SHORT REFERENCE TEXT FOR THE ITPM COURSE PART 2

(PROJECT MANAGEMENT FOR IT PROJECTS: INNOVATIVE PROJECTS)

SUMMARY

0.INTRODUCTION

The following notes intend to integrate the slides of the second part of the course “PROJECT MANAGEMENT FOR IT PROJECTS-INNOVATIVE PROJECTS” with more detailed information and in any case intended to provide a solid practical basis for professions that concern innovative projects and in particular concerning software

1.INNOVATION AND METHODOLOGIES

Project Management is a wide domain of concepts, techniques, tools, used all over the world to define, program, develop project with different nature and targets.

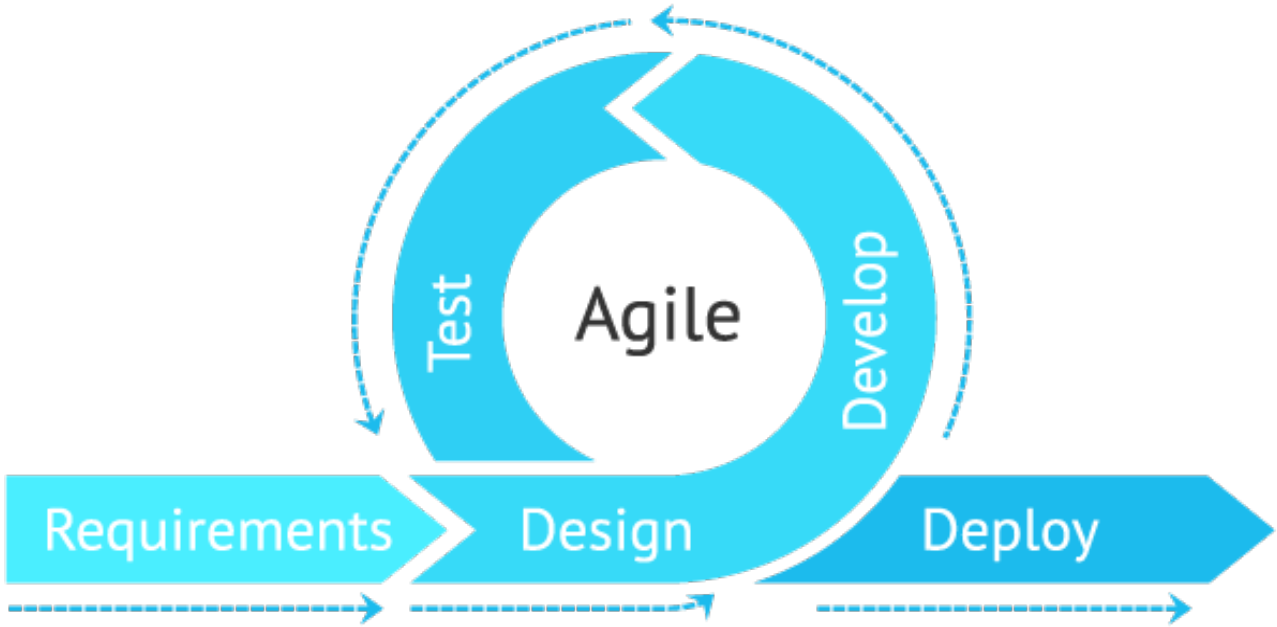
The Project Management methodologies can be defined in two, different but non antithetical ways: predictive and agile.

The **predictive** methodology (also named as prescriptive or waterfall) focuses on planning and analyzing the projected future in-depth even to anticipate the risks. This methodology relies on an early phase analysis and a detailed breakup of features and tasks for the entire development process.

In **agile** methodology, adaptive project management caters to focusing on adapting quickly to changing scope and project reality. As with the predictive model, with this methodology you still plan, schedule, identify key milestones and dependencies. But this model provides way *more flexibility* in the path to the end goal, which accommodates *changing* requirements along the way.

The Agile methodology is popular for projects where clients’ demands and requirements change frequently.

There's a wide array of project management frameworks you can use. Some methods though, like waterfall aren't effective for software teams. With priorities and customer needs constantly changing, the Agile methodology breaks projects up into several phases to drive continuous improvement.
Agile project management isn’t just useful for software project management:all types of teams have been successful with this dynamic methodology. If you’re looking to get started with Agile for innovative projects, you’ve come to the right place.
Agile methodology is a project management framework that breaks projects down into several dynamic phases, commonly known as sprints.
The Agile framework is an iterative methodology. After every sprint, teams reflect and look back to see if there was anything that could be improved so they can adjust their strategy for the next sprint.



Innovative projects need a proper approach today,in an environment disrupted by huge technology advances and clients looking for quick value like:

- analytics
- business intelligence,
- statistics
- cybersecurity
- infrastructure for software implementation: hardware,connections,data centers

- IT migrations to change a software platform and interfaces with other systems,
- Coding for many environments: internet, Office support, motion control…

Different approaches are necessary because innovative projects:

- HAVE NOT A TWIN THAT HAVE PROVED SUCCESSFUL IN THE PAST (cars, appliances, houses…)
- ARE EXPLORATORY, TERM REFERRED TO SOMETHING DONE TO DISCOVER MORE ABOUT SOMETHING (SERENDIPITY PHENOMENON OFTEN OCCURS…)
- ARE OFTEN FEATURED BY HIGH-UNCERTAINTY WORK WITH HIGH RATE OF CHANGE,COMPLEXITY,RISK WITH A NEED TO EXPLORE FEASIBILITY QUICKLY

2-AGILE CONCEPTS

Everyone manages projects, whether they're a certified project manager or not. Often the people managing the work are simply 'winging it', which can result in a struggle to manage multiple projects, meet deadlines, and adapt to changing requirements. Studies have found that companies who use a standard project management methodology have had "fewer than half as many project failures than those that did not have one." With this in mind, anyone who manages work should consider adopting a standard project management method. But with all the PM methods out there, how are you to know which one is best for your work management needs?

In this e-book, we'll take a look at the Agile project management philosophy. We'll give an overview of the top Agile methods, provide the advantages and disadvantages of each, and tell you how you can get started implementing Agile practices to ensure your next project is a success.

Agile project management is based on an incremental, iterative approach. Instead of in-depth planning at the beginning of the project, Agile methodologies are open to changing requirements over time and encourages constant feedback from the end users. The goal of each iteration is to produce a working product. Agile refers to any process that aligns with the concepts of the Agile Manifesto. In 2001, 17 software developers met to discuss lightweight development methods. They published the Manifesto for Agile Software Development, which covered how they found "better ways of developing software by doing it and helping others do it. The Agile Manifesto lists 12 principles to guide teams on how to execute with agility: Our highest priority is to satisfy the customer through early and continuous delivery of valuable software. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage. Deliver working software frequently, from a couple of weeks to a couple of months, with preference to the shorter timescale. Business people and developers must work together daily throughout the project. Build projects around motivated individuals. Give them the environment and support they need, and

trust them to get the job done. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation
Working software is the primary measure of progress. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely. Continuous attention to technical excellence and good design enhances agility. Simplicity -- the art of maximizing the amount of work not done -- is essential The best architectures, requirements, and designs emerge from selforganizing teams. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Agile development cycle

The phases in the Agile development cycle may not happen in succession; they are flexible and always evolving, with many happening in parallel. Planning: Once an idea is deemed viable, the project team comes together to identify features, prioritize each feature, and assign them to an iteration. Requirements analysis: Key stakeholders and users meet to identify business requirements that are quantifiable, relevant, and detailed. Design: The design is prepared from the requirements identified and the team considers what the product or solution will look like, deciding on a test strategy or plan to proceed. Implementation, coding or development: Coding or developing features, and scheduling iterations for deployment. Testing: Test the code against the requirements to make sure the product is actually solving customer needs. This phase includes unit testing, integration testing, system testing, and acceptance testing. Deployment: Deliver the product to customers. Once customers start using the product, they may run into new problems that the project team will need to address in future iterations

Advantages of Agile

Agile evolved from different development approaches in the 1990s and is a response to some project managers’ dislike of the rigid, linear Waterfall methodology. It focuses on flexibility, continuous improvement, and speed. Here are some of the top advantages of Agile: Change is embraced: With shorter planning cycles, there’s always opportunity to refine and reprioritize the backlog to accommodate changes throughout the project. End-goal can be unknown: Agile is beneficial for projects where the end-goal is not clearly defined. As the project progresses, the goals will become evident and the team can adapt. Faster, high-quality delivery: Breaking down the project into iterations allows the team to focus on high-quality development, testing, and collaboration. Conducting testing during each iteration means that bugs get identified and solved more quickly. Strong team interaction: Agile embraces frequent communication and face-toface interactions. Customers are heard: Customers have many opportunities to see the work being delivered, share their input, and have an impact on the end product. Continuous improvement: Feedback is encouraged from users and team members throughout the project, so lessons learned are used to improve future iterations

Disadvantages of Agile

While flexibility in Agile is usually a positive, it also comes with some trade-offs. It can be hard to establish a solid delivery date, documentation can be neglected, or the final product can be very different than originally intended. Here are some of the disadvantages of Agile: Planning can be less concrete: Because project managers are often reprioritizing tasks, it’s possible some items scheduled for delivery may not be complete in time. And, additional sprints may be added at any time in the project, adding to the overall timeline. Team must be knowledgeable: Agile teams are usually small, so team members must be highly skilled in a variety of areas and understand Agile methodology. Time commitment from developers: Active involvement and collaboration is required throughout the Agile process, which is more time consuming than a traditional approach. Documentation can be neglected: Agile prefers working deliverables over comprehensive documentation. While documentation on its own does not lead to success, teams should find the right balance between documentation and discussion

3-AGILE METHODOLOGIES OVERVIEW WITHOUT SCRUM

Extreme Programming (XP): This type of software development is intended to improve quality and responsiveness to evolving customer requirements. Feature-driven development (FDD): There are five basic activities in FDD: develop overall model, build feature list, plan by feature, design by feature, and build by feature. Adaptive system development (ASD): ASD represents the idea that projects should always be in a state of continuous adaptation, and has a cycle of three repeating series: speculate, collaborate, and learn. Dynamic Systems Development Method (DSDM): DSDM addresses the common failures of IT projects, like going over budget, missing deadlines, and lack of user involvement. The eight principles of DSDM are: focus on the business need, deliver on time, collaborate, never compromise quality, build incrementally from firm foundations, develop iteratively, communicate continuously and clearly, and demonstrate control. Lean Software Development (LSD): LSD can be characterized by seven principles: eliminate waste, amplify learning, decide as late as possible, deliver as fast as possible, empower the team, build integrity in, and see the whole. Crystal Clear: This methodology can be used with teams of six to eight developers and it focuses on the people, not processes or artifacts. Crystal Clear requires the following: frequent delivery of usable code to users, reflective improvement, and osmotic communication preferably by being co-located.

4-SCRUM

SCRUM is the most common agile methodology.

The process is followed by an interdisciplinary team working on a project continuously passing the ball around and acting as one entity.

The term SCRUM is in fact borrowed from rugby and indicates the scrum as a metaphor for the team of developers who proceed synergistically towards the goal. The image of players united in tackling the scrum to contest the ball gives a good idea of the approach which involves the use of teams of small cross-functional units working towards a common goal through multiple overlapping phases.

Usually, Scrum is adopted in **software projects** for iterative development particularly useful when writing code, testing it and improving it even if it does not originate from this area. In fact, its Japanese inventors were inspired by the automotive and photocopier industries.

To be precise, Scrum is a management system that suggests the best procedures that can be linked to a project in order to be able to adopt them. The **principles** of Scrum are:

1. Iterative development
2. Collaboration
3. Activities with a certain duration
4. Priority management based on value
5. Empirical process control
6. -Self-organization

The structure is simple, based on **3 main roles and 5 phases**, very similar to those of traditional Project Management (prescriptive or waterfall):

1. initiation,
2. planning and estimating,
3. implementation,
4. review,
5. retrospective and release.

The "heart" is the sprint, a kind of mini-project with a fixed duration and deadline. However, the implementation of Scrum is successful when accompanied by an agility-oriented cultural revolution in which hierarchies are replaced by collaboration and creativity.

It is also interesting to understand the **roles**:

1. the project manager is replaced by a highly collaborative team
2. the Scrum master is a kind of guardian of the method
3. the product owner takes into account the work done and to be done as expected.

The project manager of the future will increasingly be a **business owner,** a role that implies a growing **strategic** function and therefore halfway between prescriptive and agile

4.1 EFFICIENCY OF SCRUM

As complexity increases central control shows some gaps and the right way is to change to a new system with independent agents according to proper rules.
It is difficult to plan when customers make requests at any time.
The more complex the system, the more likely it is that central control systems will break down. So companies decentralize and governments try to deregulate
Scrum travels this trampled approach by moving control from a central authority to individual teams doing the work.

The more complex the project, the more necessary it becomes the delegation to individual people who are closer to the work.
Scrum works also because it shortens a lot the feedback loop between the customer and the developer, between the wish list and its implementations, between investment and return on investment
When there is a simple system it is also quite simple to know in advance what to do but when there is a market economy that changes all the time and a technology that won't stand still the problem solving correct approach is the tried-and-true approach.
In practice all the process-improvement programs use something of theFACT-BASED-DECISION-MAKING cycle: To study a problem, try with a solution, check the results, adopt proven improvements.
Scrum forces us to test and integrate our experiments and pushes us to release them to production in order to have a full learning cycle in about 30 days.

4.2 SCRUM GENERAL FEATURES

Scrum comes from rugby, meaning melee, a shooting phase of the game when the ball is contended between 2 groups of players pushing each other.Currently more than 50% of companies which adopt agile, use Scrum
Scrum is an agile project management framework that helps teams structure and manage their work through a set of values, principles, and practices. Much like a rugby team (where it gets its name) training for the big game, scrum encourages teams to learn through experiences, self-organize while working on a problem, and reflect on their wins and losses to continuously improve.
While the scrum I'm talking about is most frequently used by software development teams, its principles and lessons can be applied to all kinds of teamwork. This is one of the reasons scrum is so popular. Often thought of as an agile project management framework, scrum describes a set of meetings, tools, and roles that work in concert to help teams structure and manage their work.

4.3- SPRINTS

A sprint is a short, time-boxed period when a scrum team works to complete a set amount of work. Sprints are at the very heart of scrum and agile methodologies, and getting sprints right will help your agile team ship better software with fewer headaches.

"With scrum, a product is built in a series of iterations called sprints that break down big, complex projects into bite-sized pieces," said Megan Cook, Head of Product for Jira at Atlassian.

Many associate scrum sprints with agile software development, so much so that scrum and agile are often thought to be the same thing. They're not. Agile is a set of principles and scrum is a framework for getting s#it done.

The many similarities between agile values and scrum processes lead to a fair association. Sprints help teams follow the agile principle of "delivering working software frequently," as well as live the agile value of "responding to change over following a plan." The scrum values of transparency, inspection, and adaptation are complementary to agile and central to the concept of sprints.

The scrum folks really did think of everything. In order to plan your upcoming sprint, you use the sprint planning meeting! Sprint planning is a collaborative event where the team answers two basic questions: What work can get done in this sprint and how will the chosen work get done?
Choosing the right work items for a sprint is a collaborative effort between the product owner, scrum master, and development team. The product owner discusses the objective that the sprint should achieve and the product backlog items that, upon completion, would achieve the sprint goal.
The team then creates a plan for how they will build the backlog items and get them “Done” before the end of the sprint. The work items chosen and the plan for how to get them done is called the sprint backlog. By the end of sprint planning the team is ready to start work on the sprint backlog, taking items from the backlog, to “In-progress,” and “Done."
During a sprint, the team checks in during the daily scrum, or standup, about how the work is progressing. The goal of this meeting is to surface any blockers and challenges that would impact the teams ability to deliver the sprint goal.
After a sprint, the team demonstrates what they’ve completed during the sprint review. This is your team’ opportunity to showcase their work to stakeholders and teammates before it hits production.
Round out your sprint cycle with my favorite meeting, the sprint retrospective. This is your teams opportunity to identify areas of improvement for the next sprint. With that, you’re ready to start your next sprint cycle. Onward!
Do's and Don’ts
Do:

- Make sure the team sets and understands the sprint goal and how success will be measured. This is the key to keeping everyone aligned and moving forward toward a common destination.
- Do ensure you have a well-groomed backlog with your priorities and dependencies in order. This can be a big challenge that could derail the process if it’s not properly managed.
- Ensure you have a good understanding of velocity, and that it reflects things like leave and team meetings.
- Do use the sprint planning meeting to flesh out intimate details of the work that needs to get done. Encourage team members to sketch out tasks for all stories, bugs, and tasks that come into the sprint.
- Leave out work where you won’t be able to get the dependencies done, like work from another team, designs, and legal sign-off.

- Finally, once a decision or plan is made, make sure someone captures that information in your project management or collaboration tool, like your Jira tickets. That way, both the decision and the rationale are easy for everyone to see later.

While you're working on being a scrum all-star with these "do's," watch out for a few red flags too:

Don't:

- Don't pull in too many stories, overestimate velocity, or pull in tasks that can't be completed in the sprint. You don't want to set yourself or your team up for failure.
- Don't forget about quality or technical debt. Make sure to budget time for QA and non-feature work, like bugs and engineering health.
- Don't let the team have a fuzzy view of what's in the sprint. Nail it down, and don't focus so much on moving *fast* that you forget to make sure everyone's moving in *the same direction*.
- Also, don't take on a large amount of unknown or high-risk work. Break down stories that are large or have high uncertainty, and don't be afraid to leave some of that work for the next sprint.
- If you hear concerns from the team, whether it's about velocity, low-certainty work, or work they think is bigger than what they estimated, don't ignore it. Address the issue, and recalibrate when necessary.

Optimize your sprints with automation

Once you have mastered how sprints work, you can optimize your processes using automation. Here are three of the most common automation rules used for sprints in Jira.

1. Send a weekly Slack message with all issues still open in the sprint.
2. When a sprint finishes, then assign outstanding issues to the next sprint.
3. When an issue moves to 'In Progress' and the sprint is empty, then move the issue to the next active sprint

Sprints are so well known (and so effective!) that they're often seen as the first step on the path towards greater agility. As we've learned, mastering sprints requires a mastery of a handful of scrum and agile concepts that build upon each other. Please use the rest of our articles on scrum to round out your knowledge and inch ever closer towards scrum bliss.

You can easily get started on the right foot by planning your sprint (and incorporating do's and don'ts) with our scrum template, which includes everything you need to plan, track and manage work across sprints. Also, learn how to use sprints in Jira.

5.LEAN

Lean agile is an agile methodology that, in basic terms, is quite simple: improve efficiency by eliminating waste. Unlike traditional, waterfall project management, which dictates a set plan laid out by a project manager, lean agile strives to reduce all tasks and activities that don't provide real value

Five Lean Principles

Waste is expensive! It’s paying someone not do any real work, paying for supplies you don’t need, or paying for team members to sort out a preventable issue. Lean agile aims to eliminate wasteful resources and tasks for improved efficiency and reduced costs — while never sacrificing quality. In fact, lean agile prioritizes bringing value to the customer with every decision that’s made.

Lean agile is a development method that helps teams identify waste and refine processes. It’s a guiding mindset that facilitates efficiency, effectiveness, and continuous improvement.

Consider this: You probably work a lot better when your desk isn’t completely covered with a mess of things you don’t need. When you eliminate distractions and waste, it establishes an organized workspace and workflow. This helps you focus on what’s most important, ensuring you work efficiently and effectively.

Here, you’ll learn more about the development of lean, the benefits of lean agile, and the five core principles of lean.

The development of lean agile

Lean agile, or lean software development, originates from the principles of lean manufacturing. The concept was brought into manufacturing to improve profits by reducing costs instead of solely relying on increased sales. If a company can eliminate waste and become more efficient, it can save money, thereby increasing overall profits.

Lean agile is an agile methodology that, in basic terms, is quite simple: improve efficiency by eliminating waste. Unlike traditional, waterfall project management, which dictates a set plan laid out by a project manager, lean agile strives to reduce all tasks and activities that don’t provide real value. This helps ensure everyone involved in a project or product development can work at optimal efficiency.

If you’re looking to dive into the history of lean agile, Lean Enterprise Institute Inc., founded in 1997 by James P. Womack, PhD, is a leading resource for lean methodology. It aims to help people and teams work better through lean thinking and practices.

Lean practices are popular because they can be applied to other agile approaches and software development methods. Lean agile provides a clear application for scaling agile, which is often difficult for large or growing organizations.

The benefits of lean agile

In case you’re not on board with lean agile yet, let’s review its main benefits.

Waste less time

Time is wasted when processes don’t run smoothly. In lean manufacturing, it’s important for goods and services to be delivered quickly and effectively. No

one's time should be wasted on the job, and companies should aim for shorter lead times without sacrificing quality.

Wasting time in any industry is expensive, but it’s particularly important to pay attention when working in agile software development. Even a small bottleneck or broken process can completely throw off a workflow or product deadline.

Lean agile helps development teams manage time effectively to ensure everyone is utilized, no one's time is wasted, and roadblocks are anticipated in advance.

Reduce costs

When businesses eliminate waste, they save money. In its original form, lean manufacturing ensured companies had the right amount of materials, employees, and working hours at any given time. Overproduction, overhiring, or simply having too many materials to store are expensive wastes that can be eliminated through better management of systems and processes.

Any business, no matter the industry, will save money with improved efficiency. Lean agile ensures that waste is continually eliminated and agile teams continue to fine-tune processes for optimal efficiency.

Improve work quality

With lean agile, it’s not only about efficiency — it's about maintaining efficient processes while bringing a quality product to customers and stakeholders.

When businesses intentionally improve processes, they remain competitive. Lean principles consider the customer value of any action or decision to ensure needs are always met or exceeded.

The five principles of lean agile

There are five core principles for implementing lean methodology:

1. Value
2. Value stream
3. Flow
4. Pull
5. Perfection

These principles describe a five-step process that guides the implementation of lean techniques for manufacturing, software development teams, and other agile practicing industries.

1. Identify value

The first step requires you to step into the shoes of the customer. Value is what the customer needs and wants from a specific project or product.

Consider from the customers’ point of view: What are their expectations? What are they willing to pay for? How do they want their needs met?

Sometimes, customers may be unable to define exactly what they’re looking for — especially if it’s a new product or technology they’re unfamiliar with.

In any case, the project cannot move forward without clearly identifying what it will take to provide customer satisfaction. You’ll need to identify the end goal (value) customers are hoping to find with the product or service.

2. Map the value stream

Next, the team visually maps each of the steps and processes it will take to bring the product from inception to delivery. By making each step visible and always keeping the value top-of-mind, it’s easier to see which steps don’t

directly contribute to continuous delivery. Once wasteful steps are found, the team finds ways to eliminate those steps or reduce them as much as possible. Getting rid of waste ensures your company doesn't unnecessarily spend money on steps and processes that don't add value. And — most importantly — the customer gets exactly what they're looking for.

3. Create flow

Once the waste is eliminated from the value stream, the next step is ensuring the remaining processes work as effectively and efficiently as possible, which means no delays, disruptions, or bottlenecks. It's important for the steps that create value to work in tight sequences to ensure the product flows smoothly toward the customer.

In order to achieve this kind of agile transformation, lean businesses must train their employees to be adaptive and multi-skilled, create cross-functional teams, break down and reconfigure steps in the production, and balance employee workloads.

4. Establish a pull system

With enhanced flow, your team can deliver products and services faster. A pull system enables "just-in-time" manufacturing and delivery, limiting inventory and work in progress (WIP) items by only producing enough to meet customer demand.

By establishing a pull system, you create products and services as needed as opposed to creating them in advance, which leads to a growing inventory or list of tasks that need to be stored and managed — draining your bottom line.

5. Seek perfection

By completing steps 1-4, waste is eliminated — for now. However, the work is never done. There is always a process that could be improved, and there will always be steps in project and product development that waste time and money or don't deliver value. That's why the fifth step of seeking perfection is key.

Lean takes time to implement, and going through the process once is not enough. Build a continuous improvement mindset into your company culture, and never settle for the same old.

Lean agile made easy

Lean prioritizes the elimination of waste to improve efficiency. This helps teams continually improve their processes while emphasizing the tasks that bring the most value to customers.

If you're looking to learn about how agile principles work with other development approaches, we recently covered eight different software development methodologies**, including rapid application development, extreme programming (XP), and other agile frameworks.**

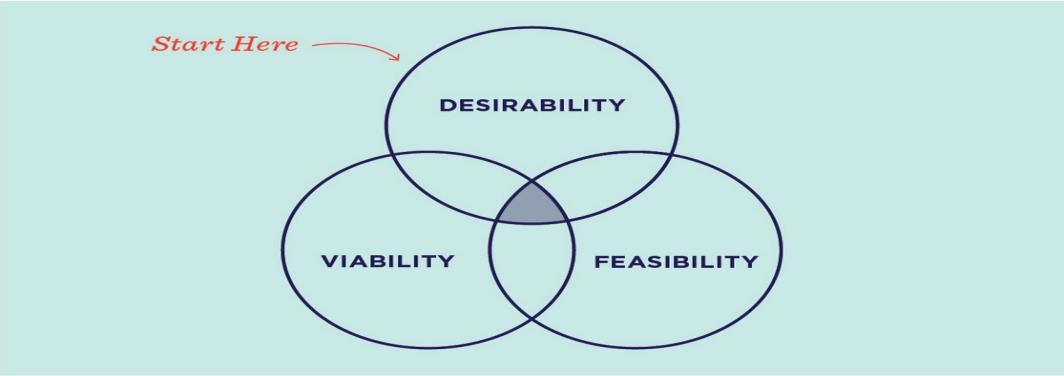
Easy Agile is dedicated to helping teams improve their processes and agile methods.

6. DESIGN THINKING

Design thinking encourages organizations to focus on the people leading to better products, services, and processes. When you sit down to create a

solution for a business need, the first question should always be **what's the human need behind it?**

How Does Design Thinking Work?



- **Desirability: What makes sense to people and for people?**
- **Feasibility: What is technically possible within the foreseeable future**
- **Viability: What is likely to become part of a sustainable business model?**

The design thinking process starts with taking action and understanding the right questions. It's about *embracing simple mindset shifts* and *tackling problems from a new direction.*

Design thinking can help your team or organization:

- Understand the unmet needs of the people you're creating for (customers, clients, students, users, etc...).
- Reduce the risk associated with launching new ideas, products, and services.
- Generate solutions that are revolutionary, not just incremental.
- Learn and iterate faster.
- Collaborate better and tap into the creative potential of individuals and teams.

Design Thinking Applications:

Design thinking is applicable no matter your role or industry. Whether you work in business, government, education, or nonprofit, design thinking can help you develop innovative solutions based on the needs of your customers. See case studies showcasing the impact of design thinking across a variety of industries and practices.

Phases of Design Thinking

We teach the phases of design thinking as linear steps, but in practice the process is not always linear. Some of these steps may happen several times, and you may even jump back and forth between them. Moving through the phases of design thinking can take you from a blank slate to a new, innovative solution.

Frame a Question—Identify a driving question that inspires others to search for creative solutions.

Gather Inspiration—Inspire new thinking by discovering what people really need.
Generate Ideas—Push past obvious solutions to get to breakthrough ideas.
Make Ideas Tangible—Build rough prototypes to learn how to make ideas better.
Test to Learn—Refine ideas by gathering feedback and experimenting forward.
Share the Story—Craft a human story to inspire others toward action.
When done right, design thinking will help you understand the mindsets and needs of the people you're creating for, surface opportunities based on these needs, and lead you to innovative new solutions starting with quick, low-fidelity experiments that provide learning and gradually increase in fidelity.

4 Ways to Get Started with Design Thinking

1. Gather Insights by Practicing Empathy, Observation, and Interviewing
Getting to know your customers is the first step toward creating products and services they want and need. Don't assume you know what someone thinks or feels. Gathering information about your target consumer is a critical piece of the design thinking approach. Build your interview skills with these tips.

2. Build Scrappy Prototypes to Learn About Unmet Needs
You don't need lots of time or resources to prototype. Begin with pen and paper or other accessible resources, like a slide deck, to mock up ideas and get feedback that will help you better understand the needs of your customers before investing in production.

3. Turn Problems into Questions
When presented with a problem, resist the urge to find a solution right away. Shift your mindset to instead ask a question that might get you closer to the root of the challenge or support an incremental improvement.
Take the example of an IDEO team who was working with a company struggling with retention. Instead of focusing on improving retention rates, they asked, *How can we make a better employee experience?* By refocusing on the real human needs, they uncovered insights that were better able to drive toward a solution.

4. Use Research to Understand the Past, Present, and Future
IDEO typically uses lots of different research techniques to generate insights around the needs of people including, but not limited to, observation, interviewing, immersive empathy, and exploring extreme users.
Generally, the type of research you can do falls into three buckets:

- **Generative Research:** Used to identify new opportunities and explore needs.
- **Evaluative Research:** Used to gather feedback on experiments and help you iterate forward.
- **Validating Research:** Traditional market research intended to help you understand what is currently happening.

Generative and evaluative research are focused on the future and new ideas, while validating research is centered around what is occurring in the present.

Balance your research approach to focus on what’s happening now and what could be in the future.

7.VALUE DRIVEN DELIVERY

The goal of agile is the asap delivery of the value throughcontinuous,periodical,incremental releases

Value must absolutely framed within priority and the delivered value must be used as a principle of prioritization of the backlog

Marketing is the discipline to achieve the company goals: **launch successful products and services SO** the goal of marketing is the creation of **value** for customers and for the company

One of the best definition of value: **utility or importance in comparison with something else.**

1. **2 main meanings of value:** value for the customer=sacrifice difference between what he receives and what he gives in counterpart
2. exchange value=selling price
   Unavoidable points of all the companies:

- **VISION**: what you want to accomplish.
- **MISSION**: how you will achieve your vision.

- **STRATEGY:way of using the mission to achieve the vision**.

IN THE MISSION OF EVERY COMPANY, FROM THE SMALLEST TO THE BIGGEST ONES, THERE SHOULD BE THE

- PLANNING
- CREATING
- EXECUTING
- COMMUNICATING
- DELIVERING

VALUE
CONCEPTS THAT GUIDE BUSINESS.
BUSINESS VALUES CAN HELP

- MAKE DECISIONS,
- FOSTER A CULTURE OF TEAMWORK
- CREATE A POSITIVE WORKING ENVIRONMENT.

BUSINESS MODEL: COMPANY'S PLAN FOR MAKING PROFIT.
IT IDENTIFIES

- THE PRODUCTS OR SERVICES TO SELL
- TARGET MARKET
- ANY ANTICIPATED EXPENSES.

DELIVERY VALUE IS SIMPLY THE REASON TO DO PROJECTS

- **VALUE DRIVEN DELIVERY: Within Agile approach the effect is to provide a non costant differential value which grows progressively up the achievement of a peak.**
- **In opposition in the traditional approach the differential value is totally provided at the end of the project**

VALUE DRIVEN DELIVERY PRACTICES

1. ASSESSING VALUE
2. PRIORITIZING VALUE
3. DELIVERING INCREMENTALLY
4. AGILE-CONTRACTING
5. VALIDATING VALUE

DELIVER VALUE EARLY (EAT YOUR DESSERT FIRST!)

WHY?

1. LIFE IS SHORT…
2. STAKEHOLDERS PLAY A HUGE ROLE IN SUCCESS

«decide to prioritize value-adding activities and risk-reducing efforts»

«remember that wasteful activities reduce value (overheads…)»

8-STAKEHOLDERS, TEAMS, ADAPTIVE PLANNING

Adaptive planning is a flexible project management approach that focuses on responding to change and uncertainty while aligning with stakeholder needs. It involves engaging stakeholders early and often, prioritizing value delivery, and making iterative adjustments to the plan as needed. This approach contrasts with traditional, more rigid planning methods.

Elaboration:

- **Stakeholder Engagement:**
  Adaptive planning emphasizes the importance of involving all stakeholders, including customers, users, and other relevant parties, in the planning process. This ensures that the project goals and strategies are aligned with their needs and expectations.

- **Team Collaboration:**
  Teams are encouraged to collaborate closely and communicate frequently with stakeholders to address changing requirements and feedback. This iterative process helps ensure that the project remains focused on delivering value.
- **Iterative Planning:**

Adaptive planning involves continuous iteration, regular reevaluation, and as-needed plan modifications. This allows teams to respond effectively to changing circumstances and unexpected challenges.

- **Prioritizing Value Delivery:**
  Adaptive planning focuses on delivering value to customers incrementally and frequently. This approach helps to build stronger relationships and ensure that the project remains aligned with evolving business needs.
- **Flexibility and Responsiveness:**
  By embracing a flexible and adaptive approach, teams can be more responsive to market changes and stakeholder feedback. This helps them to maintain a competitive edge and achieve greater success.

9. CASE STUDIES

THE WORLD IS MORE AND MORE "PROJECTIZED".
PROJECT MANAGEMENT WITH ITS BASIC CULTURE BECOMES A FORMIDABLE ASSET

- **1969: after months of conversations between Jim Snyder and Gordon Davis, a decision was taken to form a new organization to provide a means for project managers to associate, share information and discuss issues**
- **A meeting in Georgia sealed the birth of the Project Management Institute**

Shortly thereafter, articles of incorporation were signed in Pennsylvania, by the founders of PMI: James Snyder, Eric Jenett, Gordon Davis, E.A. "Ned" Engman and Susan C. Gallagher
4 periods :

- **Before 1958→GANTT in 1910**
- **1958 to 1979→CPM and PERT**
- **1980 to 1994→COMPUTER ANALYSIS**
- **1995 to present→AGILE**
- **The modern age is defined by the Internet, as true in project management as anywhere.**
- **The access and connectivity it allows, have transformed methods for organizing and performing work.**
- **In 2001 the Agile Manifesto was published, outlining a new philosophical approach and new techniques**
- **Concepts from project management have begun to shape business strategy overall, benefiting strategic management.**

The most lasting legacy of Apollo was an improved understanding of how:

1. **to plan,**
2. **to coordinate**
3. **to monitor the myriad activities that were the Apollo building blocks**

4. **2504BC: The pyramid of Giza-Egypt;230 meters long,137 meters high, 3 million stone blocks,30,000 working people. Each block weighed between up to 8 tons**
5. **475BC:The Great Wall of China to protect Chinese cities from the Huns. Today: a wall of 8,851 km. The walls are 7.8 meters high and upto 5 meters wide.**
6. **The Brooklyn Bridge (1883) - It was the first bridge supported by steel cables, the longest in the world, 1054 m. To date, about 144,000 vehicles cross the bridge every day**
7. **1914 The Panama Canal revolutionized shipping by connecting the Atlantic to the Pacific. Currently, more than 15,000 boats cross the canal every year.**
8. **1937 The Golden Gate Bridge to connect San Francisco to the bay. A total of 130000 km of cables. The 2 km of bridge have to face heavy wind and risk of earthquakes.**
9. **1994 Channel Tunnel to Great Britain without a boat. A length of over 50 km,a depth of 76 meters.13,000 people (engineers, technicians,workers) took 6 years to build.**
10. **Dubai Tower,828 meters high, the tallest building in the world since 2010. 163 floors for over 300000 m2**

2020 SAN GIORGIO BRIDGE (FORMER MORANDI)

TRUE OR FALSE?

1. **NASA and the Apollo programs contributed to the advancement of project management**
2. **MOOG provided Comau with an innovative way to cook pasta**
3. **3 greatest players in industrial robotics are Fanuc, ABB, Comau**
4. **The Great Wall of China used agile to be developed**

10. EXERCISES

11. CONTINUOUS IMPROVEMENT

As technology and remote work create wider gaps in interpersonal communication, you will need to work even harder on the relationship with your project stakeholders. Soft skills will become the glue that holds a project together.

Soft skills like communication, motivation and delegation help project managers build a strong, collaborative team that works effectively toward a common goal. You will need to clearly communicate plans, updates and roadblocks to everyone involved, fostering trust and avoiding misunderstandings.

Conflicts will still occur, so skills such as active listening, empathy and negotiation are needed to keep the project moving forward—while problem-solving and critical thinking allow you to adjust to unexpected situations and find solutions.

Adaption approach: foster open and transparent communication channels within your project teams and with stakeholders to ensure alignment and collaboration.