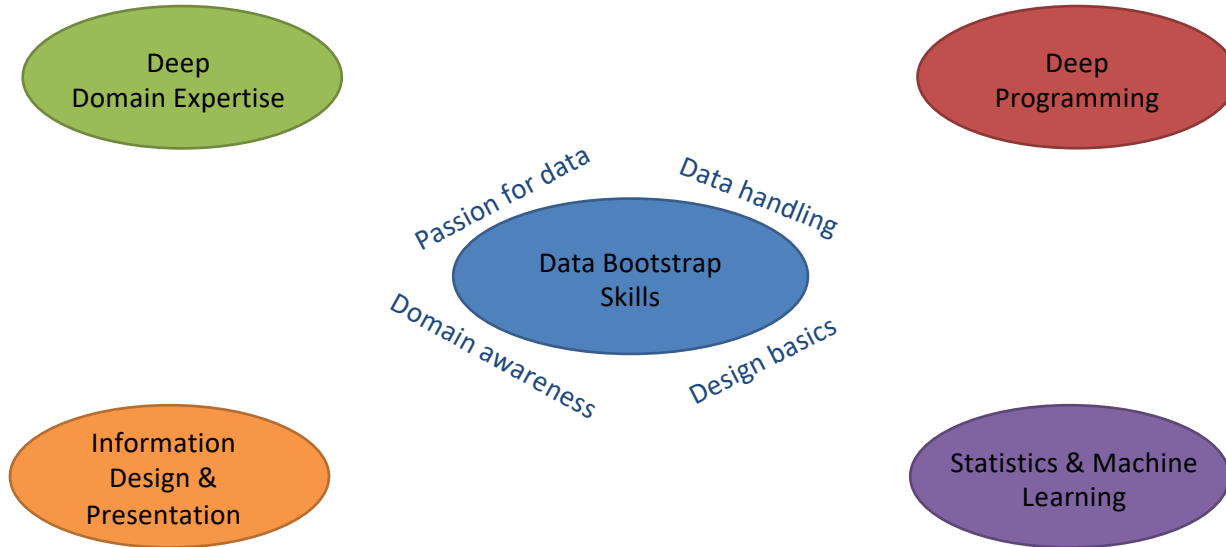
WHAT'S HOLDING BACK COMPANIES AT THIS STAGE?

What is the main bottleneck holding back further AI adoption? (Select one.)



Percentage of respondents (at a given stage of AI adoption) who selected given option

WHAT SKILLS ARE NEEDED?



WHAT SKILLS ARE NEEDED?

Deep
Domain
Expertise

Deep
Programming

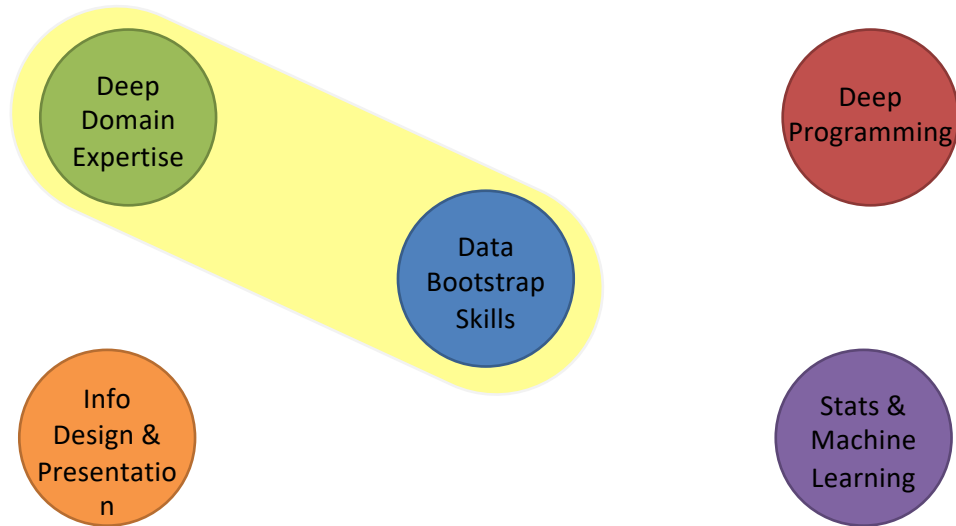
Data
Bootstrap
Skills

Info
Design &
Presentatio
n

Stats &
Machine
Learning

WHAT SKILLS ARE NEEDED?

Functional Consultant
a.k.a Data Translator

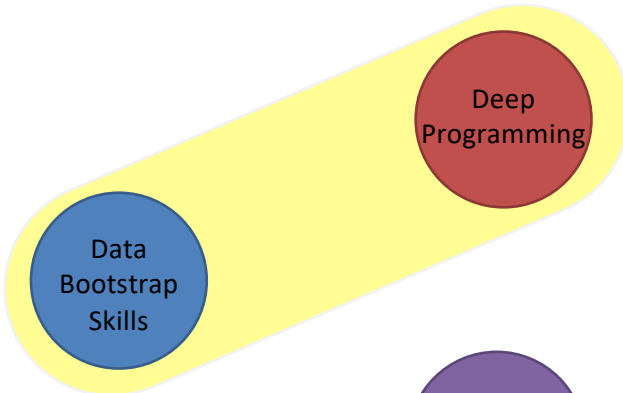


WHAT SKILLS ARE NEEDED?

ML Engineer

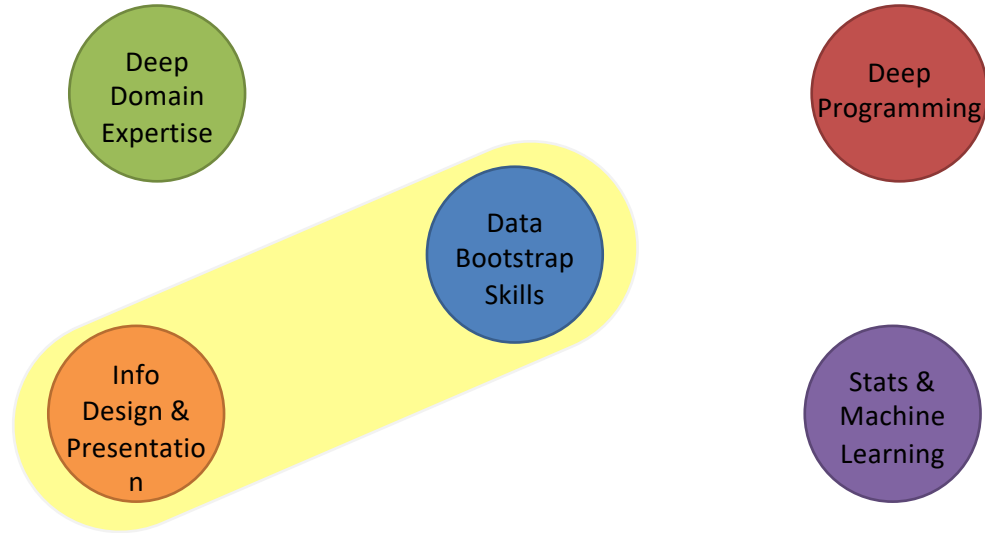
Deep
Domain
Expertise

Info
Design &
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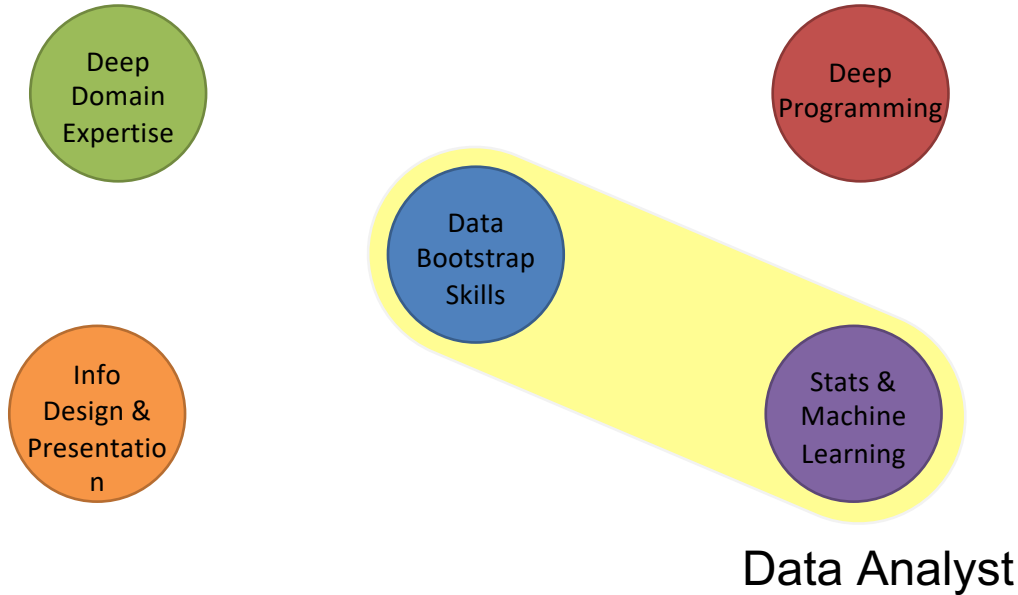
Stats &
Machine
Learning

WHAT SKILLS ARE NEEDED?

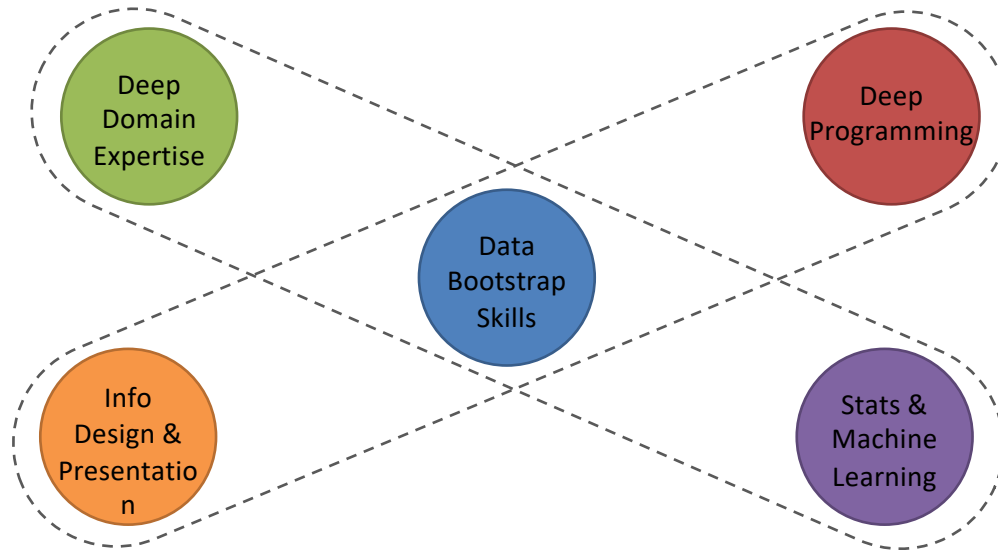


Information Designer

WHAT SKILLS ARE NEEDED?

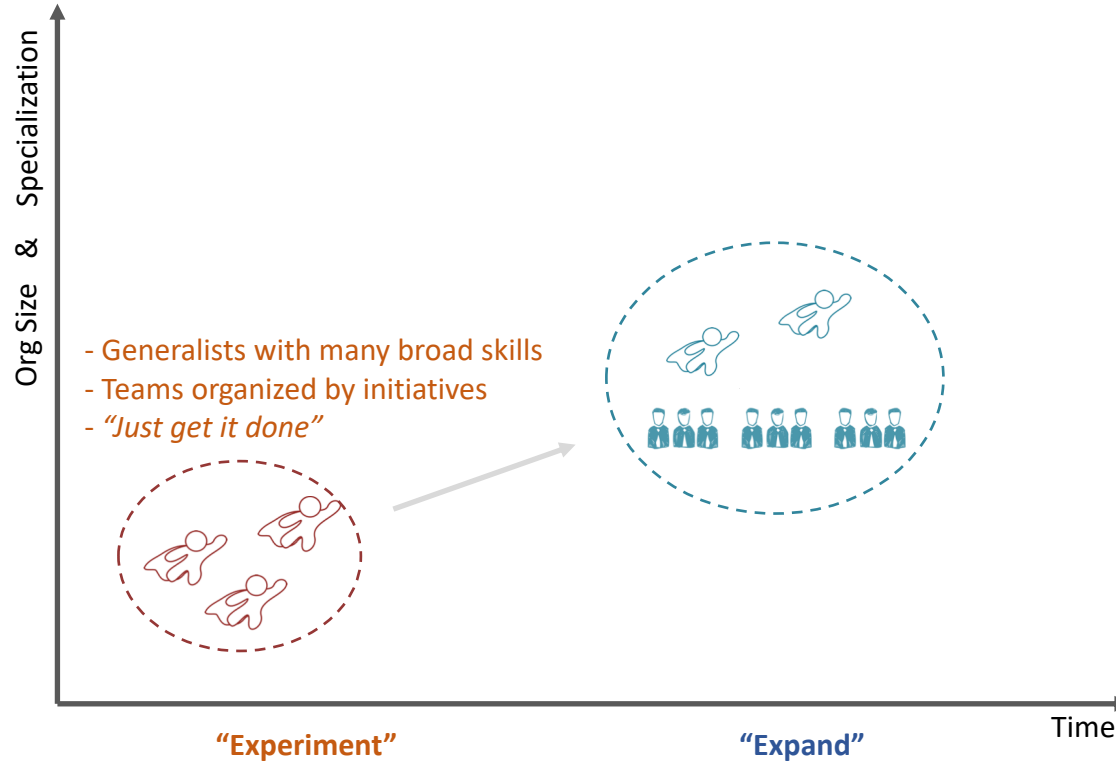


WHAT SKILLS ARE NEEDED?



..but watch out for over-specialization and siloed operation

PHASE 2: “EXPAND”



- Transition from pilots to projects
- Map deeper with chosen Business units
- Extend relationship with sponsors
- Expand your data footprint
- Bring in the specialists
- Plan skill-based teams
- Evolve your execution model

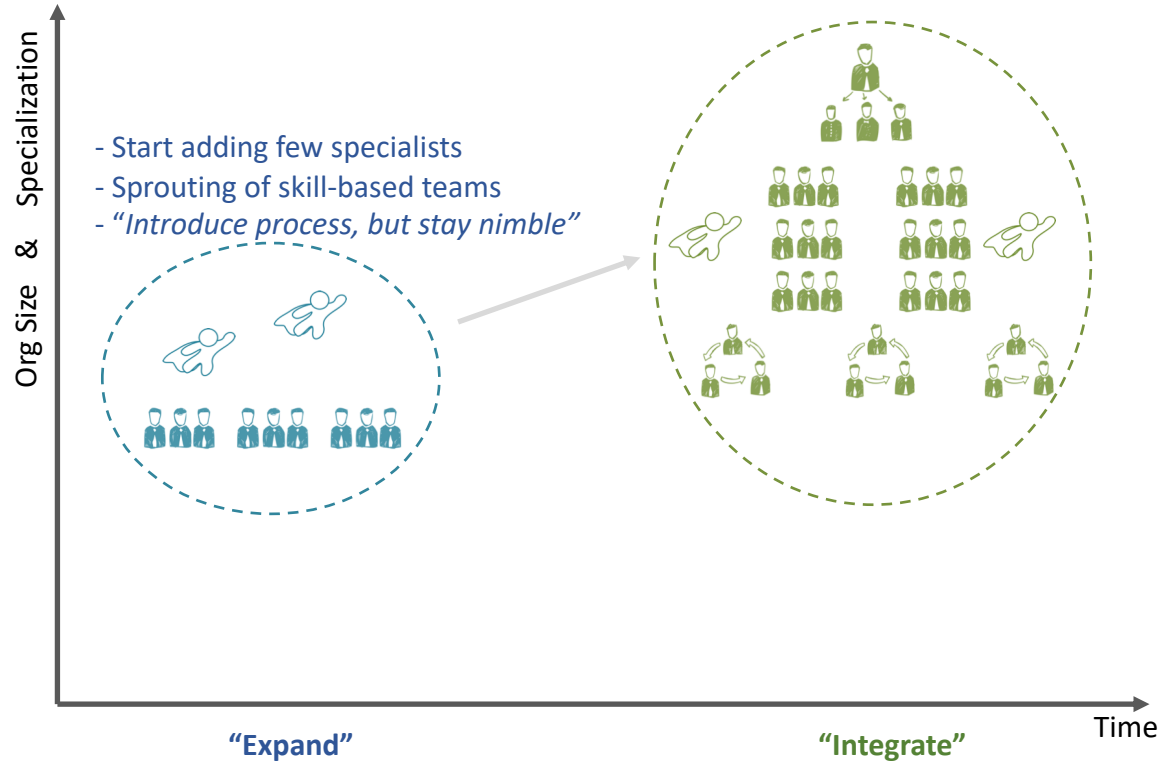
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If you only do things where you know the answer in advance, your company goes away.

- Jeff Bezos, Amazon

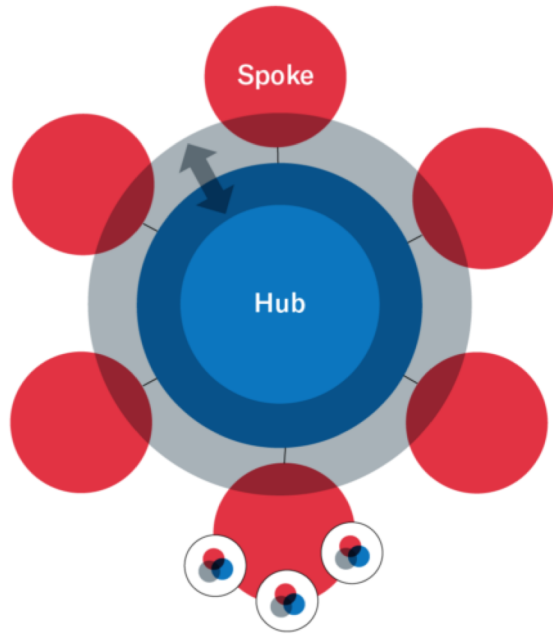
Customer Experience Analytics at a Technology Player

PHASE 3: "INTEGRATE"



- Insights business-as-usual
- Diffused org-wide

ORGANIZING FOR SCALE: HUB-AND-SPOKE MODEL



Hub

Central group headed by a C-level analytics executive



Spoke

Market-facing Business unit that owns & manages the AI product



Gray area

Work with overlapping responsibilities



Execution teams

Dynamic teams assembled from the hub, spoke & gray area

From: "Building the AI-Powered Organization,"
by Tim Fountaine, Brian McCarthy, and Tamim Saleh,
July-August 2019

HBR

UNCOVER YOUR DARK DATA

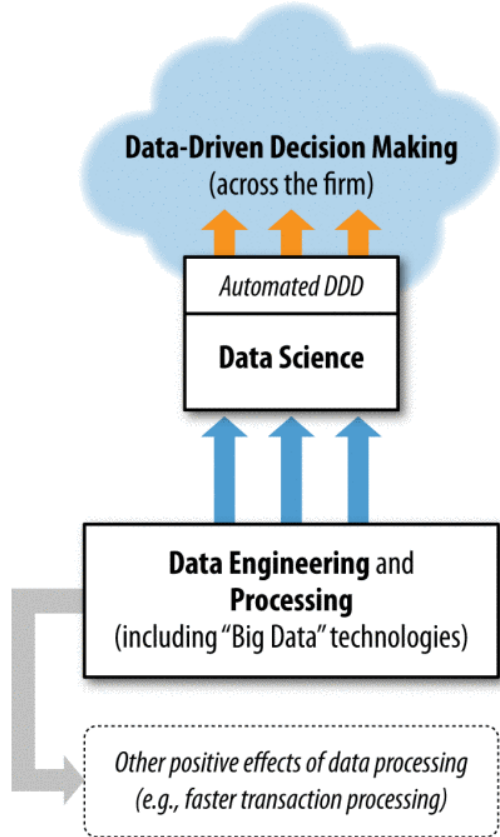
- **INACCESSIBLE** data (e.g. technology is outdated)
- **FORGOTTEN** data (e.g. collected, but not actively used)
- **UNCOLLECTED** data (e.g. information exists, not digitized)
- **SINGLE PURPOSE** data (e.g. used for a specific purpose)

Information of extreme size, diversity and complexity



CRM > ERP > Data Warehouse > Web > Social > Log Files > Machine Data > Semi-Structured > Unstructured

INCULCATE A DATA CULTURE



Action is the product

Culture is the key enabler

Process is the differentiator

Insight is the product

Analysis is the key enabler

Skills are the differentiator

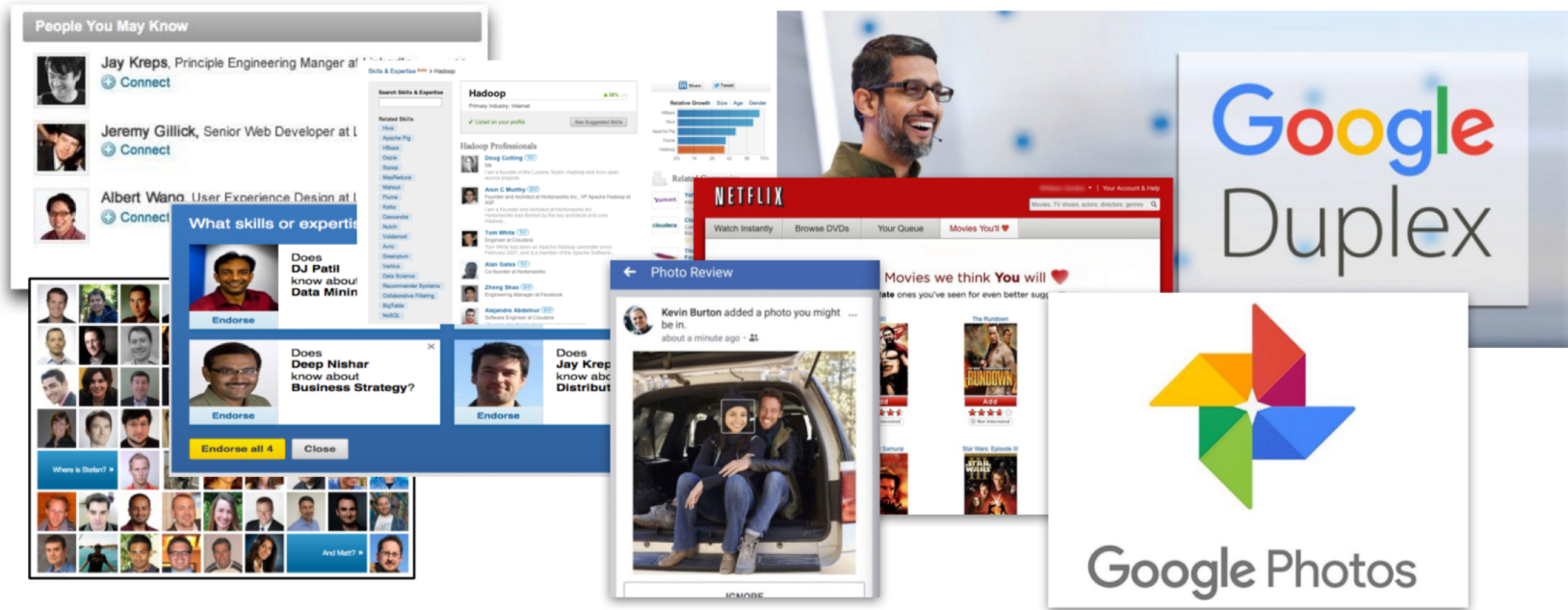
Data is the product

IT is the key enabler

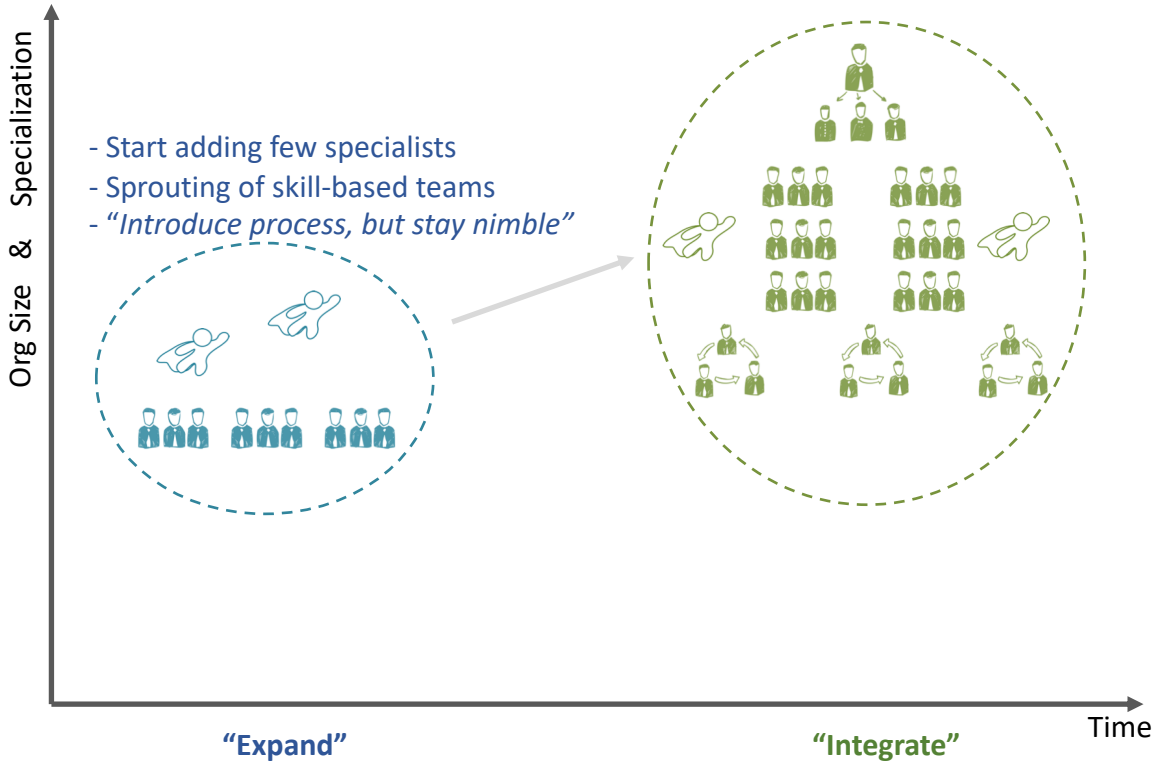
Tools are the differentiator

AMAZON, GOOGLE, MICROSOFT ARE REORGANIZING THEMSELVES AROUND AI

Automated systems that collect and learn from data to make user facing decisions with machine learning



PHASE 3: "INTEGRATE"



- Analytics business-as-usual
- Diffused org-wide
- Hub-and-spoke model
- Enable continuous change
- Setup experimentation labs
- *"Excel at mature execution"*

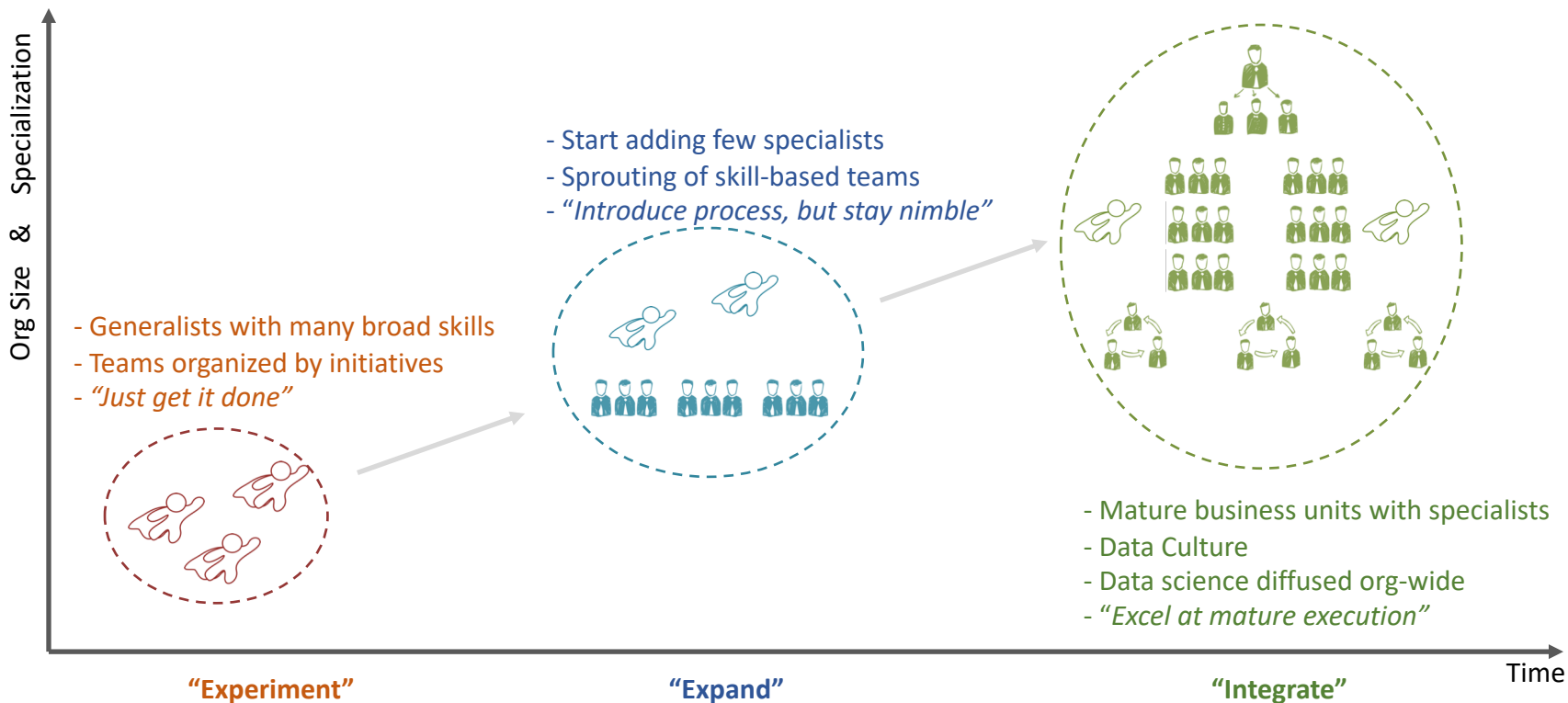
“

Perfection is not attainable, but if we chase
perfection, we can catch **excellence**

- *Vince Lombardi*

Analytics Culture at Netflix

WRAP-UP – SCALING WITH AI: 3 STAGES OF MATURITY



Thank You!

Presentation deck with references at

gkesari.com/BA-Con19



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