# BUILD-LEARN-MEASURE FEEDBACK LOOP APPROACH IN IT PROJECT MANAGEMENT

**Viktoriia Riashchenko[1], Oleksandra Vietrova[2*], Mykhailo Kryvoruchko[3]**

[1]*ISMA University of Applied Sciences, Valērijas Seiles iela 1-korpuss 6, Latgales priekšpilsēta, Rīga, LV-1019*
[2]*Ukrainian Information Technologies LLC, Bud. 2 Vul. Vodoginna, Lviv, 79017, Ukraine*
[3]*Cherkasy State Business College, 243, Viacheslava Chornovola St, Cherkasy, Ukraine*
*Corresponding author's e-mail: vetrovaalexandra81@gmail.com*
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**Abstract.** The well-known project management challenge, called "the project management triangle" describes the basic problem of dependencies and restrictions for both start-ups and mature projects. However, even if we have quite enough of resources of every factor of the "triangle" this is no guarantee that the project will be successful and profitable. Obviously, we need to consider much more non-linear factors than just cost, time and scope. Good project planning technic which is tackling ambiguity and resolving "chicken and egg" problem with the help of build-learn-measure feedback loop approach, allows to satisfy the end users and to increase the project profitability.

***Key words:*** *project planning, project management triangle, feedback loop, estimation, success metrics.*

## 1. Introduction

In today's dynamic and competitive business environment, effective project planning is paramount for organizations striving to achieve their goals efficiently and sustainably. The concept of a build-learn-measure feedback loop approach has gained significant traction, especially in industries characterized by rapid innovation and iterative development processes. This work explores the intersection of project planning and the build-learn-measure feedback loop approach, examining how integrating these methodologies can enhance project performance.

**2. The project management triangle and other challenges of project planning**

The project management triangle describes the fundamental challenge of the IT project: necessity to find the balance and compromise among 3 key factors: scope (quality and quantity of the deliverables), cost and time.

However, the dependency between scope, cost and time is not straightforward, nor proportional. As Warren Buffet said long ago "9 women can't make a baby in a month" and increase in the resourcing won't necessarily decrease the time, as well as longer project time may satisfy our goal to deliver more scope but can cause customers' dissatisfaction with the quality because they will expect something more modern at that moment of time.

**3. Project planning goals and challenges**

The project management triangle unfortunately leaves the future of the project aside as well as pre-planning researching efforts. Even though we may find the perfect combination in terms of scope, time, and cost, as a result the project may fail as not profitable. We must consider pre-implementation phase for the project as well as post-implementation to make sure we have chosen the best project strategy.

However, if we invest too much into customer preferences research, creating project requirements documentation and designs and end up with the situation when the functionality cannot be implemented due to the feasibility or resourcing restrictions, obviously it will mean that we wasted time and money for designs and requirements creation. The same time if we don't invest enough into the customer/market research and creation of the detailed designs and requirements, we may end up with the deliverables which customers don't like and hence a significant financial loss or even throw away efforts spent to the wrong implementation.

Hence project management triangle becomes more complex. To consider all important factors and reach the success the project requires a thorough planning for finding the best possible balance between resources and requirements. The goals of the planning are to ensure:
– The project profitability.
– The project tech quality and stability.
– High level of customer satisfaction.
– Project success and its positive impact on company reputation.

Here we have "a chicken and an egg problem" as we cannot calculate the profitability and customer satisfaction until we deliver the functionality, and

we cannot plan the delivery unless we believe it will be profitable and the customers will like it.

### 4. What makes the project planning successful

It makes sense to consider "cost" (or resourcing) component of the project management triangle as a complex and dynamic, flexible entity consisting of:

− Pre-planning research efforts of customer preferences and the market trends.
− Requirements and designs implementation.
− Actual project implementation.

To resolve the "chicken and egg" problem it's essential to make the project delivery iterative, to learn from the customer reactions and to adjust the further planning, which means we can apply the innovative methodology both dealing with the mature projects and the startups.
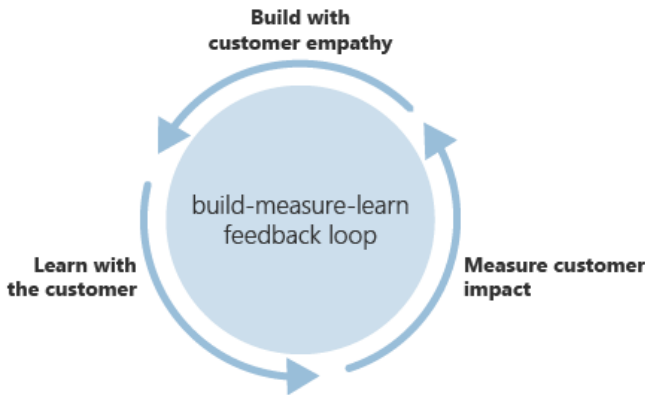


**Figure 1. Build-learn-measure feedback loop**

To accommodate the build-learn-measure feedback loop approach in the project planning we consider the following flow:

− Creation of a few customer-focused hypotheses which demonstrate the customer needs.
− Creation of brief high-level requirements for each hypothesis.
− Prioritization of all the suggested deliverables.
− High-level tech estimation for each initiative.
− Capacity estimation.

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– The manager tries to accommodate the top rated priorities of the deliverables into the plan considering the capacity and the blockers/ dependencies; if any feature doesn't fit into the plan due to the size or other restrictions, the next priority is considered.

– The implementation and delivery are continuous, if at some point we have a chance to get the customer feedback and adjust the requirements and/or priorities, the plan can be updated so the project can bring more value.

### 5. Metrics to evaluate the project continuous success

A lot of different metrics can be used for evaluating the customer satisfactions and the project profitability. Two most popular ones are conversion rate and clicks. The conversion rate is similar to the increased-revenue metric because in ecommerce, a conversion is equivalent to a sale.

In some situations, especially outside of ecommerce, conversion is an insufficient form of measurement and can be tricky to implement. In this case, click-through-rate (CTR) is a more sensitive and accessible metric.

### 6. Example of continuous planning implementation

After the product team provides the prioritized list of deliverables, the manager plans the work in a way that maintains the product priorities while still fitting into the capacity and adhering to other restrictions.

Table 1

**Traveller app quarterly planning example**

|  | Priority | Size | Hypothesis on CVR increase |
|---|---|---|---|
| Member only deals | 1 | Small | 3% |
| Price Insights Charts | 3 | X-Large | 1.5% |
| Price and availability calendar | 8 | Medium | 0.5% |
| Cancellation policy improvements | 13 | Large | 0.8% |
| **Out of scope** |  |  |  |
| Priority "pay now" option | 16 | X-Small | 0.3% |

Each time the next feature in the list is delivered and the feedback is available, the plan can be adjusted, leaning again and again towards minimizing the efforts and maximising the outcomes.

## 7. Conclusions

Iterative project planning continuously measuring the customer impact and leaκning from it helps to break out the "chicken and egg" closed loop; extending "cost" factor in the project management triangle and to include research and learn activities into it helps to find more precise balance for the project management triangle.

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