# Leveraging Generative AI Tools for UX Design in Lean and Agile Projects

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**Abstract**

Recent advancements in Generative AI (GenAI) open new opportunities to improve User Experience (UX) practitioners' efficiency in their projects. Due to intensive teamwork caused by time pressure and readiness for rapid changes, Lean and Agile project management seems particularly predestined for easy adoption of GenAI-supported UX design methods. However, precipitate and spontaneous leveraging of GenAI tools to UX design bears the risk that results may differ from what is expected and cause delays that harm a speedy IT project management. This paper identifies issues relevant to UX practitioners' dilemmas when considering GenAI tools for user interface projects, and proposes a fast-and-fugal decision-making framework for IT project managers and UX professionals on whether to use (or not) GenAI tools in Agile and Lean IT projects.

**Keywords:** User Experience, Generative AI, Agile IT projects, Lean IT projects

## 1. Introduction

Recent developments in Generative Artificial Intelligence (GenAI), resulting in the ability to rapidly generate texts, images, scripts, design concepts or research plans, open new opportunities to support also User Experience (UX) designers in their projects.

However, there is a significant risk that spontaneous and uncontrolled use of GenAI tools in IT projects may affect the quality of software products and bring unpredictable legal or technical complications after relevant IT solutions are deployed to the client's environment [9], [11].

Therefore, this paper analyses GenAI-relevant decision context and proposes a framework for implementing GenAI tools to support UX designers in agile and lean IT projects.

## 2. UX Design in Lean and Agile Projects

Agile and lean project management have been extremely popular in the IT industry due to their focus on speedy delivery, vibrant teamwork, and cost-effective quality assurance. In agile teams, intensive cooperation with the client aims to deliver high product usability and outstanding User Experience (UX) for end users and customers [13]. In each IT project, UX design is an important stream, encompassing user research, conceptual design, development and prototyping with user testing [8]. User involvement is a key element in quality assurance practices for a software product in both lean and agile projects [13].

With the availability of GenAI tools potentially useful for UX design [12], UX designers must balance potential benefits with substantial risks that results may be different than expected, prone to errors or simply rejected by the client not used to substituting human expertise with AI-driven design aids [6], [9].

Therefore, the research question motivating this study was ***how to support informed, quick decisions for agile and lean teams when considering the use of GenAI tools for UX design***? The objective of this study was to provide a GenAI implementation framework and relevant techniques for fast-and-frugal decision-making in lean and agile teams, usually working under high pressure.

The results of this work could potentially support the consideration of using GenAI tools in other areas beyond the UX design domain.

## 3. Method – GenAI Implementation Framework

### 3.1. GenAI framework

The framework presented here originates from the roadmap concept often used in planning organizational trajectories for implementing AI in specific business organizations. As such, it recombines suitable elements from research literature and selected white papers [2], [5], [6], [11]. It merges theoretical models with practices from agile and lean project management, and it also adds the author's aggregated experiences from his 15+ years of work in usability/UX consulting.

Herewith, we define the main stakeholders in agile or lean IT projects while considering the use of GenAI tools for UX design: *The Team*, agile or lean, *The UX Pro* as a designer, and *The Client* usually represented by the Product Owner.

This framework, aimed to help in decision-making regarding the potential using GenAI tools for UX design, contains the following consecutive stages: *1. Identify Context*, *2. Identify Use Cases*, *3. Prioritize Use Cases*, *4. Assess AI Maturity*, *5. Prepare Deployment Plan*, *6. Implement*, *7. Monitor* and *Iterate*, using corrective loops to former stages. Contrary to other industrial implementation trajectories, this framework provides fast-and-frugal decision-making support for lean and agile teams. Most importantly, in its central part, it introduces two novel elements (Fig. 1): (1) **Priority grid** (in *Prioritize Use Cases* stage) as a visual tool for quickly identifying GenAI-supported tasks for the Team and UX Pro; (2) **Maturity gyroscope** (in *Assess AI Maturity* stage) for assessing the Team-Client mutual maturity (readiness for AI) regarding the potential use of GenAI in the UX design context.

(a) (b)

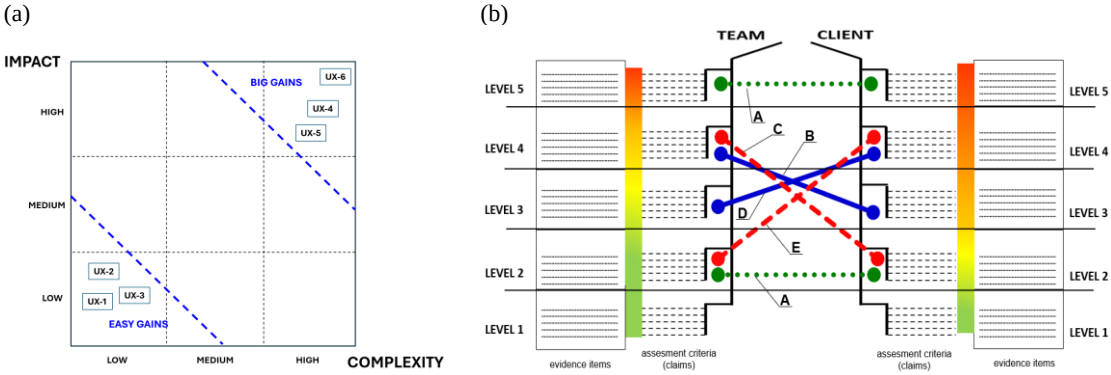


**Fig. 1**. Key elements of the GenAI implementation framework: (a) **Priority grid**, (b) **Maturity gyroscope**.

### 3.2. Priority grid

In UX design practice, prioritization is important in all types of IT projects, mainly to extract the product's key functionalities and assign tasks in the project according to available resources. In our context, the grid serves as a visual tool for quickly prioritizing use cases where GenAI tools could potentially be used with a reasonable balance between benefits and risks. This concept originates from popular whiteboards such as Kanban, affinity diagrams or user story mapping, frequently used as visual aids in lean and agile IT projects [13].

The **Priority grid** technique proposed in this framework is based on the template of a 3x3 grid, which serves as a venue for the visual activity of the team (Fig. 1a). It is also suitable for remote collaboration using apps such as Miro or Canvas.

The priority grid is based on two dimensions, both rated as Low, Medium or High:

1. X-axis: a basic parameter such as Complexity, Feasibility, Workload, Durability, Investment, Cost, Input, Speed, or Availability of resources;
2. Y-axis: a resulting relevant parameter such as Impact, Expected value, Reward, Gain, Quality, Competitive advantage, or Consequences for clients, market, society, etc.

In the priority grid (Fig. 1a.), we find two particularly interesting areas:

1. **"*Easy gains*"**. They include use cases with low X and Y values, representing relatively small projects, promising petite, rapid results with minimal investment. Examples of easy gains include use cases UX1-3 (Fig. 1a), e.g. rapid generation of visual elements of user interfaces or automated sentiment analysis of users' reviews.

Easy gains with a relatively small input save much time and workload for UX Pro.

2. **"*Big gains*"**. They include use cases with high X and Y values. Examples of big gains include use cases UX4-6 delivering GenAI-based cross-domain solutions (UX + marketing or UX + CRM) aimed to discover new markets, increase revenues, or create market leadership. Big gains offer potentially enormous, transformational benefits but require significant investments, with the outcomes distant and uncertain.

Visually presented use cases quickly outline subsequent tactics directly resulting from the priority grid that can be subject to team discussion regarding the Team's focus on easy or rather on big gains, depending on whether the Team is more aspiring or more seasoned in using GenAI for UX design.

### 3.3. Maturity gyroscope

In IT projects, the successful cooperation between the Team and the Client critically depends on the organizational maturity of each partner. Usually, if the maturity difference between both partners is too big, various difficulties in cooperation emerge, eventually affecting project success. This constatation also refers to the potential using GenAI for UX design, where a UX team (or a single UX Pro) with a specific experience maturity with GenAI tools meets a Client with unlike maturity or unknown awareness of what GenAI tools can or cannot do for prospective UX design in a specific project.

This GenAI maturity concept draws its roots from maturity models such as CMMI [4], AI-readiness models [7] and the UX maturity model for IT organizations [3]. All models identify several levels of consecutive maturity/readiness to be attained step-by-step, gradually increasing from the lowest level (as chaotic, aspiring or absent) to the highest one, denoting full maturity/readiness towards achieving some goal.

The GenAI-related **Maturity gyroscope** model borrows its architecture from the NOR-STA assessment approach [10], which defines an on-line tree of assessment criteria edited by an auditor for a company being audited, which is obliged to upload pieces of evidence (proofs) that requirements are met. The NOR-STA web app [1] uses a heat map (red, yellow, green) to visually communicate the current status of relevant audit criteria.

The maturity gyroscope (Fig. 1b) defines five maturity levels for the Team and the Client: *1. Initial*, *2. Formalized*, *3. Managed*, *4. Systemic*, and *5. Transformational*. A maturity assessment is performed by a review or a checklist, using two trees that define assessment criteria separately for the Team and the Client. The heat bars show the "saturation" with evidence for the Team and the Client, visually marking detected deficiencies in reddish areas.

After the highest level of the available evidence is found, a "gyroscope" metaphor (in the central part of Fig. 1b) is used to visualize the equilibrium regarding the maturity levels of the Team and the Client. As a result, different scenarios can be identified for prospective Team-Client cooperation regarding the possible use of GenAI tools for UX design:

***Case A***. T=C: Team maturity is roughly equal to the Client. Both partners represent the same or similar maturity level (low, medium or high), which is a good premise for rather smooth cooperation in the project.

***Case B***. T>C: Team maturity is higher than the Client. As the Team's maturity is only moderately higher than the Client's, there is a prospect for the Client to improve his maturity with time. Some Team resources should be allocated to educate the Client on what AI (GenAI) can and cannot do to evade false expectations and disappointments at later stages of soon-to-be cooperation.

***Case C***. T>>C: Team maturity is extremely higher than the Client. There is a high risk that these huge differences will cause numerous difficulties and delays, contributing to the project's failure, as the Client may be unable to upgrade GenAI readiness shortly.

***Case D***. C>T: Client maturity is higher than the Team. Depending on whether the Team's deficits refer to the UX area's merit or to using GenAI in UX, if the Client is willing to transfer some good GenAI-related practices to the Team, there is a chance that Team maturity will quickly improve.

***Case E***. C>>T: Client maturity is extremely higher than the Team. The Team is unable to follow on the Client's expectations for products, processes, or standards regarding GenAI tools for the UX design. It is unlikely that the Team will be able to improve soon. The

Client may consider withdrawing before it gets too late and costly, or reducing the scope of the project by eliminating the use of GenAI tools in this specific case.

## 4. Discussion and Conclusions

This work presents the core elements of the GenAI implementation framework for UX design, focusing on supporting quick and actionable decision-making, so important for lean and agile teams [9], [13]. Despite the limited scope of this study and having undergone only small-scale pilot testing, two novel techniques, ***Priority grid*** and ***Maturity gyroscope*** presented here, have the potential to drive relevant decisions in small IT teams quickly.

The main limitation of this study is that these techniques were only pilot-tested in an academic environment and not yet in industrial practice, mostly because locally available IT companies prefer not to share their AI-related experiments, experiences, and policies with external bodies, including researchers. With the hope that this will change with time, we believe that the results of this study will contribute to further developments in the field and be beneficial for the operational practice of agile and lean IT projects.

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