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Why use Scrum

Be Agile

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IMPROVE DATA

I. What is Scrum

Scrum is a lightweight set of practices used in agile project management as a framework for software development. It emphasizes a short, iterative and incremental approach for project work. It encourages communication and collaboration between customer and development team. It is all about humanizing the process so that a team can optimize its pursuit of a goal. It implements the principles of agile as a concrete set of artifacts, practices, and roles. It makes the team work better and in turn it makes better product. Scrum is now being increasingly adopted by companies worldwide for software development.

In traditional development projects, we write the whole requirements up front and then tell business owners that we cannot change anything during development except bugs, particularly as the project goes on. This approach often fails as it assumes that the customer can know what they want with 100% clarity at the start of a project and that no changes will be required that will make the Product more valuable. In reality customers don't know exactly their need or don't express it clearly at the beginning or they will have a changing need as they discover the product or due to changes in their organisation or in the market itself, during project development.

In Scrum, change is expected at the end of each sprint with new functionalities and new priorities. The time scale is fixed and detailed requirements emerge and evolve as the product is developed.

Agile methodologies are common-sense approaches for applying the finite resources of an organization to continuously deliver high business-value software solutions with low risk.

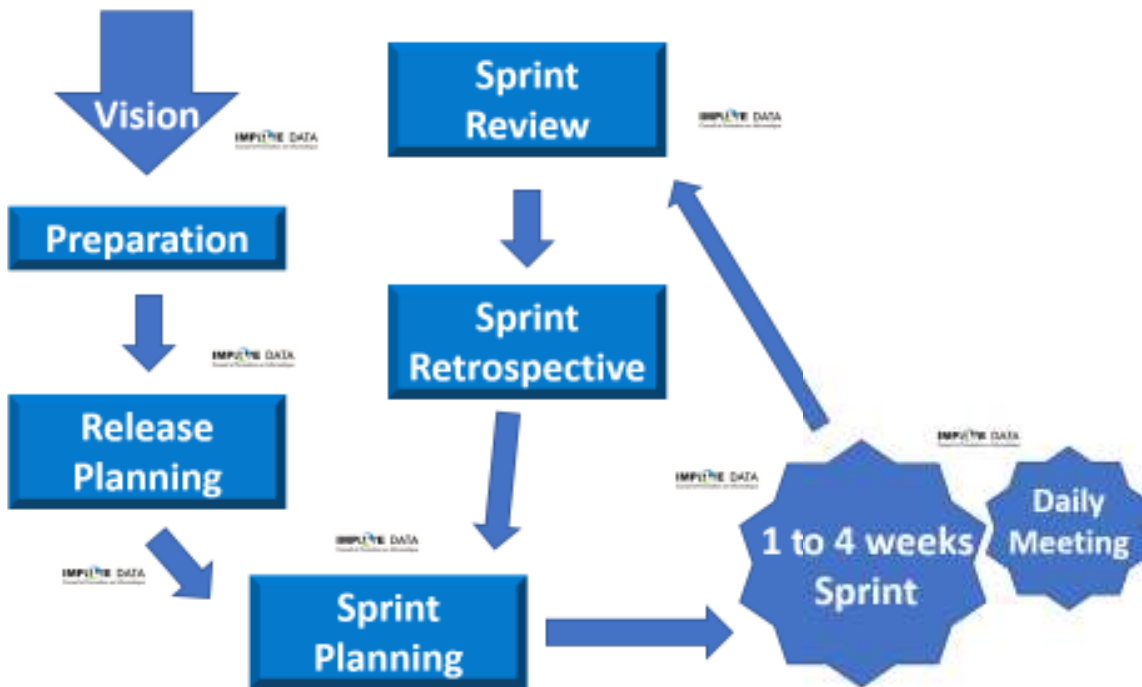
II. 12 Principles Of Agile

The Agile Manifesto lists [12 principles](#) to guide teams on how to execute with agility.

These are the principles:

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with preference to the shorter timescale.
4. Business people and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7. Working software is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. 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 behaviour accordingly.

Scrum Framework



III. Differences between Scrum and Waterfall methodology

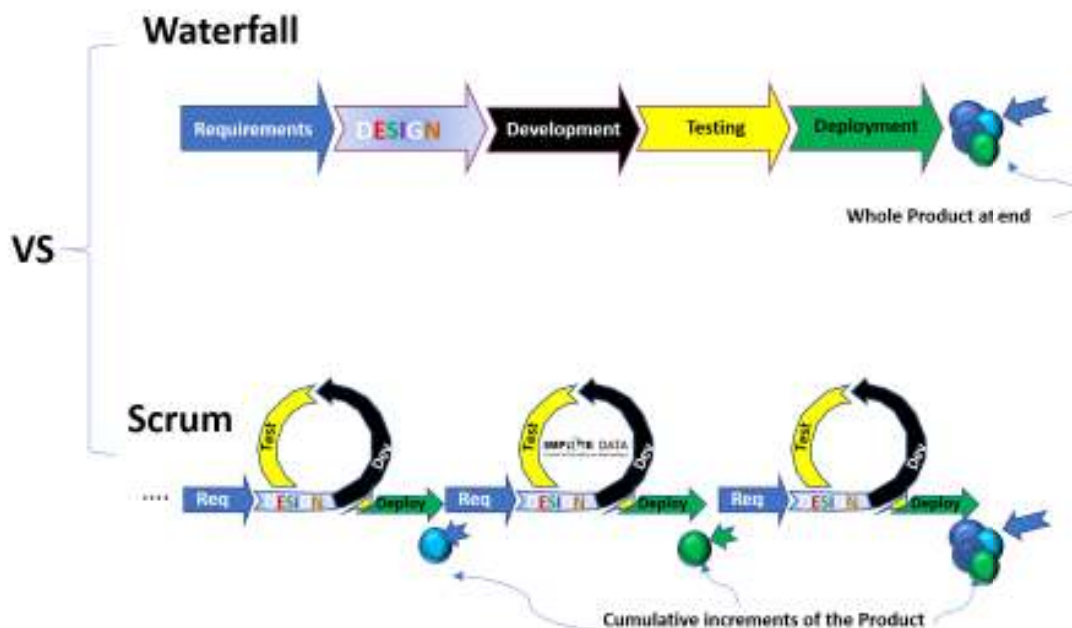
1. Iterative and Incremental phases called Sprints (Scrum) VS Sequential Independent phases (Waterfall)

While using the Waterfall model, software development is to be completed as one single project, which is then divided into different phases, with each phase appearing only once during the systems development life cycle (SDLC). However, the Agile methodology can be seen as a collection of many different projects, which are each the iterations of the different phases focusing on improving the software quality with feedbacks from users or the QA team.

Agile development methodology follows a linear sequential approach while providing flexibility for changing project requirements, as they occur. In the other hand, with Waterfall model for software development, there is no scope of changing

the requirements once the project development starts, then you have to be as clear as possible with all the development requirements beforehand.

The Waterfall model is project mindset and focuses strictly on the completion of project development, while Agile encourages a product mindset that focuses on ensuring that the developed product satisfies its end customers, and changes itself as the needs and requisites of customers change.



2. Agile (and scrum) projects are statistically 2X more likely to succeed, and 1/3 less likely to fail than waterfall projects.

Comparing Agile and Waterfall PROJECT SUCCESS RATES

METHOD	SUCCESSFUL	CHALLENGED	FAILED
AGILE	42%	50%	8%
WATERFALL	26%	53%	21%
www.ImproveData.fr		Source : The Standish Group 2017 (study over 2 years)	

Successful: A successful project is one that met all three of the triple constraints: schedule, cost, and scope, with a satisfactory result.

Challenged: A challenged project is one that met two out of three constraints, e.g. delivered on time and on budget but not with the desired scope.

Failed: A failed project is one that is cancelled before it is completed, or completed but not used by the customer.

Note: The secret to success in Scrum is to be accompanied during transition to agile, by experienced agile coaches. Change should be created step by step rather than as a whirlwind of change.

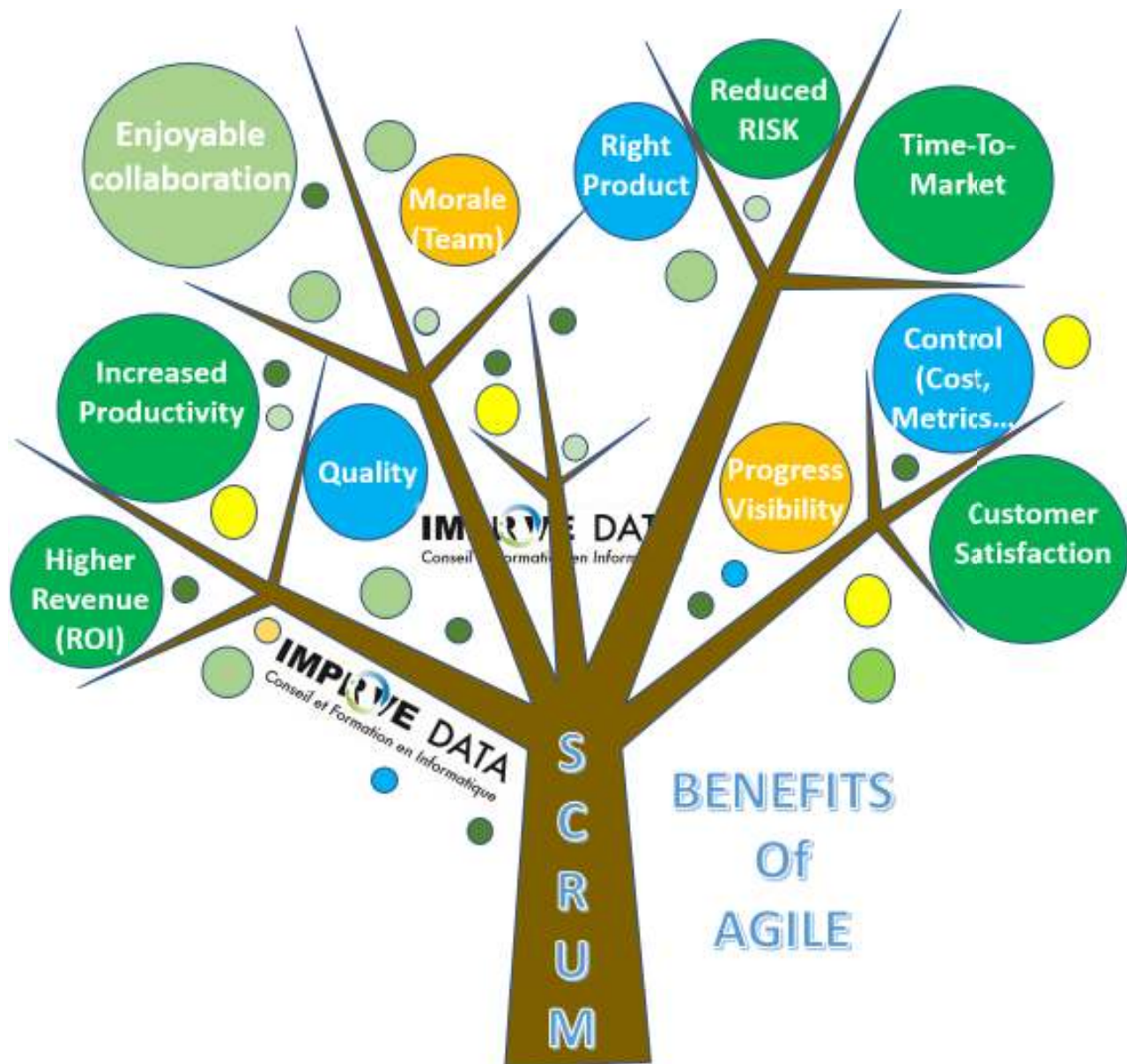
Most of failed Scrum projects were not coached and were not used as they should. Agile was misquoted, misunderstood and misused. Due to lack of coaching, teams went back to their old habits.

3. Scrum delivers Better Fit for Purpose than Waterfall projects



IV. The Benefits of Scrum & Agile

Following are some important benefits that scrum provides to organizations, teams, products, and individuals. It is up to your organisation to take advantage of scrum benefits, by trusting empiricism, and continually inspecting and adapting your implementation of it.



1. Quality:

The Scrum Framework changes the classical triangle of project management. The compromise is no longer between Time, Budget and Quality. Quality (or

scope) is no more an option. The compromise is now between Time, Budget and Functionality.



Maintaining quality is a key principle in Scrum Framework. Defining and elaborating on requirements is just in time so that knowledge of product features is as relevant as possible. Testing occurs every Sprint, and sprint reviews with stakeholders occurs at the end of each sprint enabling regular inspection of the working Product as it develops. This allows the Scrum team early visibility of any quality issues and allows them to make adjustments if necessary.

2. Speed to Market

Research suggests about 80% of all market leaders were first to market. Scrum has been proven to deliver value to the end customer 30 to 40 percent faster than traditional methods. This decrease in time is due to the fact that functionality is swarmed to completion each sprint. At the end of every sprint, scrum teams produce working product and service increments that are potentially shippable.

3. Increased Return On Investment (ROI)

The decrease in time to market is one key reason that scrum projects realize a higher return on investment (ROI). But revenue and other targeted benefits come

also from regular feedback through sprint reviews directly from stakeholders and customers, this enables course corrections early, which is less costly and time-consuming than later in the process. Scrum also reduces costs of failure, because if a scrum project is going to fail, it fails earlier and faster than waterfall projects.

4. Business Engagement and Customer Satisfaction

The active involvement of a Product Owner (the Scrum role who holds the value, manages stakeholders including customers and writes the requirements), the high transparency of the product and progress, the flexibility to change when change is needed, delivering product to end customers faster and more often with every release rather than all at once at the very end, and collaborating with customers as partners and keeping them involved and engaged throughout projects, all this stuff creates much better business engagement and customer satisfaction. This is an important benefit that can create much more positive and enduring working relationships.

5. HIGHER TEAM MORALE

Working with happy people who enjoy their jobs can be satisfying and rewarding. Scrum improves the morale of team members who enjoy being part of a self-managing and self-organizing team allowing them to be creative, innovative, and acknowledged for their expertise. Focusing on sustainable work practices and cadence ensures that people don't burn out from stress or overwork. Having a dedicated person (the Scrum Master) who serves the scrum team, removes impediments and shields the development team from external interferences as well as having a peer relationship with a business representative (product owner) on the same team aligns technical and business priorities and breaks down organizational barriers.

The active involvement, cooperation and collaboration in successful Scrum Teams makes for a more enjoyable place to work. When people enjoy what they do, are supported and trusted, the quality of their work will be higher and the possibility for innovation will be greater. Happy and motivated people are more efficient, effective and likely to stick around.

6. Increased Collaboration

Having the development team, the product owner, and the scrum master work closely together on a daily basis and conducting sprint planning meetings, daily scrum meetings, and conducting sprint reviews, where the product owner outlines their prioritization decisions and the development team can demonstrate and discuss the product directly with stakeholders and working in a collocated environment, all of that allow for instant communication and collaboration among development team members, the product owner, and the scrum master.

It follows that scrum teams take responsibility for projects and products, and they can produce great results. Scrum teams therefore collaborate and take ownership of quality and project performance.

7. More Relevant Metrics

Metrics used by scrum teams to estimate time and cost, to measure project performance, and make project decisions are more relevant and more accurate than those used on traditional projects. Exclusively those who will be doing the work, provide effort estimates for project requirements. Developers update themselves the burn-down chart daily, providing continuous visibility of progress toward a sprint goal.

We don't need to wait until the end of a project to know what its value is. At the end of every sprint, the product owner can compare the project's actual cost (AC)

plus the opportunity cost of future projects (OC) against the value that the current project is returning (V) to know when to terminate a project and begin a new one.

8. Transparency & Improved Progress Visibility

Transparency is one of the three pillars of Empiricism implemented by Scrum. On scrum projects, every member of the project team (including the scrum team and stakeholders) has the opportunity to know how the project is going at any given time. Transparency and visibility help the project team identify issues and more accurately predict how things will go as the project progresses. Scrum projects provide a high level of progress visibility by placing a high value on open, honest communication among the scrum team, stakeholders, customers, and anyone else within an organization who wants to know about a project. Many events and artifacts are there to provide continuous insight into progress, such as the daily stand-up meetings, the sprint burn-down charts, the task boards, the sprint retrospectives, the sprint reviews. Anyone within an organization may attend a sprint review, even members of other scrum teams. Transparency is therefore much higher for key stakeholders, both of the projects progress and of the product itself, which in turn helps to ensure that expectations are effectively managed.

9. Increased Project And Cost Control

The many opportunities to inspect and adapt throughout scrum projects allow all members of the project team, including stakeholders, to control project performance and make corrections as needed and ultimately create better products. As they are developing complete slices of functionality, they can measure the real cost of development as it proceeds, which will give them a more accurate view of the cost of future development activities.

10. Reduced Risk And Failure

Scrum helps reduce the risk of absolute project failure by early delivering tangible product and forcing scrum projects to fail quickly if they're going to fail at all, through the following practices:

- Having the highest-risk functionality developed first provides the most appropriate way to address issues or fail early and at a lower cost.
- Having small increments of working software (or product) made visible to all project team (including customers), starting with the very first sprint, and throughout the project development, helps to identify any risks early and make it easier to eliminate them, the risk of a failed project is greatly reduced.

But even if a project gets terminated, the highest-value and risk requirements have been developed and could be delivered to the customer if desired.