IT PROJECT MANAGEMENT-PART 2/2

2nd LESSON

APRIL 9th 2025

AGILE

Mario Salano

2nd LESSON: **AGILE GOALS&PRINCIPLES**
SECOND PART FILE ROUGE

1. INNOVATION AND METHODOLOGIES
2. **AGILE GOALS&PRINCIPLES**
3. AGILE METHODOLOGIES OVERVIEW WITHOUT SCRUM
4. SCRUM
5. LEAN
6. DESIGN THINKING
7. VALUE DRIVEN DELIVERY
8. STAKEHOLDERS,TEAMS,ADAPTIVE PLANNING
9. CASE STUDIES
10. EXERCISES
11. CONTINUOUS IMPROVEMENT
12. CONCLUSION AND REVIEW

REMINDER

Project Definition (PMI)

ANY TEMPORARY ENDEAVOR WITH A DEFINITE BEGINNING AND END UNDERTAKEN TO CREATE A UNIQUE PRODUCT, SERVICE OR RESULT WITHIN DEFINED CONSTRAINTS

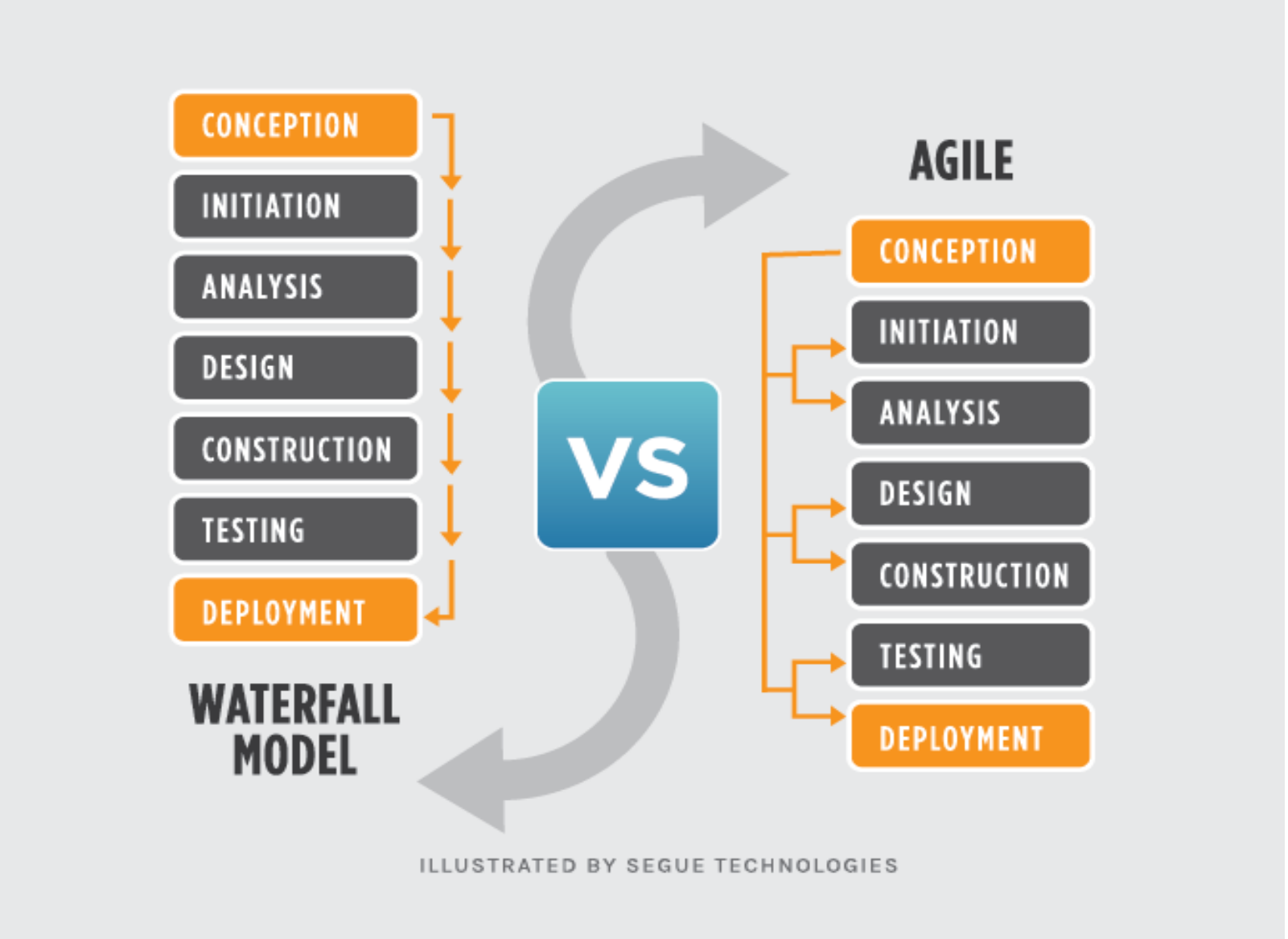
2nd LESSON: **AGILE GOALS and PRINCIPLES**

In this lesson we focus on some **key concepts** for the rest of the course

- **agile mindset**,
- its fundamental **values** and **principles,**
- **methodologies,**
- **leadership**.

Exploration of **agile project leadership** and its difference from **traditional project management** will be outlined.

2nd LESSON:**AGILE VERSUS WATERFALL**



REFERENCE TABLE:TRADITIONAL/INNOVATIVE PROJECTS

TRADITIONAL PM	INNOVATIVE PM	EXAMPLE
1-Scope flexibility	***1-Scope flexibility***	***1-Scope flexibility***
Project scope defined at the beginning	Scope is adapted during the life cycle	Spotify adaptations according to users' feedback
2-Methodologies	***2-Methodologies***	***2-Methodologies***
Waterfall:each phase completed before next	Feedbacks&iterative development	WINDOWS DEVELOPMENT
3.Techniques	**3.Techniques**	**3.Techniques**
MSProject+ Excel	Proper tools for real time management	Atlassian changed digital management
4.Communication	**4.Communication**	**4.Communication**
Formal and gerachical	Quick decision process	Increment of smart and collaborative working
5.Risk management	**5.Risk management**	**5.Risk management**
Plan at the beginning	Cont. risk evaluation	Startups
6-Releases	**6-Releases**	**6-Releases**
One single delivery	Incremental	Amazon and Google
7-Roles in the team	**7-Roles in the team**	**7-Roles in the team**
Clear responsabilities	Interfunctionality	Google: people for different projects

2nd LESSON:**AGILE VERSUS WATERFALL**

Both are usable, mature methodologies.

Waterfall is a linear approach; the sequence of events is from gathering requirements to deliver a product and each stage ends before the next one begins

Agile is an iterative, team-based approach;the sequence of events emphasizes the rapid delivery of an application in complete functional components.

It is also common to transition into a **hybrid Agile** approach that combines aspect of both Agile and Waterfall

WHAT TO USE? LET'S GO ON!

2nd LESSON: **AGILE GOALS and PRINCIPLES**
WHERE IS WORK MOVING?

Humans:hunters✉farmers✉craftsmen✉booming factories

WHERE ARE WE TODAY?

2nd LESSON: **AGILE GOALS and PRINCIPLES**
WHERE IS WORK MOVING?

TODAY WE ARE IN A VUCA WORLD

VOLATILE✉CHANGING REQUIREMENTS

UNCERTAIN✉NOT WELL DEFINED REQUIREMENTS

COMPLEX✉DEMATERIALIZATION REQUIREMENTS

AMBIGUOUS✉UNCLEAR REQUIREMENTS

2nd LESSON: **AGILE GOALS and PRINCIPLES**
WHERE IS VUCA WORLD MOVING?

VUCA WORLD CALLS FOR:

1. KNOWLEDGE WORK

2. INFORMATION TECHNOLOGY DOMAIN

WHY ARE NEW PM METHODOLOGIES NECESSARY?

Because different types of projects require different

METHODS

2nd LESSON: **AGILE GOALS&PRINCIPLES**

AND…WHY AGILE?

Because some projects, mainly **knowledge projects**, in a **VUCA environment** call for iterations to deliver a project throughout its **life cycle**.

Iterative life cycles are composed of several **incremental** steps towards the completion of a project.

Iterative approaches are frequently used in **software** projects as the benefit of iteration is the ongoing adjustment

An iterative approach aims to release benefits throughout the process rather than only at the end.

2nd LESSON :AGILE GOALS and PRINCIPLES:

WHY SHOULD WE USE AGILE?

The current info era is focused on **information and collaboration, rather than manufacturing.**

Value is moving on t**he ownership of knowledge** which creates goods and services through….

KNOWLEDGE WORKERS.

They are **IT specialists but also engineers, doctors, lawyers, writers, scientists…**becoming a large segment of the workforce of the countries

2nd LESSON-AGILE: GOALS and AGILE VALUES

AGILE MANIFESTO COMES BY EFFORTS IN DEVELOPING SOFTWARE TO VALUE:

1-INDIVIDUALS AND INTERACTIONS OVER PROCESSES AND TOOLS

2-WORKING SOFTWARE OVER COMPREHENSIVE DOCUMENTATION

3-CUSTOMER COLLABORATION OVER CONTRACT NEGOTIATION

4-RESPONDING TO A CHANGE OVER FOLLOWING A PLAN

2nd LESSON-AGILE: VALUE 1

INDIVIDUALS AND INTERACTIONS

OVER

PROCESSES AND TOOLS

MESSAGE:

projects are undertaken by people not tools

2nd LESSON-AGILE: VALUE 2

WORKING SOFTWARE

OVER

COMPREHENSIVE DOCUMENTATION

MESSAGE:

need to deliver, documentation just enough

2nd LESSON-AGILE: VALUE 3

CUSTOMER COLLABORATION

OVER

CONTRACT NEGOTIATION

MESSAGE:

be flexible and accomodating

2nd LESSON-AGILE: VALUE 4

RESPONDING TO A CHANGE

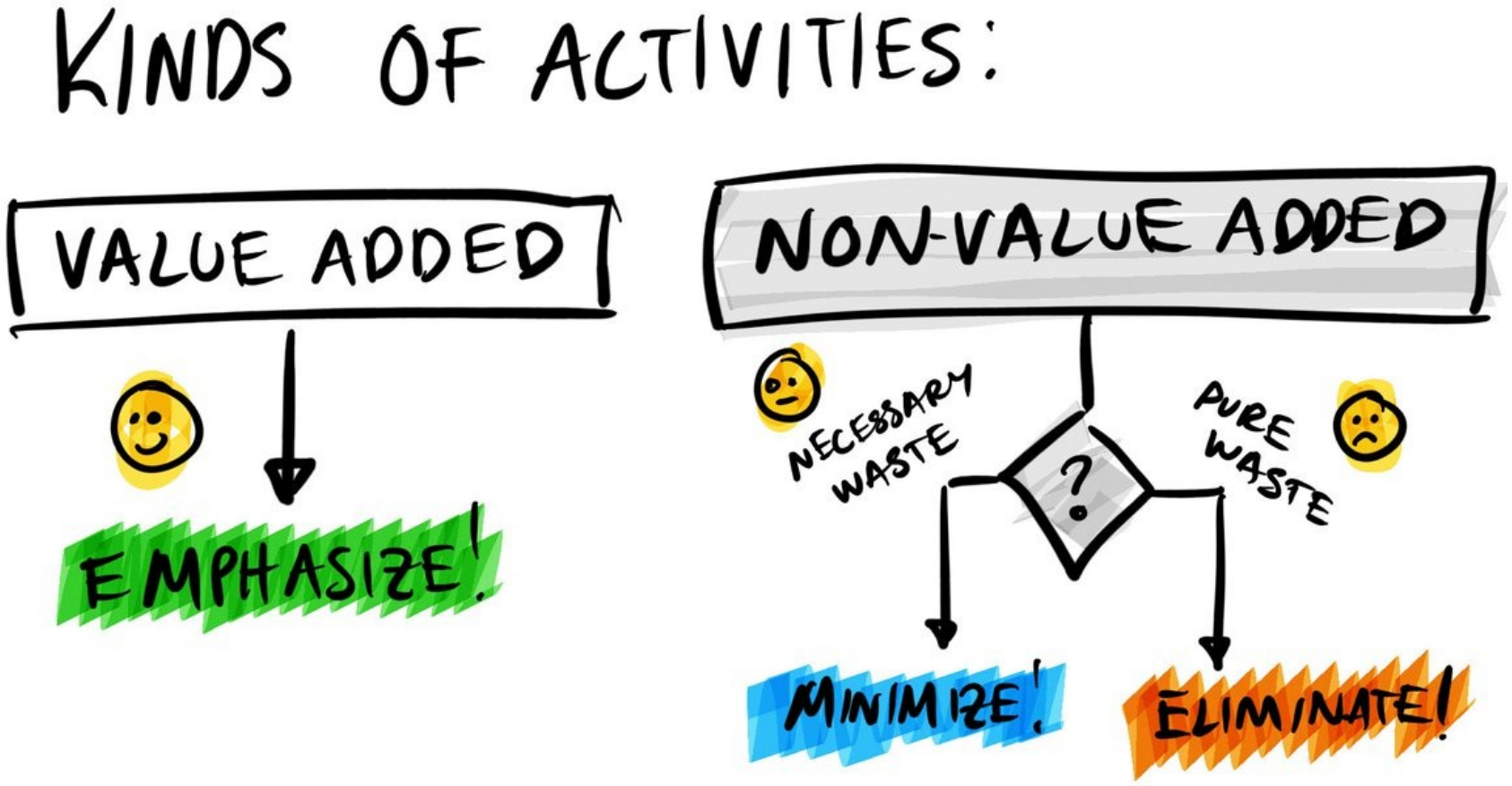
OVER

FOLLOWING A PLAN

MESSAGE:

broaden the number of people to be engaged by adjusting the plans and evaluate the impact of changes

2nd LESSON-AGILE: VALUES

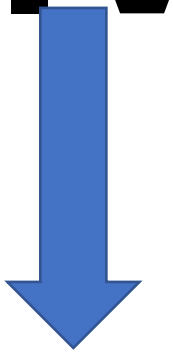


2nd LESSON :AGILE GOALS and PRINCIPLES ✉
KNOWLEDGE PROJECTS

INDUSTRIAL/MANUFACTURING WORK	KNOWLEDGE WORK
VISIBLE	INVISIBLE
STABLE	CHANGING
EMPHASIS ON RUNNING THINGS	EMPHASIS ON CHANGING THINGS
MORE STRUCTURE WITH FEWER DECISIONS	LESS STRUCTURE WITH MORE DECISIONS
FOCUS ON THE RIGHT ANSWERS	FOCUS ON THE RIGHT QUESTIONS
DEFINE THE TASK	UNDERSTAND THE TASK
COMMAND AND CONTROL	AUTONOMY
STRICT STANDARDS	CONTINUOUS INNOVATION
FOCUS ON QUANTITY	FOCUS ON QUALITY
MEASURE PERFORMANCE TO STANDARDS	CONTINUOUSLY LEARN AND TEACH

2nd LESSON :AGILE: GOALS and PRINCIPLES ✉
KNOWLEDGE PROJECTS

PREDICTIVE✉AGILE



DEFINABLE WORK✉HIGH-UNCERTAINTY WORK

UNCERTAINTY:
FROM DEFINITION TO EMPIRICISM

Industrial work uses a **defined** process (steps defined in advance)

Knowledge work relies on **empirical** process (trials to check what works)

Empiricism is based on

-small successes

-iterations

-incremental reviews

-adaptation

2nd LESSON :AGILE: GOALS and PRINCIPLES ✉

KNOWLEDGE PROJECTS

Definition of an upfront and unchanging view of what should be built is hard

1. Knowledge work products have a dynamic mature,mainly software
2. Software is intangible and difficult to reference
3. Business needs change quickly
4. Technology changes rapidly
5. Companies rarely plan the same system twice

2nd LESSON-AGILE: GOALS and PRINCIPLES ✉

KNOWLEDGE PROJECTS

HIGH-UNCERTAINTY PROJECTS HAVE HIGH RATES OF

CHANGE

COMPLEXITY

RISK

2nd LESSON-AGILE: GOALS and PRINCIPLES

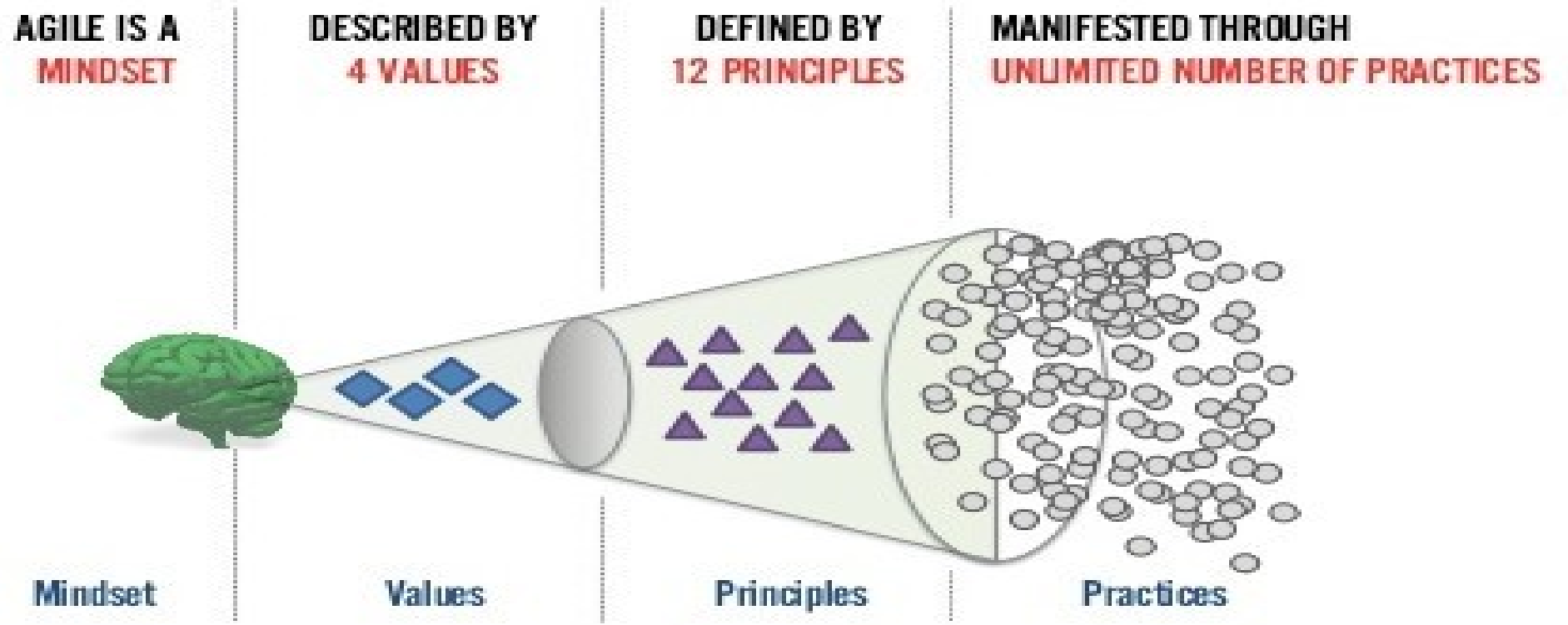
KNOWLEDGE PROJECTS

TRADITIONAL PREDICTIVE APPROACHES AIM TO DETERMINE THE BULK OF THE REQUIREMENTS UPFRONT AND BY CONTROLLING CHANGES THROUGH A CHANGE REQUEST PROCESS

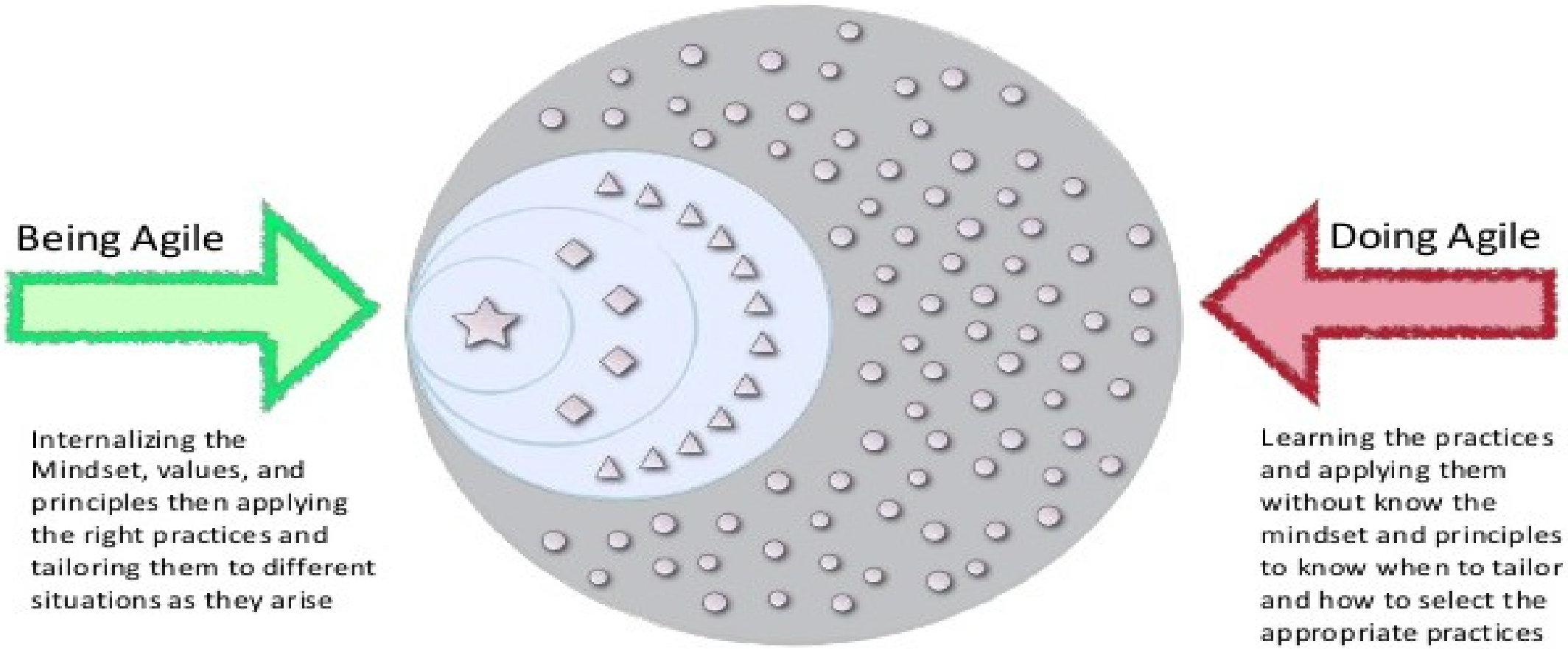
AGILE APPROACHES AIM TO EXPLORE FEASIBILITY IN SHORT CYCLES AND TO ADAPT QUICKLY ON EVALUATION AND FEEDBACK

2nd LESSON-AGILE

MINDSET, VALUES,PRINCIPLES,PRACTICES



MINDSET:AN INTERNALIZING PROCESS



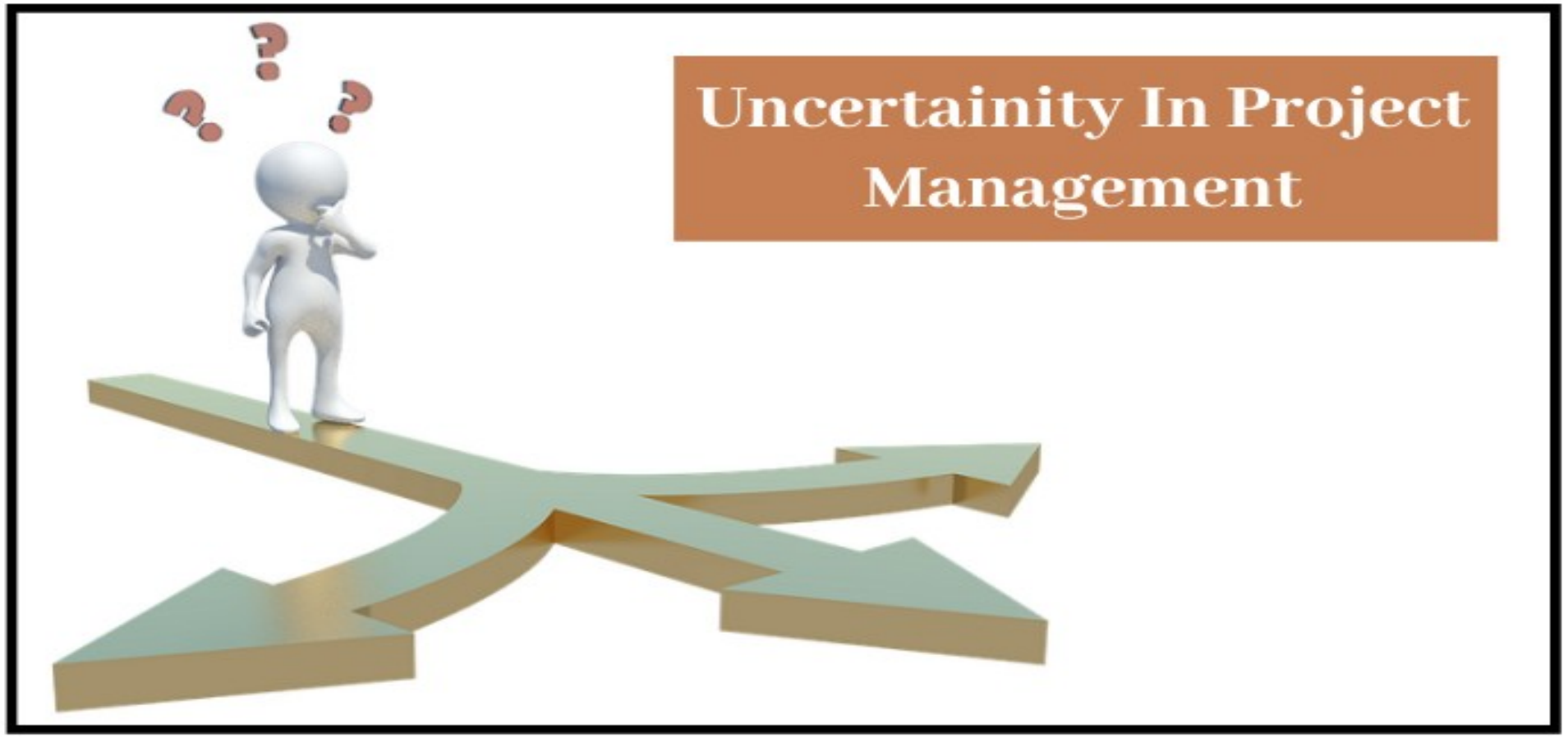
AGILE PRINCIPLES

1. HIGHEST PRIORITY: CUSTOMER SATISFACTION THROUGH EARLY AND CONTINUOUS DELIVERY OF VALUABLE SOFTWARE
2. WELCOME CHANGING REQUIREMENTS FOR CUSTOMER’S ADVANTAGE
3. DELIVER WORKING SOFTWARE FREQUENTLY
4. BUSINESS PEOPLE AND DEVELOPERS TOGETHER DAILY
5. MOTIVATE INDIVIDUALS GIVING THEM ENVIRONMENT,SUPPORT,TRUST
6. PROMOTE FACE TO FACE CONVERSATION TO CONVEY INFORMATION
7. WORKING SOFTWARE IS A PRIMARY MEASURE OF PROGRESS
8. MAINTAIN A CONSTANT PACE INDEFINITELY
9. PAY CONTINUOUS ATTENTION TO EXCELLENCE OF TECHNOLOGY AND DESIGN
10. SIMPLICITY IS ESSENTIAL
11. THE BEST ARCHITECTURES&DESIGNS COME FROM SELFORGANIZING TEAMS
12. TEAM REGULAR REFLECTION ON MORE EFFICIENCY, THEN TUNING&ADJUSTING

2nd LESSON-AGILE:LIFE CYCLE SELECTION:WHERE

APPROACH	REQUIREMENTS	ACTIVITIES	DELIVERY	GOAL
PREDICTIVE	FIXED	PERFORMED ONCE FOR THE ENTIRE PROJECT	SINGLE DELIVERY	MANAGE COST
ITERATIVE	DYNAMIC	REPEATED UNTIL CORRECT	SINGLE DELIVERY	CORRECTNESS OF SOLUTION
INCREMENTAL	DYNAMIC	PERFORMED ONCE FOR A GIVEN INCREMENT	FREQUENT SMALLER DELIVERIES	SPEED
AGILE	DYNAMIC	REPEATED UNTIL	FREQUENT SMALL	CUSTOMER VALUE VIA

AGILE PRACTICES (HOW)



PRACTICES IN UNCERTAIN ENVIRONMENTS

- UNCERTAINTY:HIGH LIKELIHOOD OF CHANGES,WASTED WORK AND REWORK
- ADAPTATION TO CHANGES;THROUGH ITERATIVE AND INCREMENTAL **PRACTICES:**

-VERY SHORT FEEDBACK LOOPS

-FREQUENT ADAPTATION OF PROCESS

-REPRIORITIZATION and REGULARLY UPDATED PLANS

-FREQUENT DELIVERY

GENERAL PRACTICE: SET CLEAR AGREEMENTS

FOR AN AGILE PROJECT THEY ARE NECESSARY:

1-PROJECT PURPOSE

(why are we doing this project? Who benefits and how?

2-WORKING AGREEMENTS

(what does **DONE** mean? How are we working together?)

CREATING AN AGILE ENVIRONMENT

- ADOPT AN AGILE **MINDSET** AND BUILD A FOUNDATIONAL TRUST
- EMPOWER TEAMS BY A **SERVANT LEADERSHIP** and FOCUS ON RESULTS
- BUILD PROJECTS AROUND **MOTIVATED INDIVIDUALS**
- FOCUS ON RAPID PRODUCT DEVELOPMENT TO **OBTAIN FEEDBACK**
- ENCOURAGE **SELF-MANAGING TEAMS**
- FOCUS ON A **LIMITED NUMBER OF REQUIREMENTS** TO MEET IN A GIVEN PERIOD
- TRY TO **GENERALIZE SPECIALISTS**

ROLES FOR AN AGILE ENVIRONMENT

- **CROSS FUNCTIONAL TEAM MEMBERS**
- **PRODUCT OWNER**
- **TEAM FACILITATOR**

MAJOR AGILE PRACTICES

1-RETROSPECTIVE&BACKLOG
2-DAILY STANDUPS
3-DEMONSTRATION REVIEWS
4-PLANNING FOR ITERATION TO DELIVER
5-EXECUTION FOCUSED ON VALUE
6-TROUBLESHOOTING
7-MEASUREMENTS AND RESULTS

IMPLEMENTING AGILE PRACTICES

1-RETROSPECTIVE&BACKLOG

a-learning from previous work (principle 12:TEAM REGULAR REFLECTION)

b-ITERATIONS (mainly 2 weeks) to prompt demonstration and retrospective

c-ANY RELEASE, EVEN SMALL, CALLS FOR RETROSPECTIVE

d-Backlog is the ordered list of all the work, in a story form, for the team

IMPLEMENTING AGILE PRACTICES

2-DAILY STANDUPS

Standups (max 15 min) are used to microcommitt and uncover issues in the team

Questions to be answered:

-what did I ***complete*** since the last standup?

-what am I planning to ***complete*** between now and the next standup?

-what are my risks and problems?

Teams run their own standups with intense collaboration

IMPLEMENTING AGILE PRACTICES

3-DEMONSTRATION REVIEWS

As the team completes the features,periodically demonstrates the product

A crucial part of what makes a project agile is a frequent delivery of the product

IMPLEMENTING AGILE PRACTICES

4-PLANNING FOR ITERATION TO DELIVER

Teams estimate what they can ***complete*** which is a measure of capacity

But they cannot know the unexpected: prediction of what they can deliver is uncertain

Agile teams do not plan just once in a single chunk: they

- plan a little,
- then deliver,
- then learn
- then replan a little more in an ongoing cycle

IMPLEMENTING AGILE PRACTICES

5-EXECUTION FOCUSED ON VALUE

(Practices mainly come fron eXtreme Programming)

-CONTINUOUS INTEGRATION

-TEST ALL LEVELS

-TEST DRIVEN DEVELOPMENT (TDD)

-SPIKES

IMPLEMENTING AGILE PRACTICES

6-TROUBLESHOOTING

AGILE WAS BORN ON THE NEED TO SOLVE ISSUES ASSOCIATED WITH HIGH RATED OF CHANGE,UNCERTAINTY,COMPLEXITY.

SO A VARIETY OF TOOLS AND TECHNIQUES IS AVAILABLE FOR DEALING WITH ISSUES THAT PRESENT PROBLEMS IN PREDICTIVE APPROACHES

AGILE PAIN POINTS AND TROUBLESHOOTING (1)

PAIN POINT	TROUBLESHOOTING POSSIBILITIES
UNCLEAR PURPOSE OR MISSION FOR THE TEAM	AGILE CHARTERING FOR PURPOSE:VISION,MISSION,MISSION TESTS
UNCLEAR WORK AGREEMENTS	AGILE CHARTERING FOR ALIGNMENT:VISION,MISSION,AGREEMENTS
UNCLEAR TEAM CONTEXT	AGILE CHARTERING FOR CONTEXT:BOUNDARIES, PROSPECTIVE ANALYSIS
UNCLEAR REQUIREMENTS	HELP STAKESHOLDERS CRAFT A VISION. BUILD A ROADMAP BY EXAMPLE,STORY MAPPING,IMPACT MAPPING, CLARIFY TEAM EXPECTATIONS OF A REQUIREMENT. DECOMPOSE BACKLOG TO SMALLER,CONCRETE REQUIREMENTS
POOR USER EXPERIENCE	INVOLVE USERS EARLY AND OFTEN
INACCURATE ESTIMATION	SPLIT STORIES
UNCLEAR WORK ASSIGNMENT	SELF MANAGEMENT OF THE TEAM
TEAM STRUGGLES WITH OBSTACLES	A SERVANT LEADER IS NEEDED TO HELP CLEARING THE OBSTACLES
DELAYS DUE TO NOT REFINED PRODUCT BACKLOG	CONSIDER SPLITTING STORIES TO USE SMALLER STORIES
DEFECTS	PAIR WORK, PERVASIVE TESTING, ROBUST DEFINITION OF

AGILE PAIN POINTS AND TROUBLESHOOTING (2)

PAIN POINT	TROUBLESHOOTING POSSIBILITIES
NOT COMPLETE WORK	TEAM DEFINES «DONE», ACCEPTANCE CRITERIA,RELEASE CRITERIA
DEGRADED CODE QUALITY	REFACTORING,PERVASIVE TESTS, AUTOMATED CODE QUALITY ANALYSIS
TOO MUCH COMPLEXITY	USE SIMPLE SMALL STEPS TO GET FUNCTIONALITY
SLOW IN THE TEAMWORK PROCESS	CAPTURE NO MORE THAN 3 ITEMS TO IMPROVE EACH RETROSPECTIVE
UPFRONT WORK LEADING TO REWORK	SEE OPTIONS FOR VALUE INSTEAD OF DESIGNS,SHORTEN ITERATIONS
FALSE STARTS,WASTED EFFORTS	ASK THE PRODUCT OWNER TO BE AN INTEGRAL PART OF THE TEAM
INEFFICIENT PRODUCT BACKLOG	RANK WITH VALUE BASED ON DELAY COST DIVIDED BY DURATION
RUSH/WAIT UNEVEN FLOW OF WORK	PLAN TO THE TEAM’S CAPACITY AND NOT MORE

TROUBLESHOOTING MOST FREQUENT PRACTICES

- DECOMPOSE BACKLOG TO SMALLER,CONCRETE REQUIREMENTS
- INVOLVE USERS EARLY AND OFTEN
- SPLIT STORIES
- SELF MANAGEMENT OF THE TEAM
- PAIR WORK
- PERVASIVE TESTING
- ROBUST DEFINITION OF DONE
- SEE OPTIONS FOR VALUE INSTEAD OF DESIGNS
- SHORTEN ITERATIONS

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IMPLEMENTING AGILE PRACTICES

7- **ORGANIZATIONAL PROJECT AGILITY: MEASUREMENTS AND RESULTS**

-TRANSITIONING TO AGILE MEANS DIFFERENT MEASUREMENTS

-NEW METRICS FOCUS ON CUSTOMER VALUE

-A PROJECT 90% COMPLETED DOESN’T MEAN THAT A LITTLE EFFORT IS NECESSARY TO TRANSFORM IT IN A PRODUCT

-PREDICTIVE MEASUREMENTS

REMOTE TEAMS

A lot of people work from home these days and many weren’t used to it

A period of adjustment was needed

Companies tried to provide virtual collaboration software by allowing customers to expand the use of the platforms without additional costs.

But successful remote working is more than just to get the right software solution.

It requires a different mindset, a different way of collaborating✉ MANY CHALLENGES

The ability to move the project forward is important to people right now as they look for some sense of continuity in a time of extreme disruption.

AGILE IN SHORT

1-METHOD FOR **KNOWLEDGE PROJECTS IN A UNCERTAIN ENVIRONMENT**

2-HIGH-UNCERTAINTY PROJECTS DEAL WITH HIGH CHANGE, COMPLEXITY,RISK

3-I**TERATIVE&EMPIRICAL**,IN **SPRINTS**, WHICH BUILD FROM THE PREVIOUS ONE

4-VALUES:**INDIVIDUALS,SOFTWARE,COLLABORATION,CHANGE**

5-FRAMING AGILE:**MINDSET, VALUES,PRINCIPLES,PRACTICES**

6-ROLES**: TEAM MEMBERS,PRODUCT OWNER,TEAM FACILITATOR**

AGILE MAIN AND GOAL

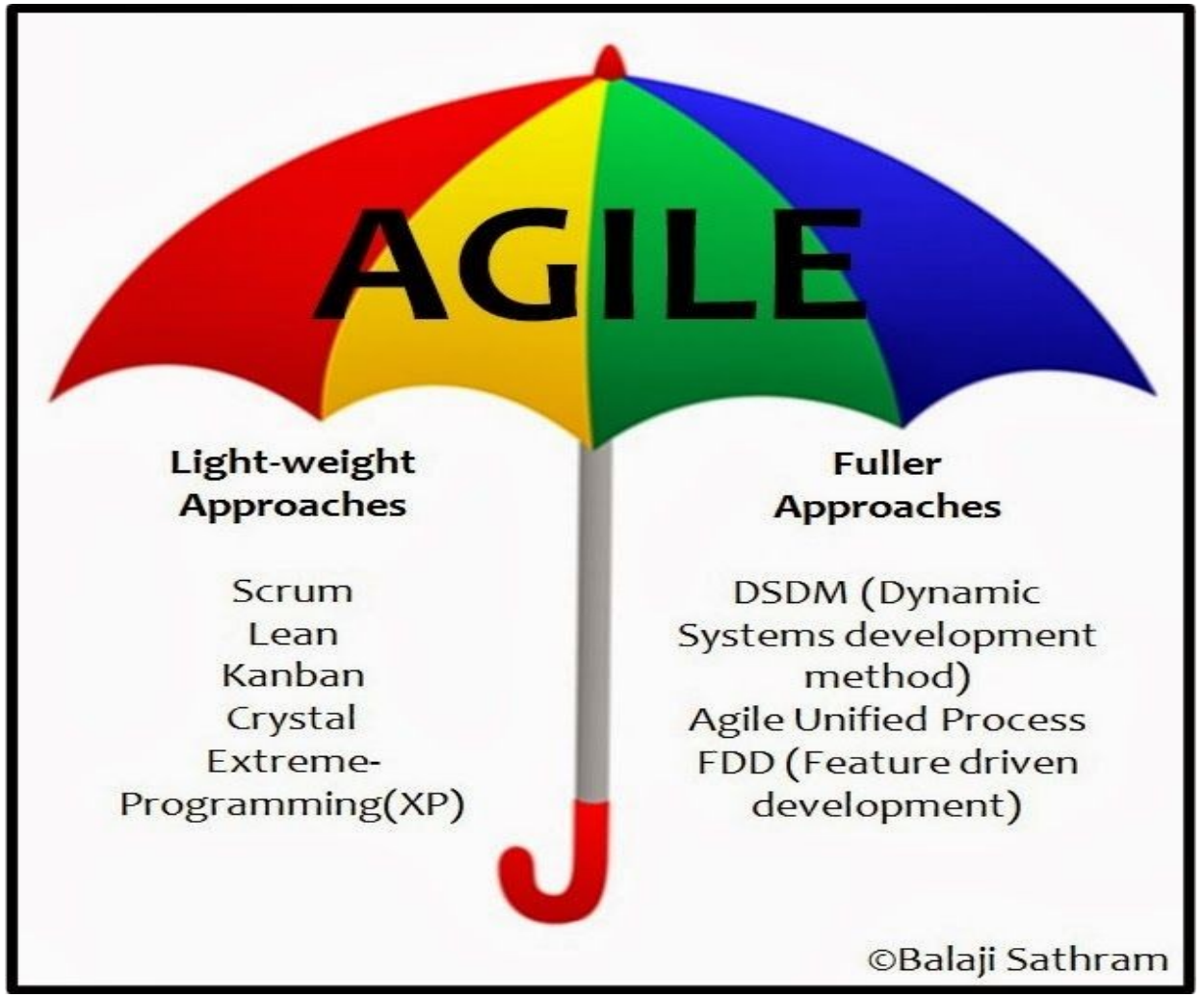
NOT TO BE AGILE FOR ITS OWN SAKE

BUT

TO PROVIDE CLIENTS WITH A NONSTOP FLOW OF

VALUE

2nd LESSON :AGILE: NEXT



THANKS FOR YOUR ATTENTION: NEVER FORGET THAT PROJECT MANAGEMENT IS OVERHEAD

MARIO SALANO

msalano11@gmail.com

Cell +39 335335329

NEXT LESSON 3 (APRIL 10 2025)

3. AGILE METHODOLOGIES OVERVIEW (WITHOUT SCRUM WHICH WILL BE TREATED IN A SEPARATE LESSON)