Corporate Strategy

Sitraka FORLER
Digital Transformation - Senior Data Scientist

March 2025

amse
école d'économie d'aix-marseille
aix-marseille school of economics

Everyday

Corporate Strategy

Part II. Implementation & Planning

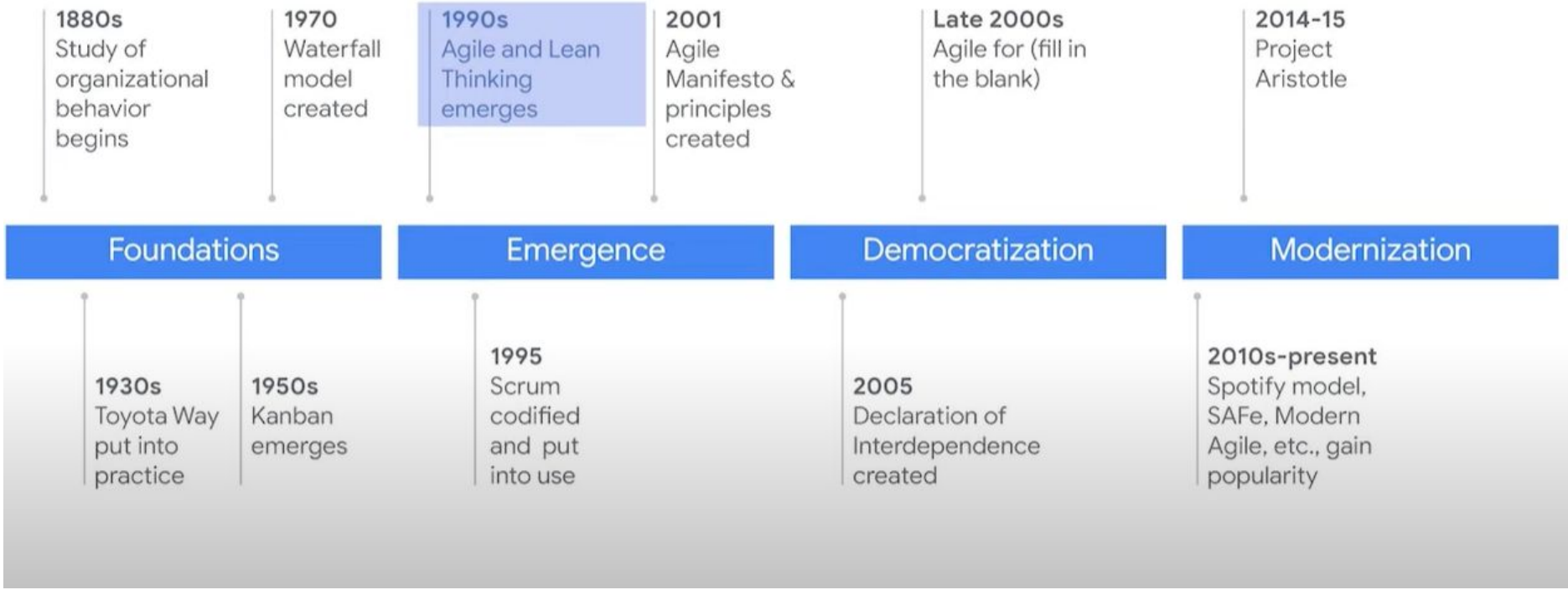
Summary

Project

Corporate Strategy

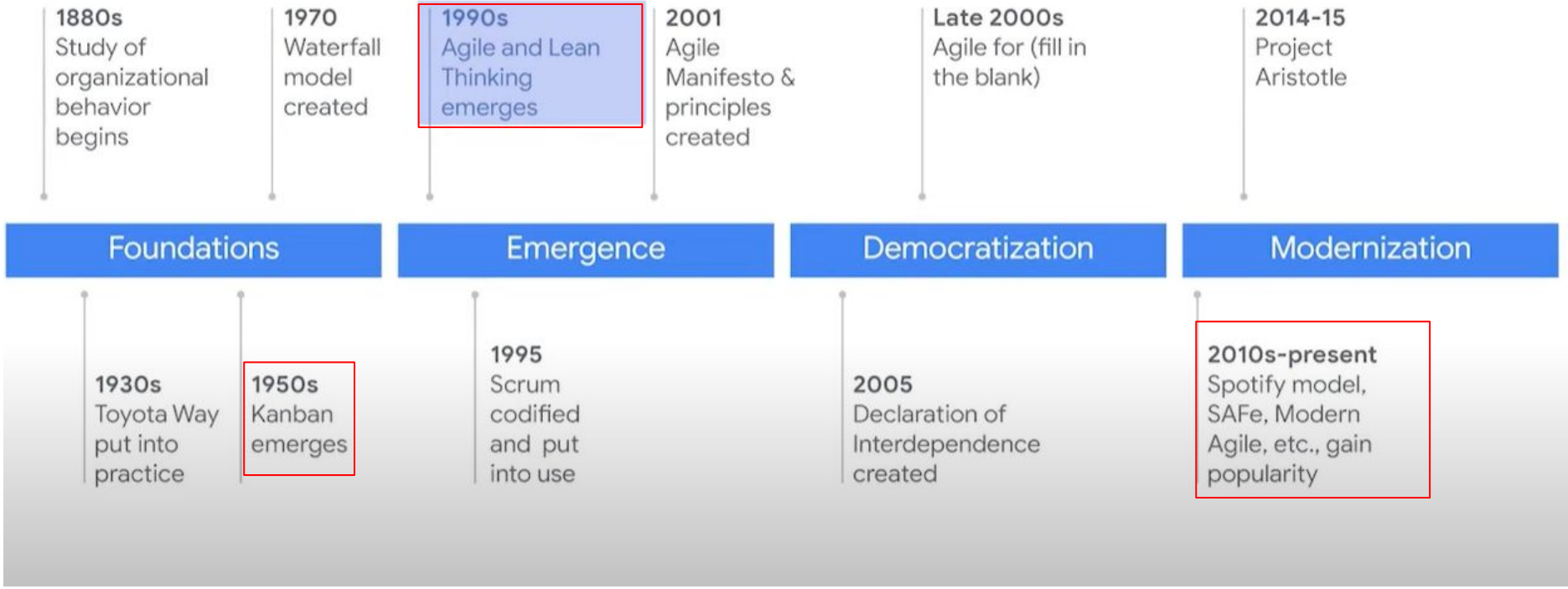
"Good, fast, cheap. Choose two." as stated in the Common Law of Business Balance (often expressed as "You get what you pay for.")

Agile in historical context



source: Google Agile Certification

Agile in historical context



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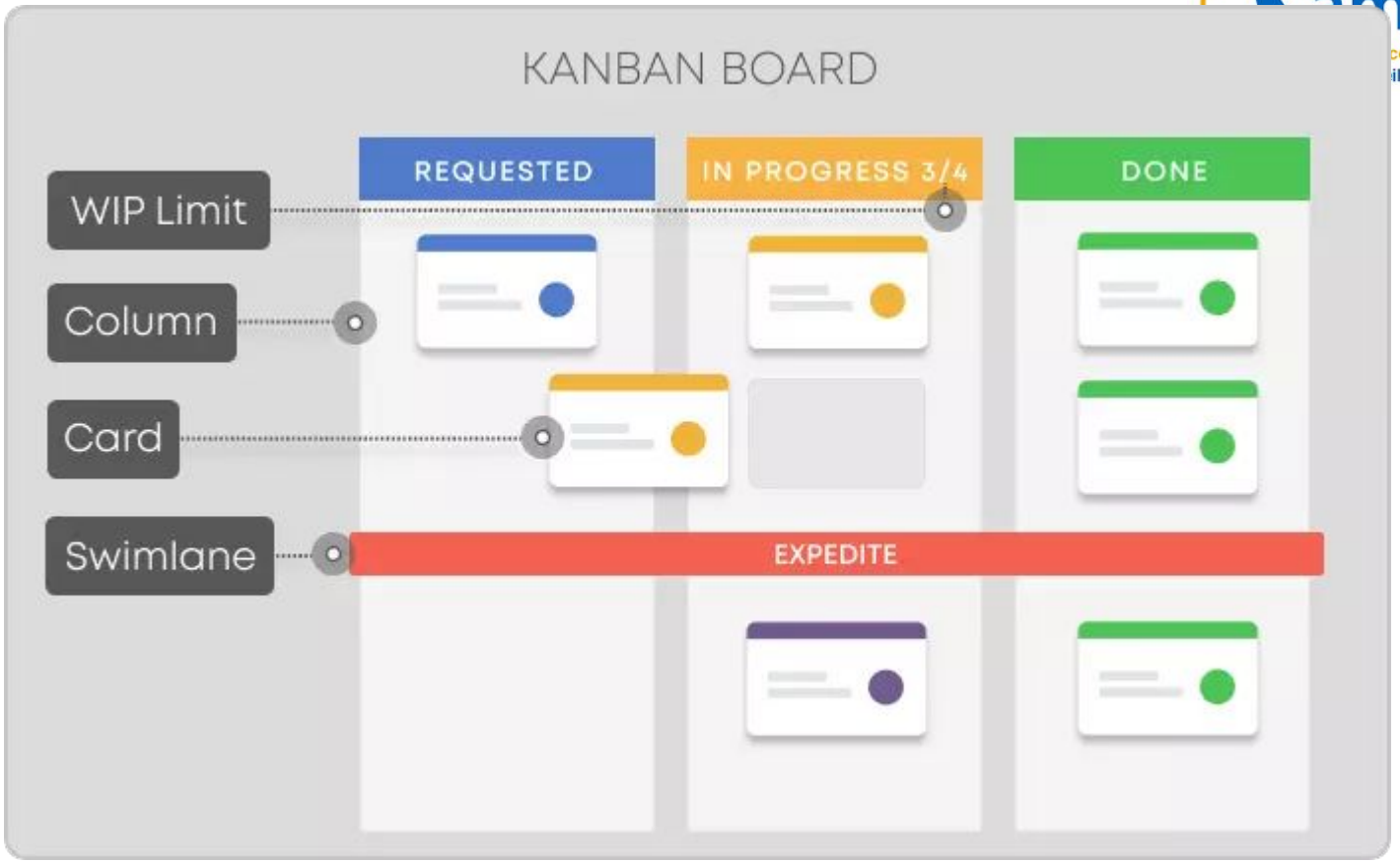

KANBAN BOARD
REQUESTED
IN PROGRESS 3/4
DONE
WIP Limit
Column
Card
Swimlane
EXPEDITE

Proof-of-concept

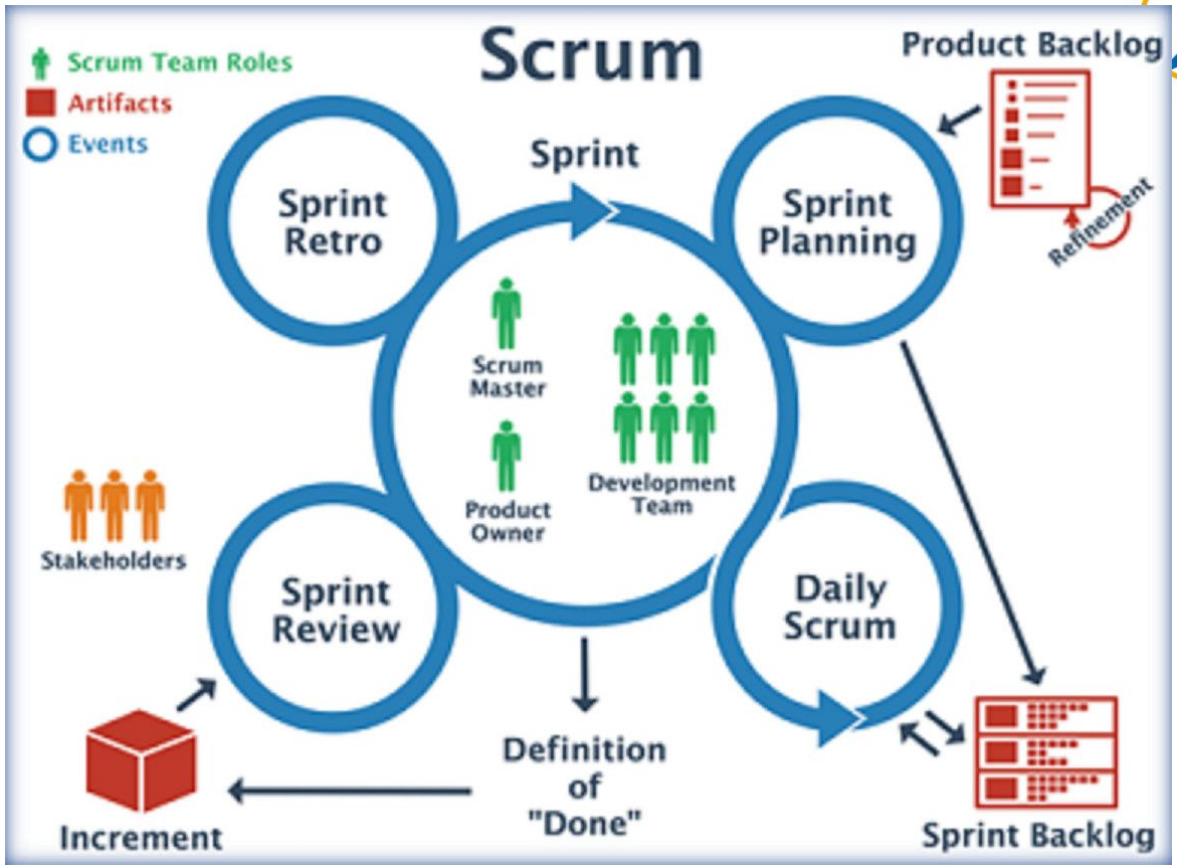
Identifying technical feasibility of the idea. Is it doable?

Prototype

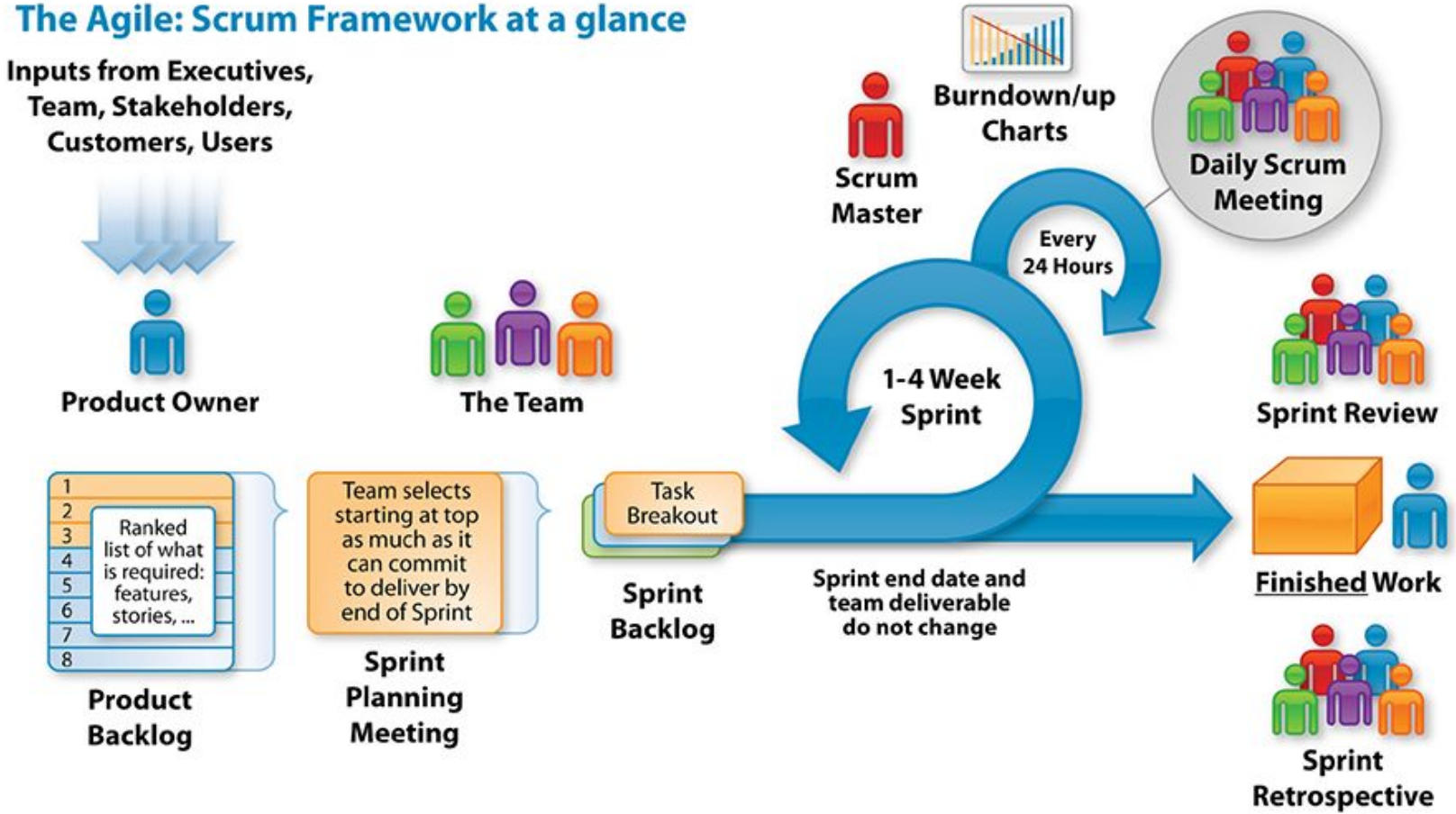
Visualizing product, presenting it to stakeholders, testing it with end-users. How will my product look like?

Minimum viable product

Providing basic functionality of the product that can be launched into the market. Will my product be viable?


Scrum
Scrum Team Roles
Artifacts
Events
Product Backlog
Refinement
Sprint
Sprint Retro
Sprint Planning
Scrum Master
Development Team
Product Owner
Stakeholders
Sprint Review
Daily Scrum
Definition of "Done"
Increment
Sprint Backlog

The Agile: Scrum Framework at a glance



12 AGILE PRINCIPLES

01 Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.	02 Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.	03 Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
04 Business people and developers must work together daily throughout the project.	05 Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.	06 Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
07 Working software is the primary measure of progress.	08 The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.	09 Continuous attention to technical excellence and good design enhances agility.
10 Simplicity – the art of maximizing the amount of work not done – is essential.	11 The best architectures, requirements, and designs emerge from self-organizing teams.	12 At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

12 agile principles

in software development

Customer satisfactions

Changing requirements

Frequent delivery

Communicate regularly

Support team member

Face-to-face communication

Measure work progress

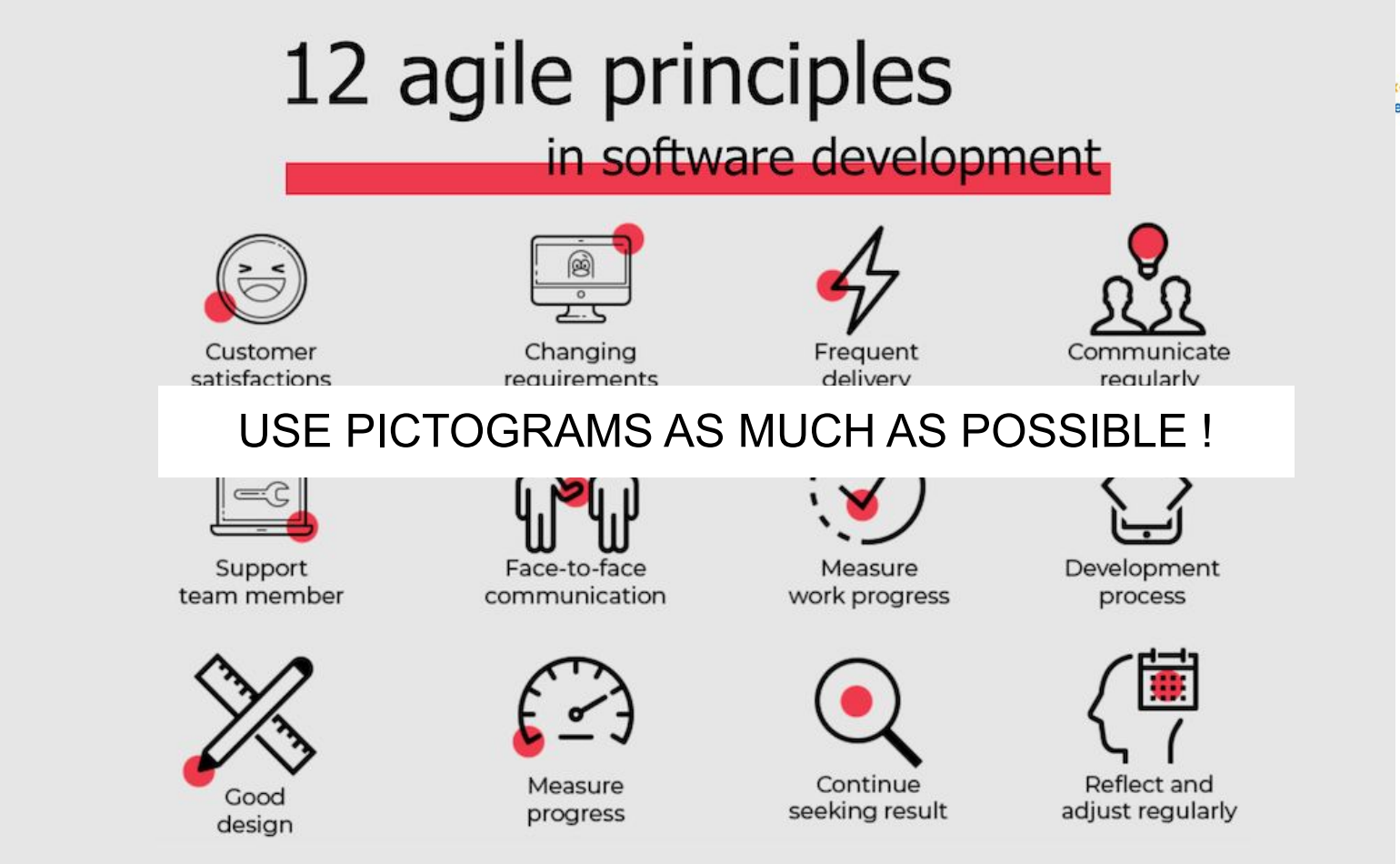
Development process

Good design

Measure progress

Continue seeking result

Reflect and adjust regularly


12 agile principles
in software development
Customer satisfactions
Changing requirements
Frequent delivery
Communicate regularly
USE PICTOGRAMS AS MUCH AS POSSIBLE !
Support team member
Face-to-face communication
Measure work progress
Development process
Good design
Measure progress
Continue seeking result
Reflect and adjust regularly

5 vital Agile outcomes

BETTER

VALUE

SOONER

SAFER

HAPPIER

Benefits of SCRUM

1. Increased **flexibility**: Scrum allows for more flexibility and adaptability than traditional project management approaches, enabling teams to quickly respond to changing requirements and priorities.
2. Enhanced **communication**: Scrum emphasizes frequent communication and collaboration between team members, which can help to improve team dynamics and facilitate more effective problem-solving.
3. Improved **productivity**: Scrum's iterative development process can help to increase productivity by focusing on delivering working software in short cycles, enabling teams to achieve small wins and build momentum.
4. Higher quality **deliverables**: Scrum promotes a focus on quality by prioritizing testing and continuous improvement throughout the development process.
5. Increased stakeholder **engagement**: Scrum encourages stakeholder involvement throughout the development process, which can help to ensure that the final product meets their needs and expectations.

Disadvantages of SCRUM

1. **Lack of structure**: Some teams may struggle with the lack of structure in the Scrum framework, which can lead to confusion and inefficiency.
2. **Time-consuming**: The Scrum framework requires a significant amount of time and effort to implement, particularly for teams who are new to agile methodologies.
3. **Dependency** on team collaboration: Scrum relies heavily on collaboration between team members, which can be challenging if team members have different working styles or are geographically dispersed.
4. Limited **documentation**: Scrum does not place a strong emphasis on documentation, which can make it difficult for team members who are not actively involved in the development process to understand the project's progress.
5. Difficult to **scale**: Scrum may be difficult to scale for larger projects or organizations, particularly if multiple teams are involved.

Waterfall Method

1. Clear
2. Defined
3. Efficient (Time&Money)

1. Heavy Documentation
2. Top-Dow communication
3. Strong Expertise

Waterfall Method

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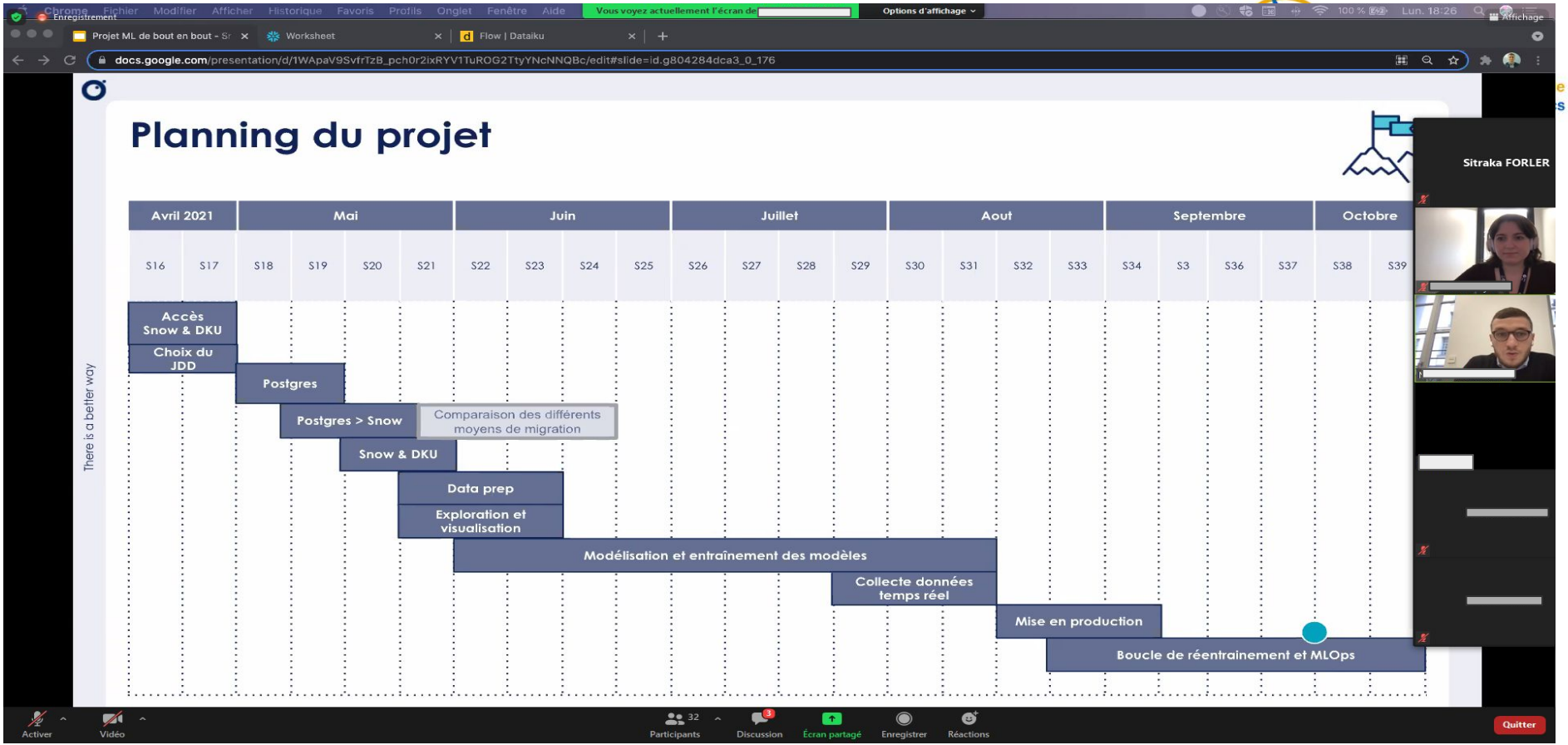
Butterfly effect

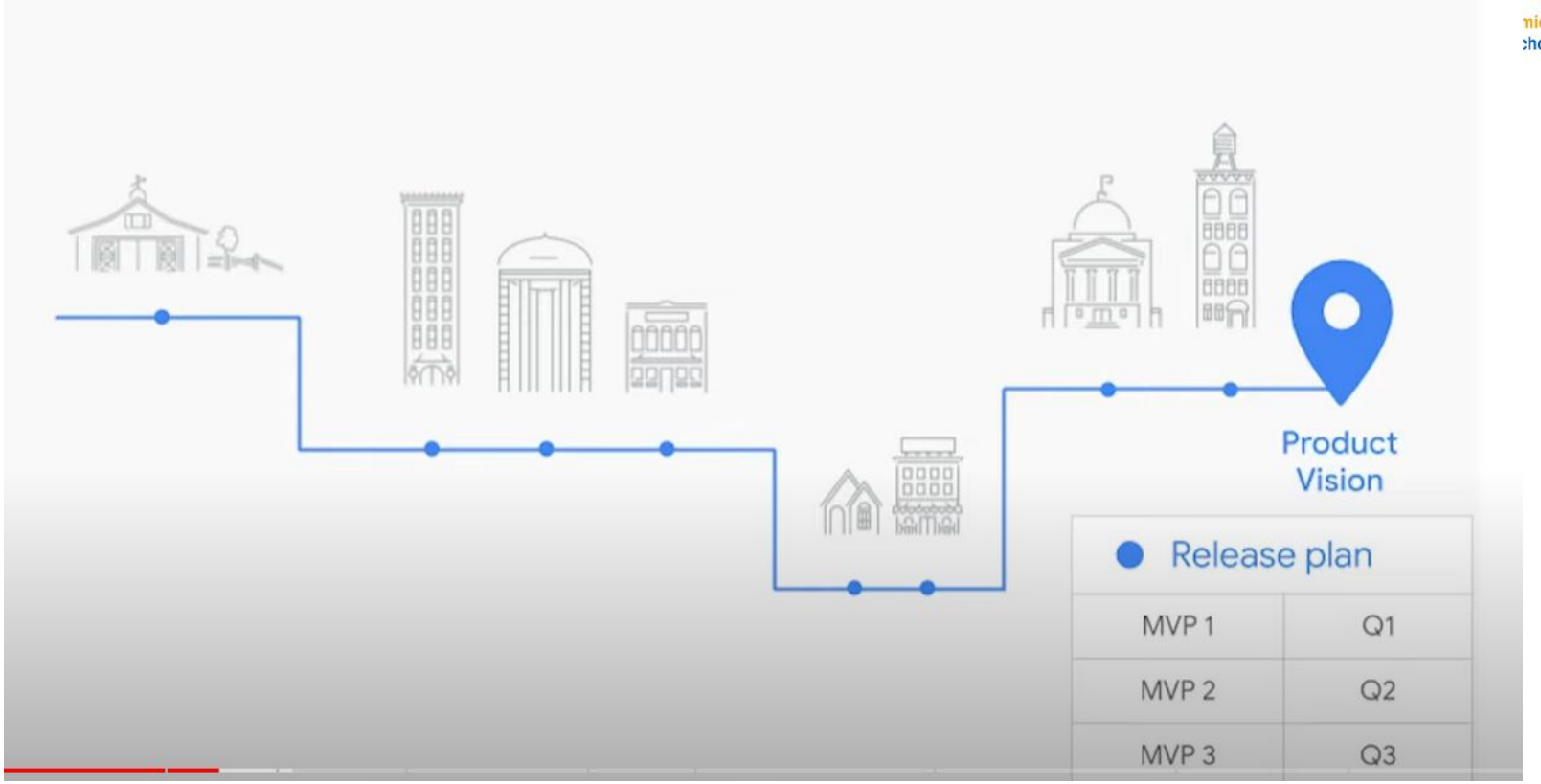
To summarize

Waterfall vs. Agile

Scrum vs Kanban vs Scrumban

	Scrum	Kanban	Scrumban
Time base	1-4 weeks sprints	No time base - Kanban is event-driven	1-year, 6-months and 3-months buckets
Rules	Complete constrained process	few constraints mostly flexible process	Slightly restricted process
Roles	Product owner, Scrum master, scrum team and stakeholders	No specific roles required	No specific roles required
Event-Based	No - Once started sprints cannot be modified	Yes - On going work can react to the workflow	Yes - On going work can react to the workflow and cause On-Demand Planning
Board	Defined/resets each sprint	Persistent - the Kanban board	Persistent - the Scrumban board
Prioritization	Through backlog	Optional	Recommended on each planning
Work routines	The product owner manages tasks and assigns them to team members	Team members choose and pull tasks	The project manager push tasks in the To-Do column and team members choose and pull from there
Scope limits	Sprint limits the work amount	Work in progress limits current on going work amount	Work in progress limits and optional To-Do limit
Task size	What can be delivered in a single sprint	Any size	Any size
New items in an iteration	Not allowed	Allowed whenever the queue allows it (WIP limits)	Allowed whenever the queue allows it (To-Do & WIP limits)
Meetings	Sprint planning, daily stand-ups, sprint reviews and retrospectives	Avoidable	On-Demand Planning
Estimation	Has to be done before sprint has started	Optional	Optional
Planning routines	Sprint planning	Release/iteration planning, demand planning	Planning on demand for new tasks
Performance metrics	Burndown	Cumulative flow diagram, lead time cycle time	Average cycle time
Performance feedback	Sprint retrospective	Optional	Improvement events are an option


Planning du projet
Avril 2021
Mai
Juin
Juillet
Aout
Septembre
Octobre
S16
S17
S18
S19
S20
S21
S22
S23
S24
S25
S26
S27
S28
S29
S30
S31
S32
S33
S34
S3
S36
S37
S38
S39
Accès Snow & DKU
Choix du JDD
Postgres
Postgres > Snow
Comparaison des différents moyens de migration
Snow & DKU
Data prep
Exploration et visualisation
Modélisation et entraînement des modèles
Collecte données temps réel
Mise en production
Boucle de réentrainement et MLOps
There is a better way
Sitraka FORLER


Product
Vision
Release plan
MVP 1
Q1
MVP 2
Q2
MVP 3
Q3

How to Quantify the ROI ?

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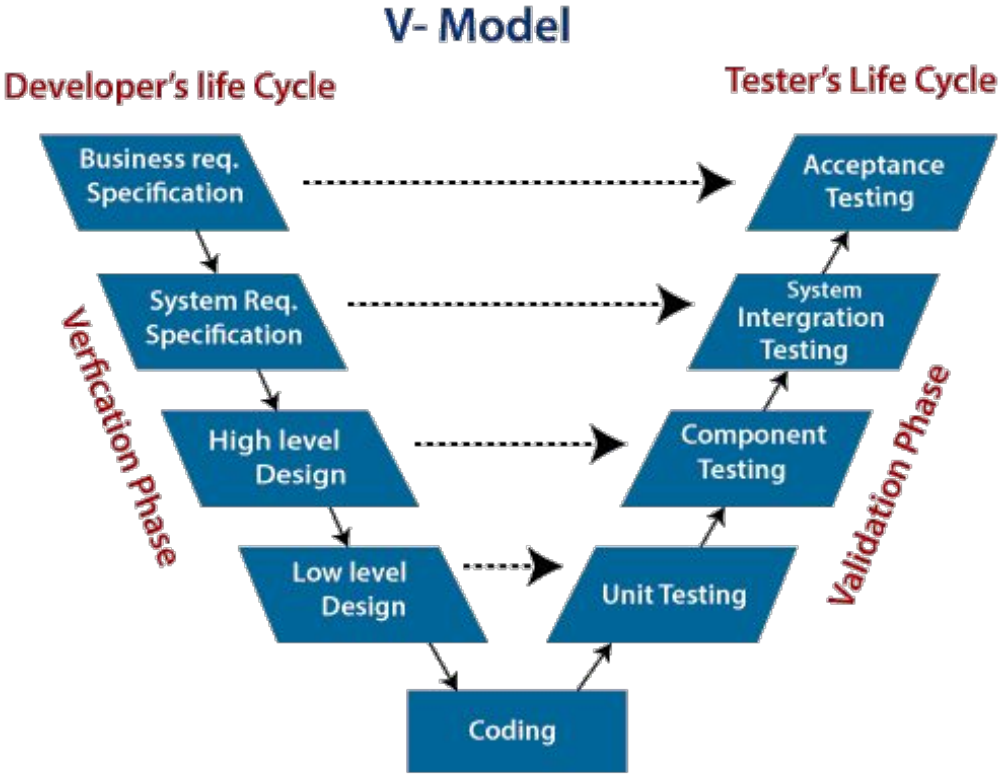

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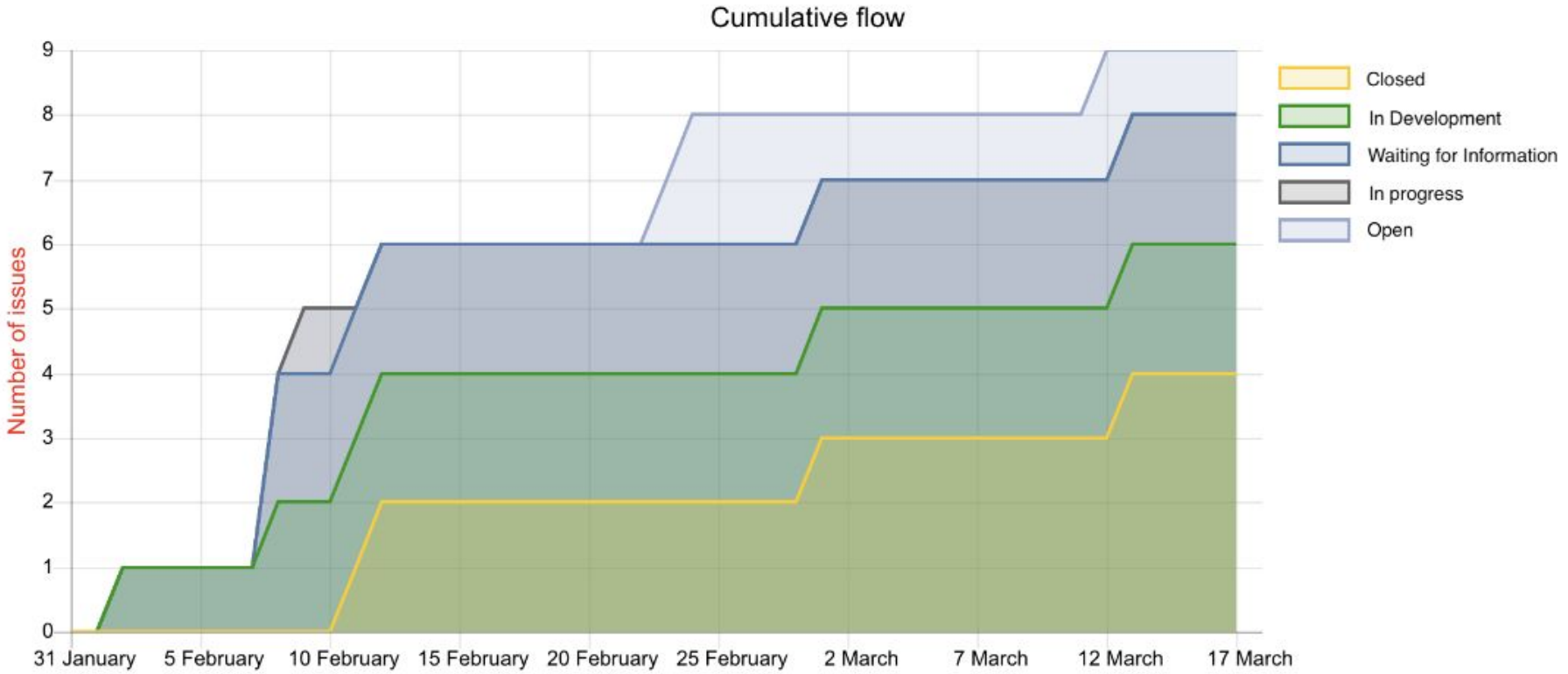
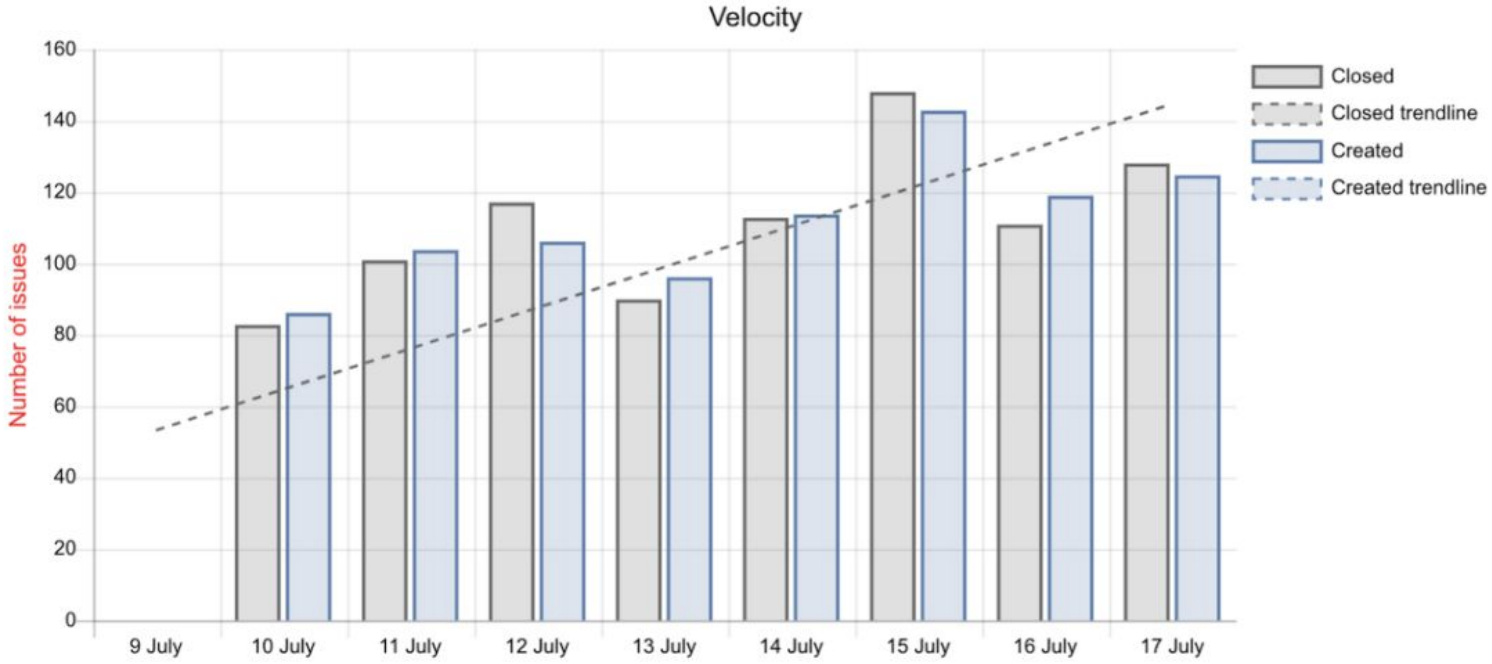


How to Quantify the ROI ?



Velocity chart showing a steady increase of workload that is being handled well.

How to Quantify the ROI ?

After-Tax Return on Invested Capital
(dollars in millions)

	Trailing Twelve Months	
Numerator	January 30, 2021	February 1, 2020
Operating income	$ 6,539	$ 4,658
+ Net other income / (expense)	(16)	9
EBIT	6,523	4,667
+ Operating lease interest [a]	87	86
- Income taxes [b]	1,404	1,045
Net operating profit after taxes	**$ 5,206**	**$ 3,708**

Denominator	January 30, 2021	February 1, 2020
Current portion of long-term debt and other borrowings	$ 1,144	$ 161
+ Noncurrent portion of long-term debt	11,536	11,338
+ Shareholders' investment	14,440	11,833
+ Operating lease liabilities [c]	2,429	2,475
- Cash and cash equivalents	8,511	2,577
Invested capital	$ 21,038	$ 23,230
Average invested capital [d]	**$ 22,134**	**$ 23,208**
After-tax return on invested capital	**23.5 %**	**16.0 %**

Velocity chart showing a steady increase of workload that is being handled well.

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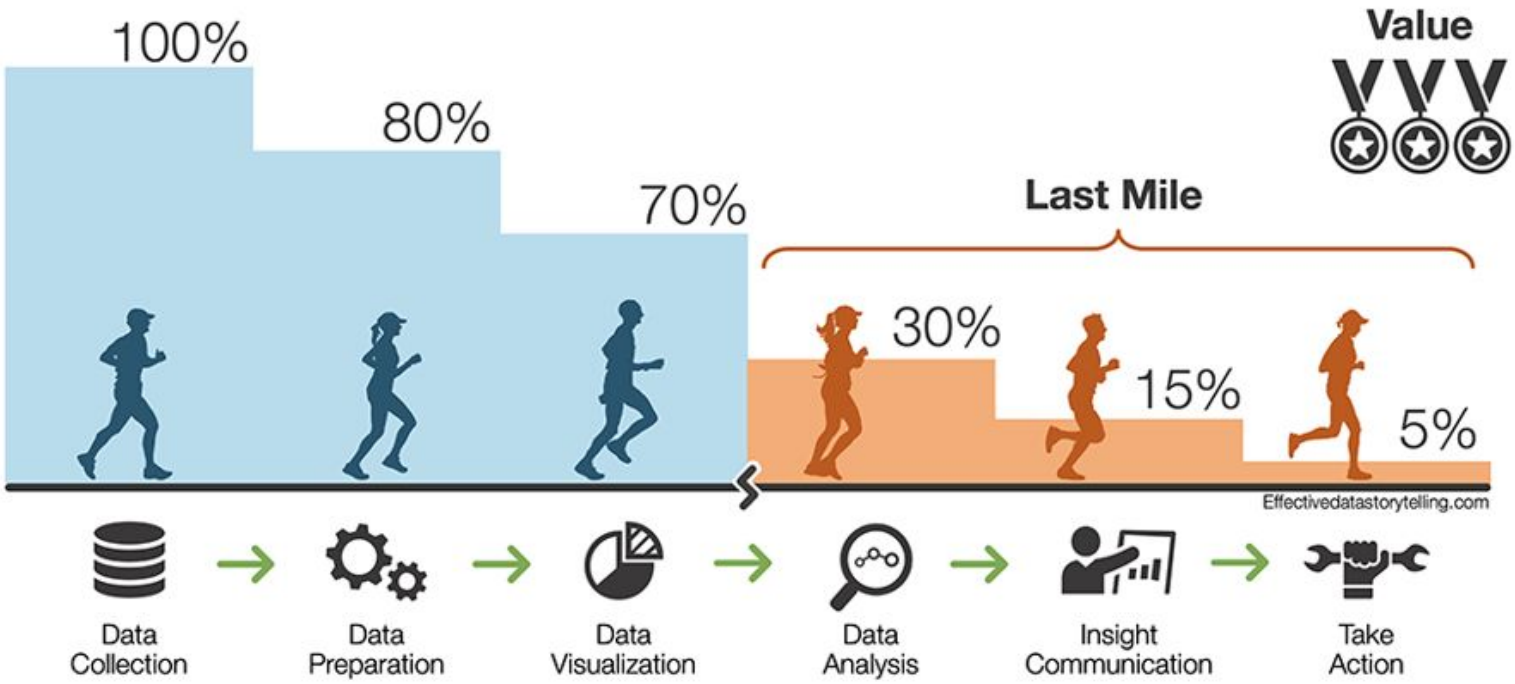
Data Story Telling

Corporate Strategy

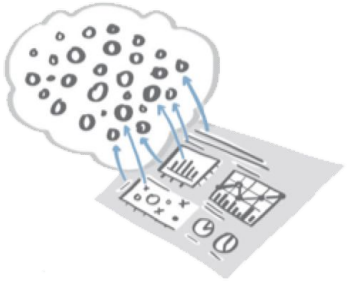
Data Analytics Marathon



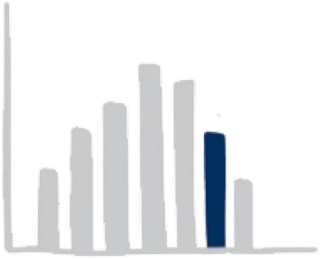
Storytelling with Data

understand the
context

choose an effective
visual

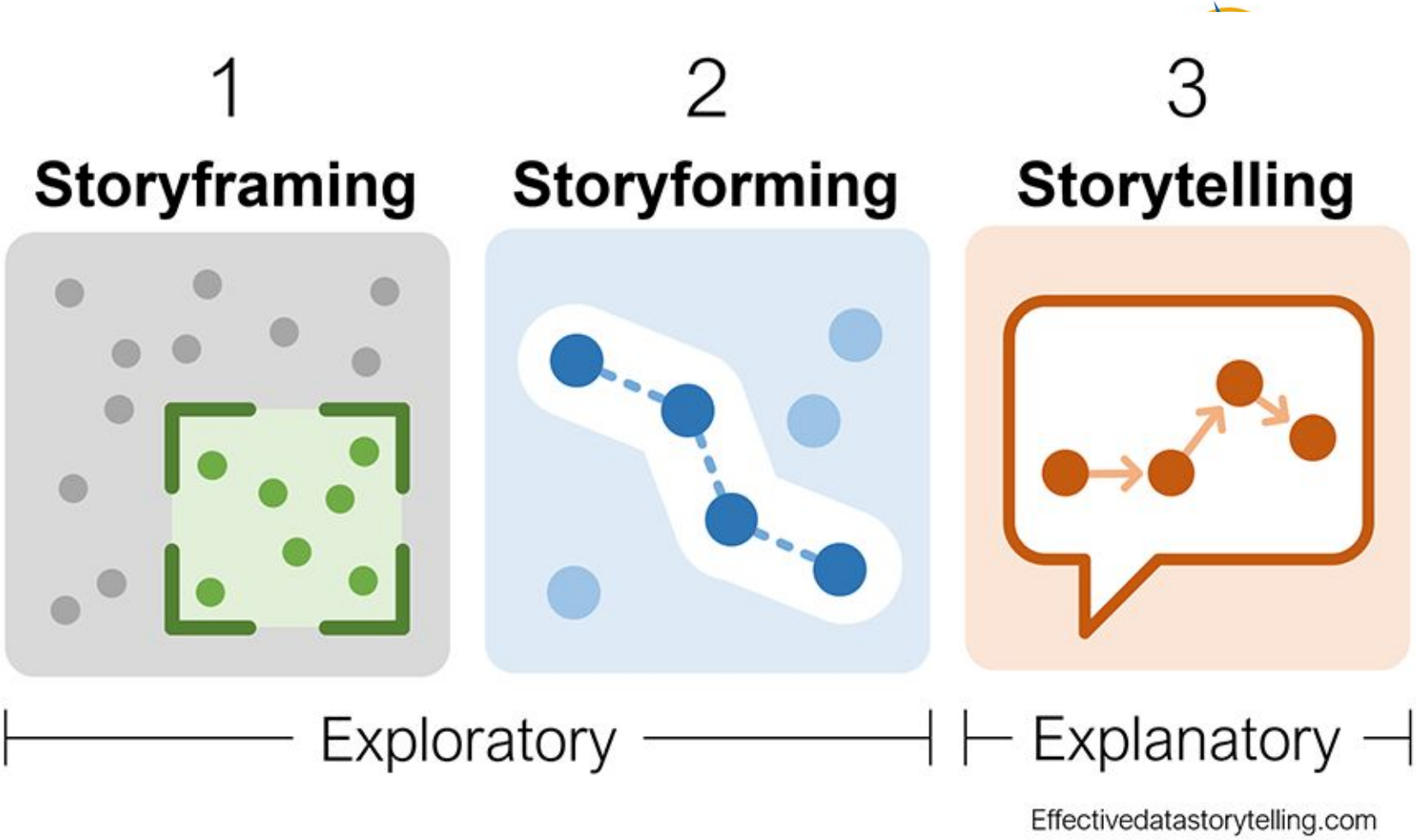


eliminate
clutter



find key
trends

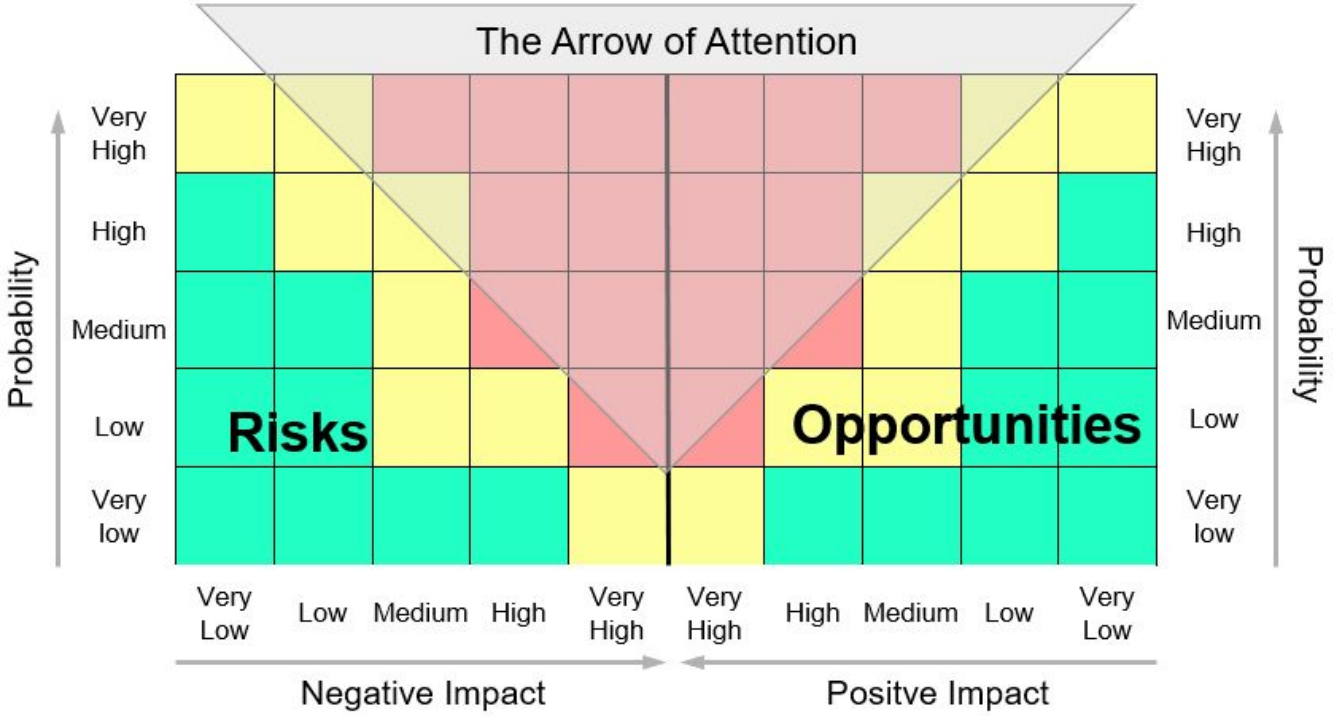
time to shine,
time to SHARE !


1
Storyframing
2
Storyforming
3
Storytelling
Exploratory
Explanatory
Effectivedatastorytelling.com

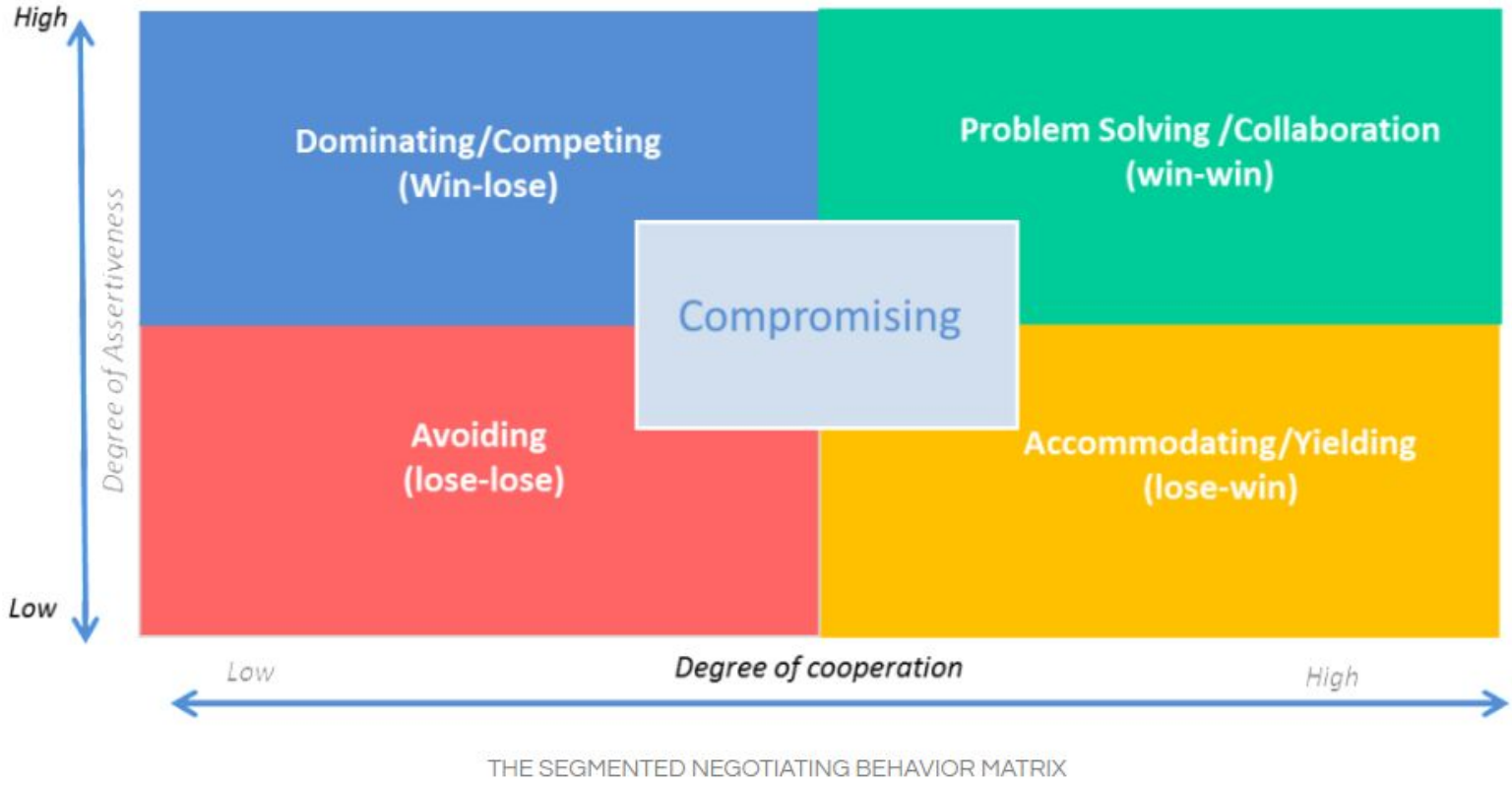
Continue or not ?

You told your story but now
how to decide if we go in or not ?

Risks & Opportunities



Risks & Opportunities

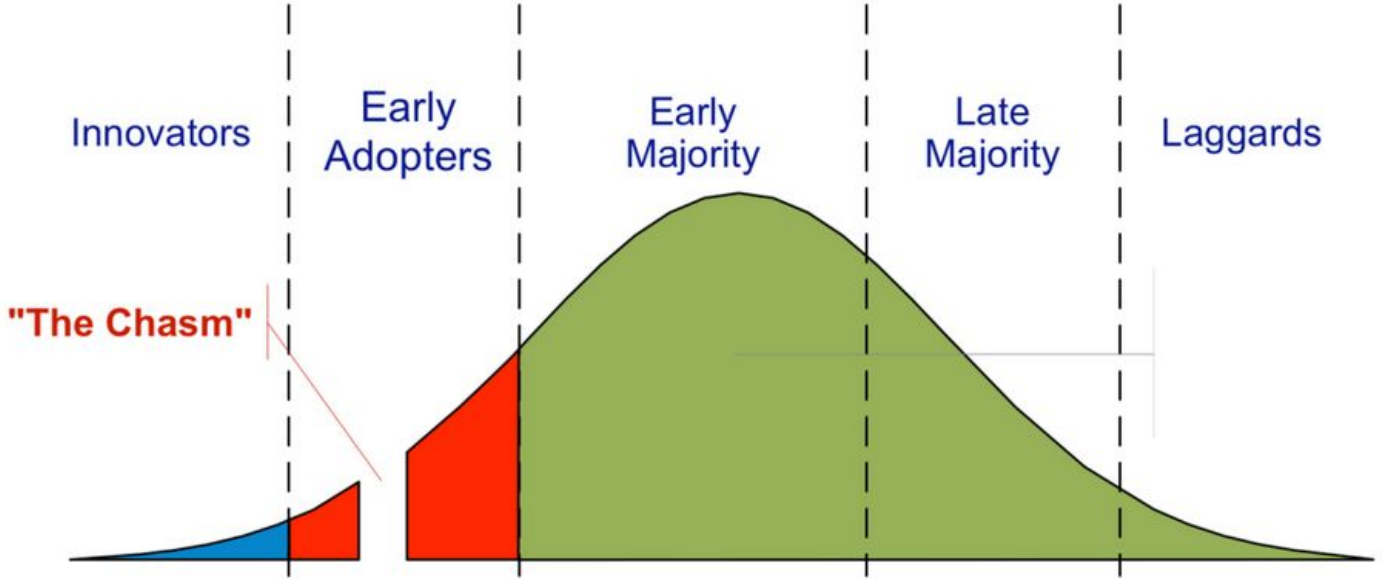


THE SEGMENTED NEGOTIATING BEHAVIOR MATRIX

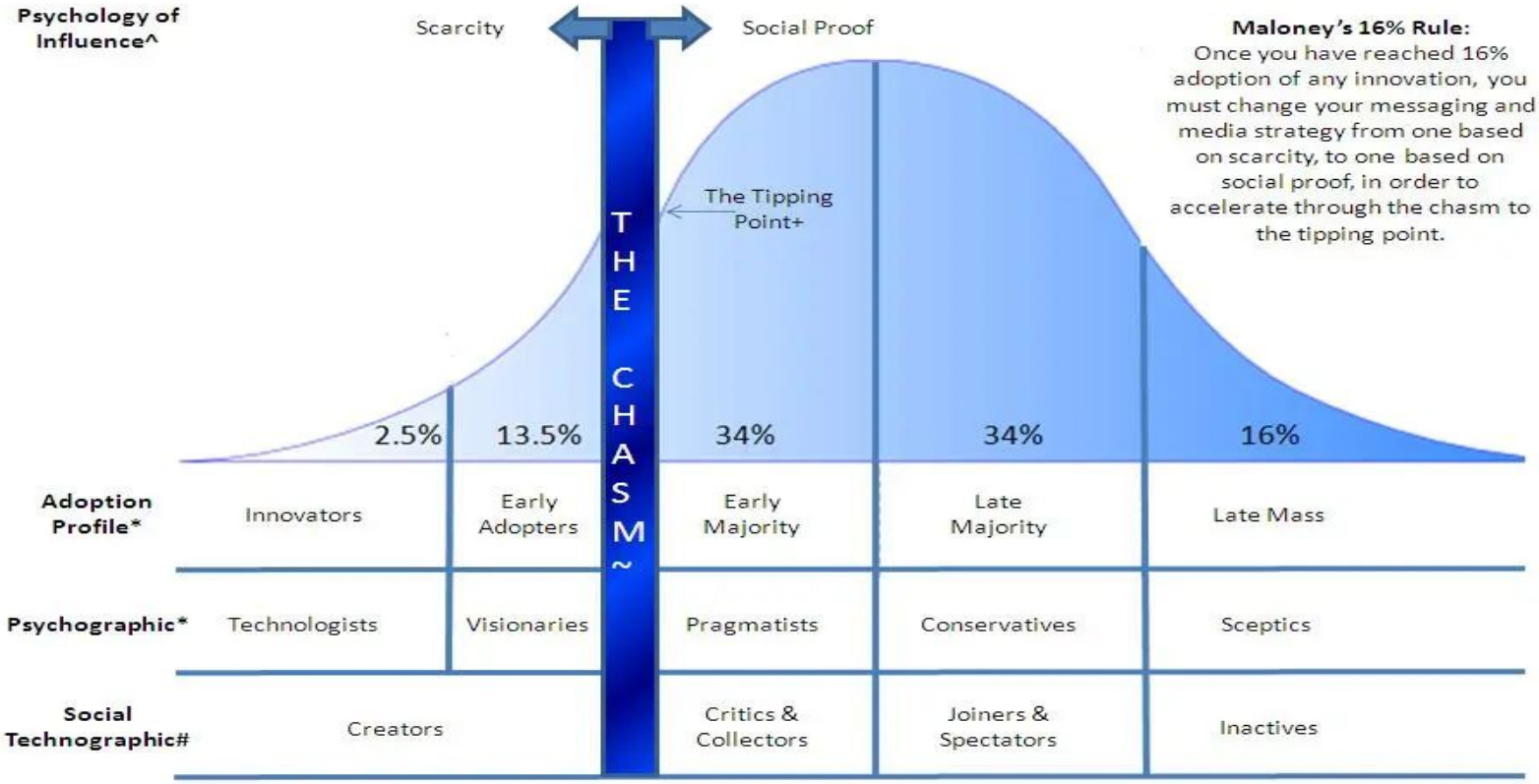
New Project

Feature, tool, people

Diffusion of innovation



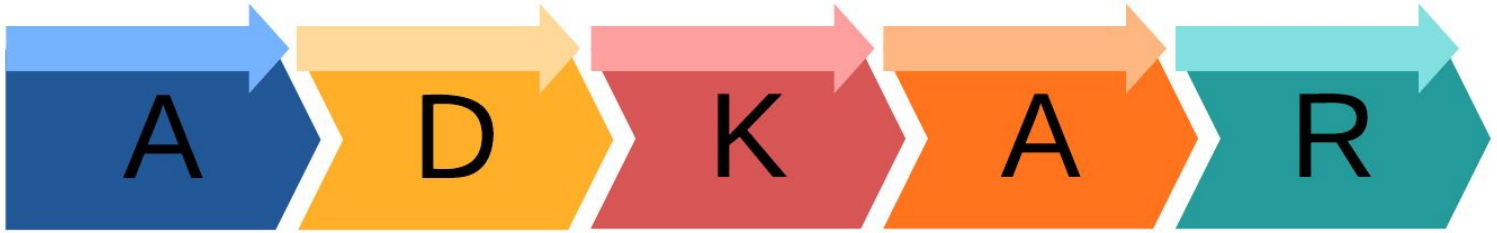
Accelerating Diffusion of Innovation: Maloney's 16% Rule©



Maloney's 16% Rule:
Once you have reached 16% adoption of any innovation, you must change your messaging and media strategy from one based on scarcity, to one based on social proof, in order to accelerate through the chasm to the tipping point.

^ Robert Cialdini *Everett Rogers #Forresters ~Geoffrey Moore + Malcolm Gladwell

New Project → Change



Awareness

- Announce the change to employees well ahead of time.
- Explain your reasoning behind the change, including current pain points and potential ROI of the new solution.
- Give employees an opportunity to ask questions and make suggestions.

Desire

- Gauge employees' reactions to the change.
- Identify champions.
- If employees are resistant or indifferent, address their concerns or show them how the change benefits them personally.

Knowledge

- Provide training or coaching to show what employees need to do after the change takes place.
- Address any skill gaps.
- Offer resources, such as process flowcharts, that employees can reference later on.

Ability

- Schedule practice runs before the change is fully implemented.
- Monitor performance immediately following the change and provide constructive feedback.
- Set reasonable goals and metrics at the start.
- Adjust processes as necessary.

Reinforcement

- Monitor the change over time to ensure it fulfills your desired outcome.
- Use positive feedback, rewards, and recognition to encourage employees to keep following the new process.

New Project → Change

- Coordination of data-related tasks from inception to deployment
- Balancing technical and business objectives
- Ensuring efficiency and reproducibility

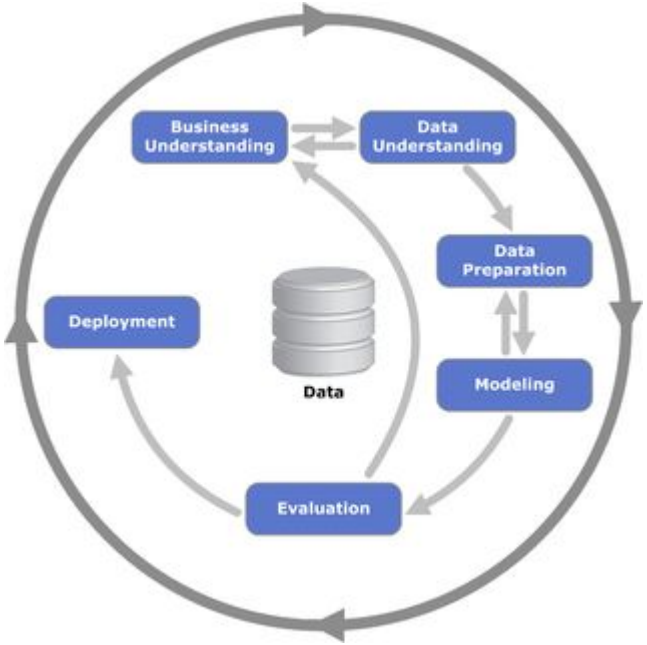
Why is it Important?

- Reduces project failures
- Enhances team collaboration
- Aligns with business strategy

Summarized

- **CRISP-DM (Cross-Industry Standard Process for Data Mining)**

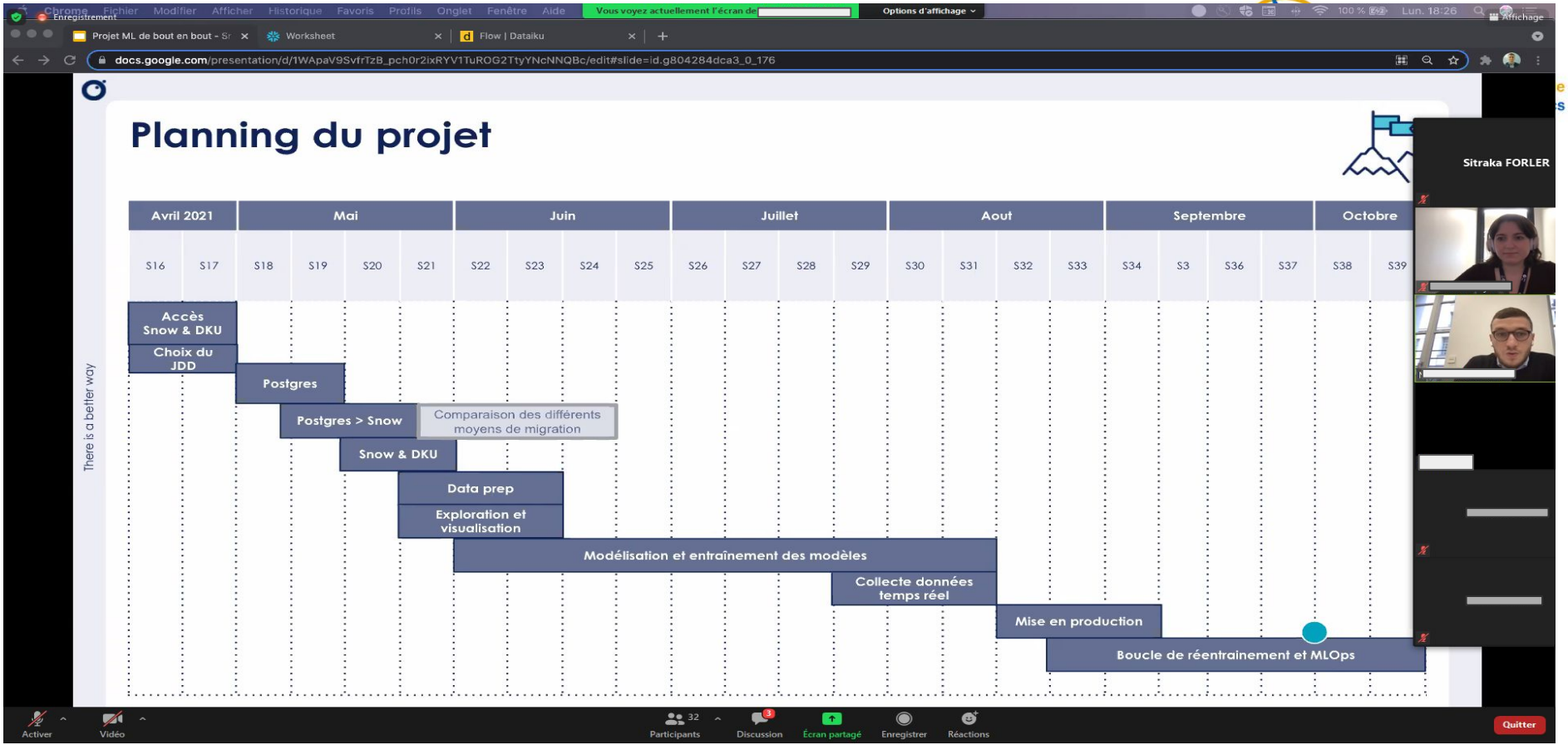
Business Understanding → Data Understanding
→ Data Preparation → Modeling
→ Evaluation → Deployment



- **Agile Data Science**
  - Iterative approach using sprints
  - Adaptability to business needs
- **Kanban for Data Science**
  - Visualization of workflow
  - Continuous delivery focus

Summarized

- **Project Manager** – Oversees planning and execution
- **Data Engineer** – Prepares and processes data
- **Data Scientist** – Develops models and insights
- **ML Engineer** – Deploys and maintains models
- **Domain Expert** – Provides business context
- **Stakeholders** – Decision-makers influencing project goals


Planning du projet
Avril 2021
Mai
Juin
Juillet
Aout
Septembre
Octobre
S16
S17
S18
S19
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S21
S22
S23
S24
S25
S26
S27
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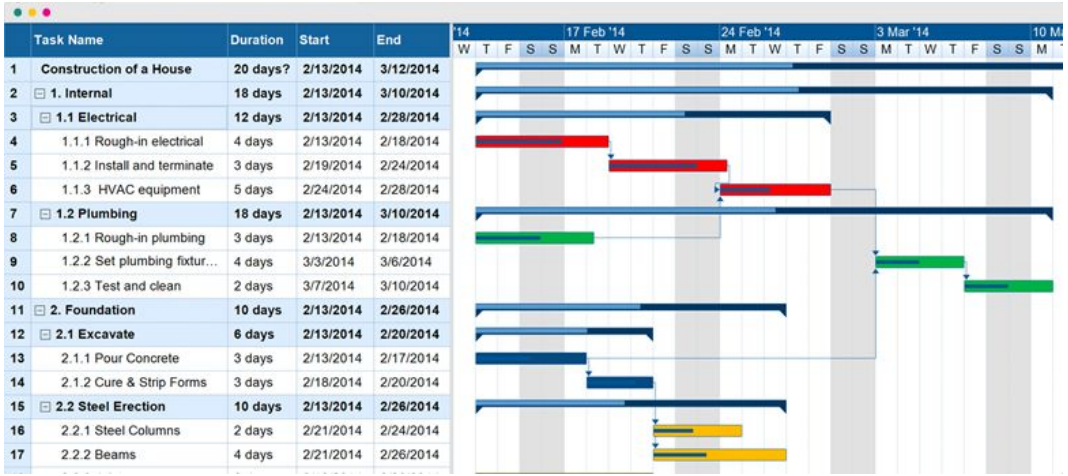
S30
S31
S32
S33
S34
S3
S36
S37
S38
S39
Accès Snow & DKU
Choix du JDD
Postgres
Postgres > Snow
Comparaison des différents moyens de migration
Snow & DKU
Data prep
Exploration et visualisation
Modélisation et entraînement des modèles
Collecte données temps réel
Mise en production
Boucle de réentrainement et MLOps
There is a better way
Sitraka FORLER

Gantt

What is a Gantt Chart?
(Definition & Benefits)
Example of a **Strategy Roadmap using a Gantt Chart**
Milestones & Dependencies
(Critical Path Method)



	Task Name	Duration	Start	End
1	Construction of a House	20 days?	2/13/2014	3/12/2014
2	1. Internal	18 days	2/13/2014	3/10/2014
3	1.1 Electrical	12 days	2/13/2014	2/28/2014
4	1.1.1 Rough-in electrical	4 days	2/13/2014	2/18/2014
5	1.1.2 Install and terminate	3 days	2/19/2014	2/24/2014
6	1.1.3 HVAC equipment	5 days	2/24/2014	2/28/2014
7	1.2 Plumbing	18 days	2/13/2014	3/10/2014
8	1.2.1 Rough-in plumbing	3 days	2/13/2014	2/18/2014
9	1.2.2 Set plumbing fixtur...	4 days	3/3/2014	3/6/2014
10	1.2.3 Test and clean	2 days	3/7/2014	3/10/2014
11	2. Foundation	10 days	2/13/2014	2/26/2014
12	2.1 Excavate	6 days	2/13/2014	2/20/2014
13	2.1.1 Pour Concrete	3 days	2/13/2014	2/17/2014
14	2.1.2 Cure & Strip Forms	3 days	2/18/2014	2/20/2014
15	2.2 Steel Erection	10 days	2/13/2014	2/26/2014
16	2.2.1 Steel Columns	2 days	2/21/2014	2/24/2014
17	2.2.2 Beams	4 days	2/21/2014	2/26/2014

Gantt

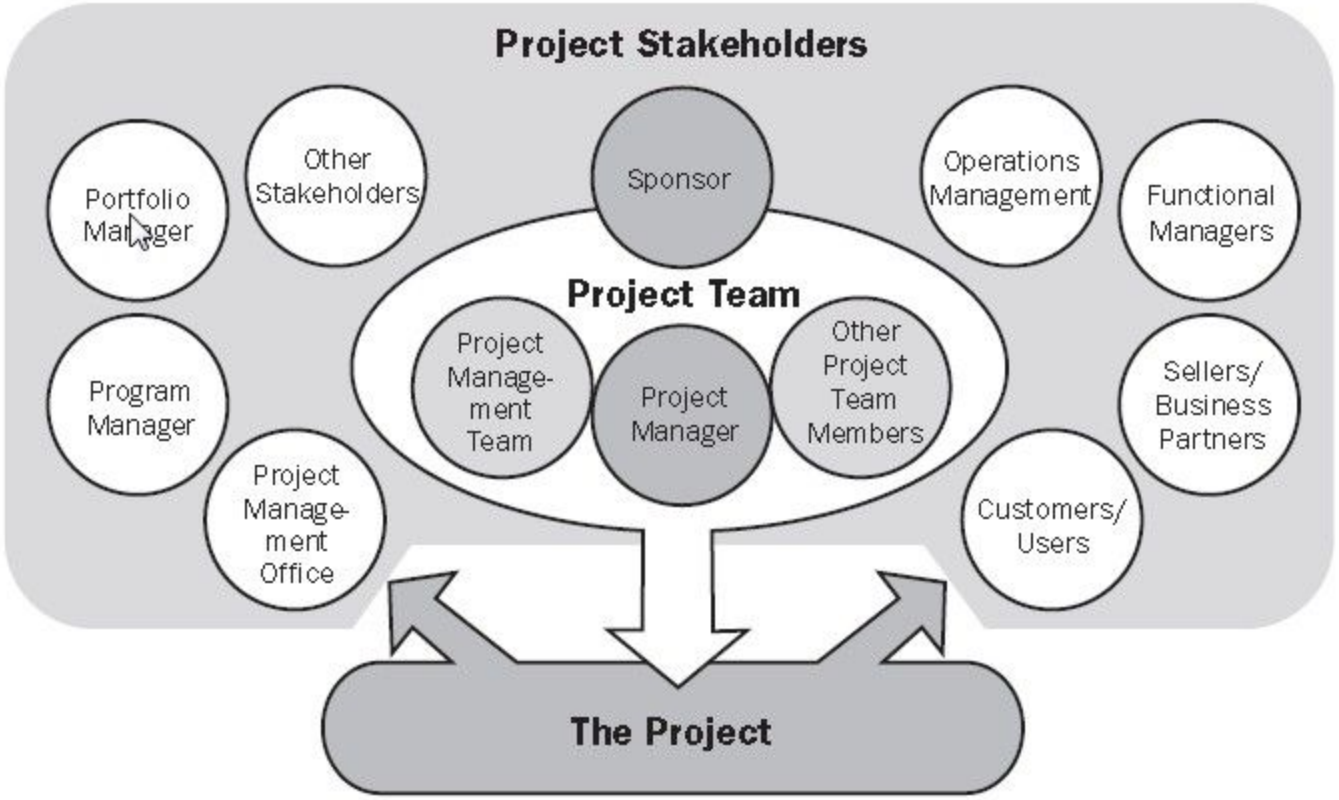
Opportunity Cost & Resource Allocation

Game Theory in Competitive Strategy

Economies of Scale & Scope

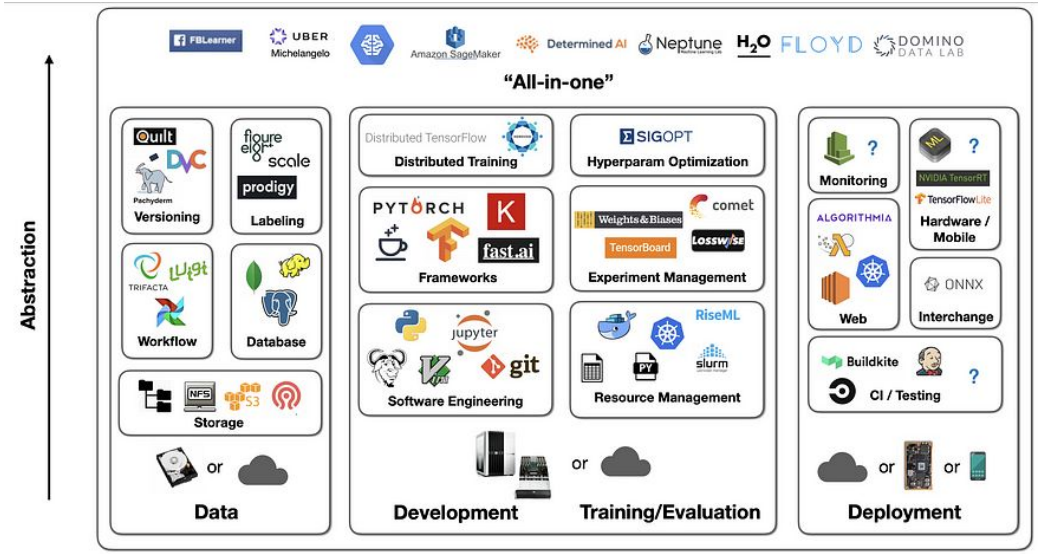
Summarized

- **Pr**
- **Da**
- **Da**
- **M**
- **De**
- **St**



Summarized

- **Communication Tools:** Slack, Microsoft Teams
- **Version Control:** Git, DVC
- **Project Management Tools:** JIRA, Trello
- **Collaboration Platforms:** Jupyter Notebooks, Google Colab
- **Documentation:** Confluence, Notion



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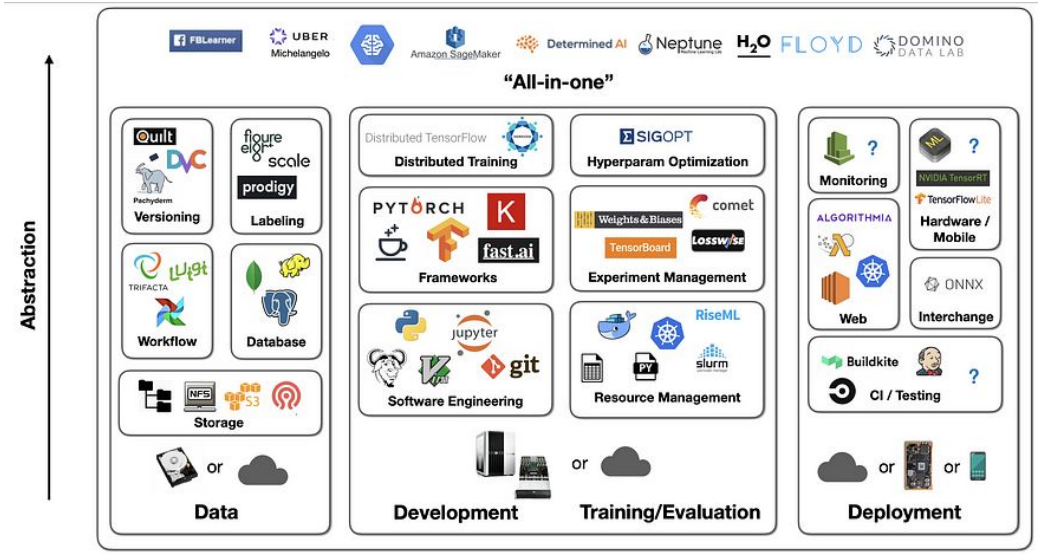


Summarized

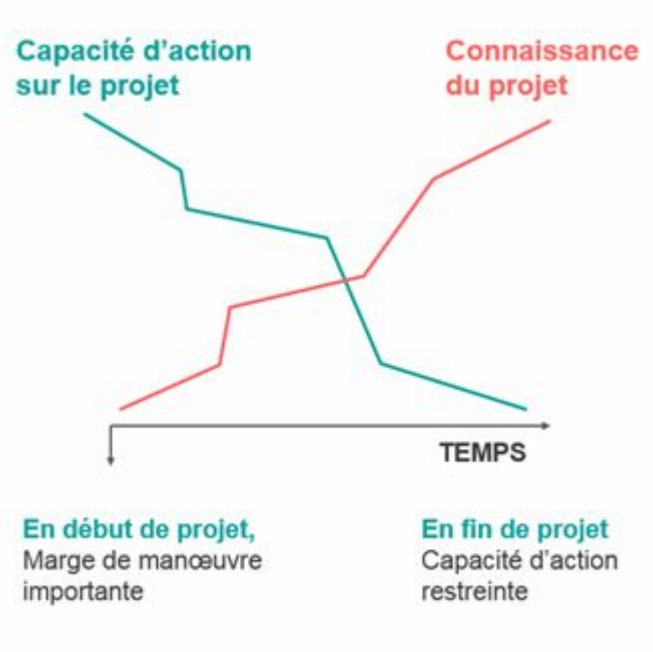
Common Risks:

- Poor data quality
- Model bias
- Unrealistic expectations
- Integration challenges

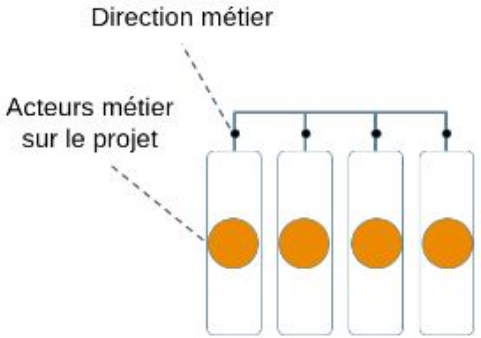
Mitigation Strategies:

- Data validation pipelines
- Regular stakeholder updates
- Ethical AI frameworks
- Continuous monitoring & retraining

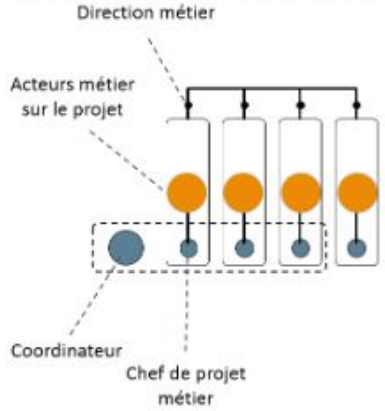
Summarized


Capacité d'action sur le projet
Connaissance du projet
TEMPS
En début de projet, Marge de manœuvre importante
En fin de projet Capacité d'action restreinte

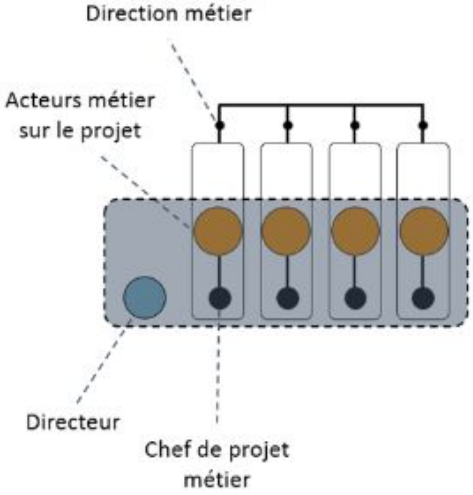
Fonctionnel



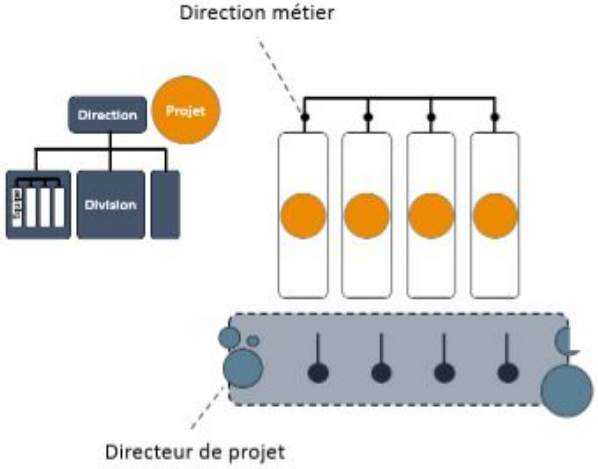
Coordination / matriciel faible



Matriciel fort



Projet Sorti

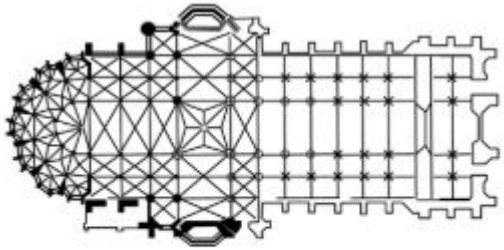


Summarized

-

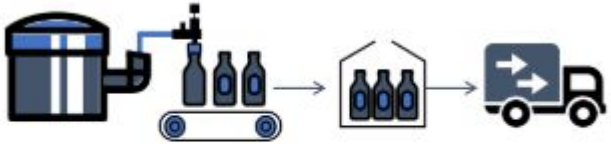
	Avantages	Inconvénients
Fonctionnel	Peu coûteux	Pas de responsable clair, n'avance pas
Coordination de projet	Optimisation des moyens	Petits projets, manque d'autorité du coordinateur
Matriciel fort	Très adaptable	2 chefs = conflits
Sorti	À 100% sur le projet	Réaffecter l'équipe ? Perte de compétences ?

Summarized



Un projet

Construire une cathédrale



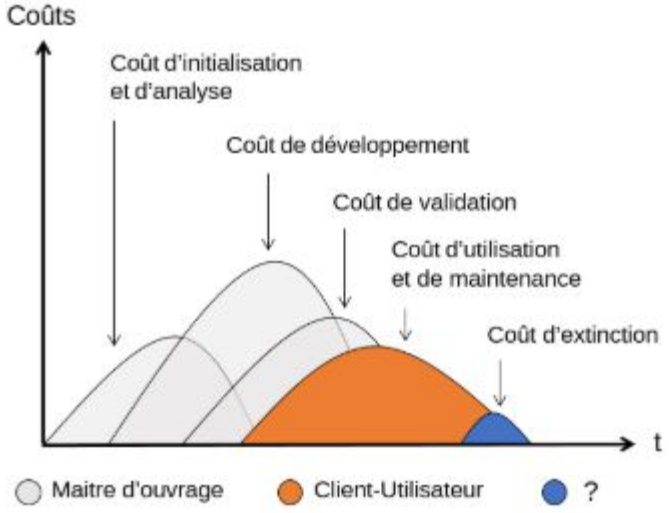
Une opération

Mettre de la bière en bouteille

Summarized

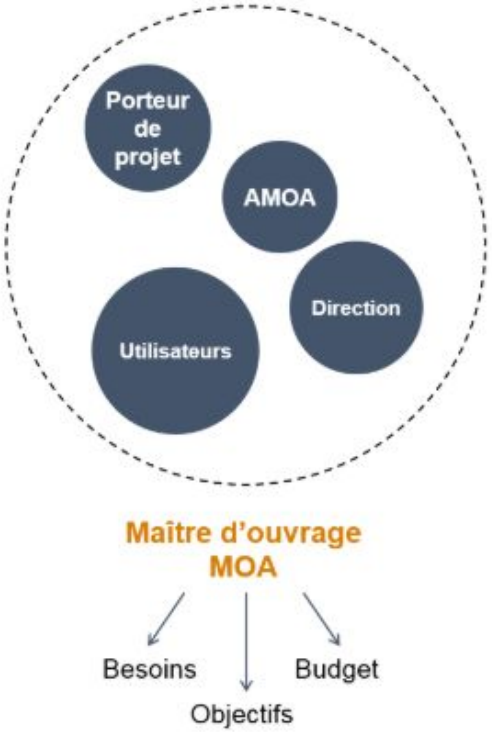
PROJETS		OPÉRATIONS
Chef de projet	Coordination	Manager Opérationnel
Prend fin avec le projet	Objectif	Routinier
Temporaire	Équipe	Organisation stable
Très variées	Compétence	Spécialisées
Jamais fait	Tâche	Répétable
Temps, coût et contraintes de périmètre	Planification	Sur un cycle annuel
À évaluer	Budget et temps	Fixes

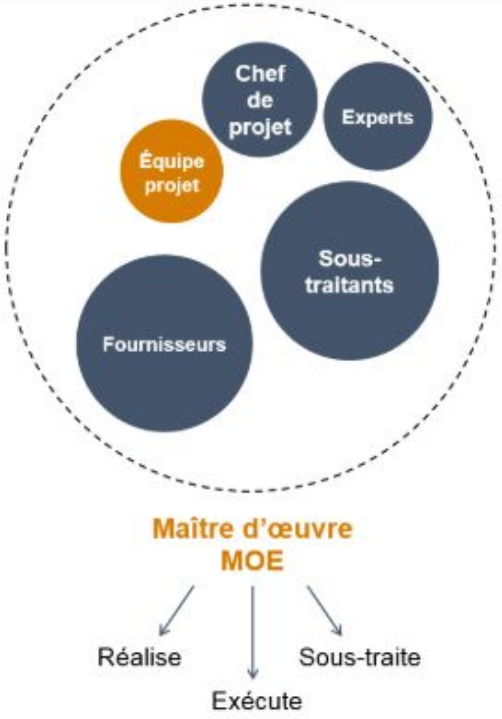
Summarized

- 
Coûts
Coût d'initialisation et d'analyse
Coût de développement
Coût de validation
Coût d'utilisation et de maintenance
Coût d'extinction
t
Maitre d'ouvrage
Client-Utilisateur
?

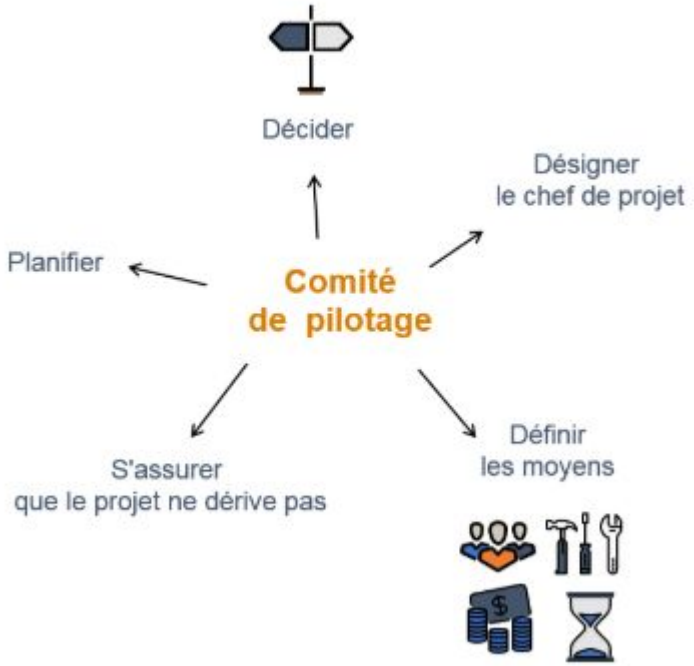

Idée
Définition
Lancement
Développement
Livraison
Extinction

Summarized

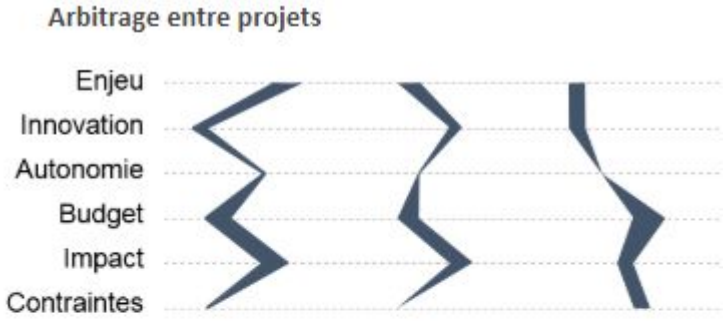

Porteur de projet
AMOA
Utilisateurs
Direction
Maître d'ouvrage
MOA
Besoins
Budget
Objectifs


Chef de projet
Experts
Équipe projet
Sous-traitants
Fournisseurs
Maître d'œuvre
MOE
Réalise
Sous-traite
Exécute

Summarized


Décider
Désigner
le chef de projet
Planifier
Comité
de pilotage
Définir
les moyens
S'assurer
que le projet ne dérive pas

Summarized



- Ressources disponibles
- Degré d'avancement
- Répartition des risques
- Synergies

Offre de Stage, cooptation possible

#Hiring || #stage || M2 - Bilan #carbone

Le groupe Square Management recherche de nouveaux talents pour renforcer ses équipes R&D sur des sujets #ESG et en particulier l'élaboration d'un bilan carbone !

Un stage de #recherche qui viendra compléter une série de travaux portant sur le risque de #transition, portés par le Square Research Center...
👉 Contribuer à l'élaboration d'une méthodologie / outil de bilan carbone
👉 Poursuivre les travaux de quantification des gaz à effet de serre (#GES)
👉 Evaluation et proposer des trajectoires à plus faibles émissions
... toujours en lien avec des contraintes réglementaires et opérationnelles.

Ce poste est ouvert au Master 2 / Bac+5 pour une durée de 6 mois (stage de pré-embauche)

N'hésitez plus et rejoignez une équipe dynamique et passionnée !

Pour toutes informations complémentaires, contactez : Margaux DUVAL

amse
école d'économie d'aix-marseille
aix-marseille school of economics

Thank you for attention,
Have nice day!

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Questions micro

"The way to get started is to quit talking and begin doing"

What is SCRUM ?

What is the purpose of the Backlog ?

What is the ‘best’ team size?

Now, PRACTICE !