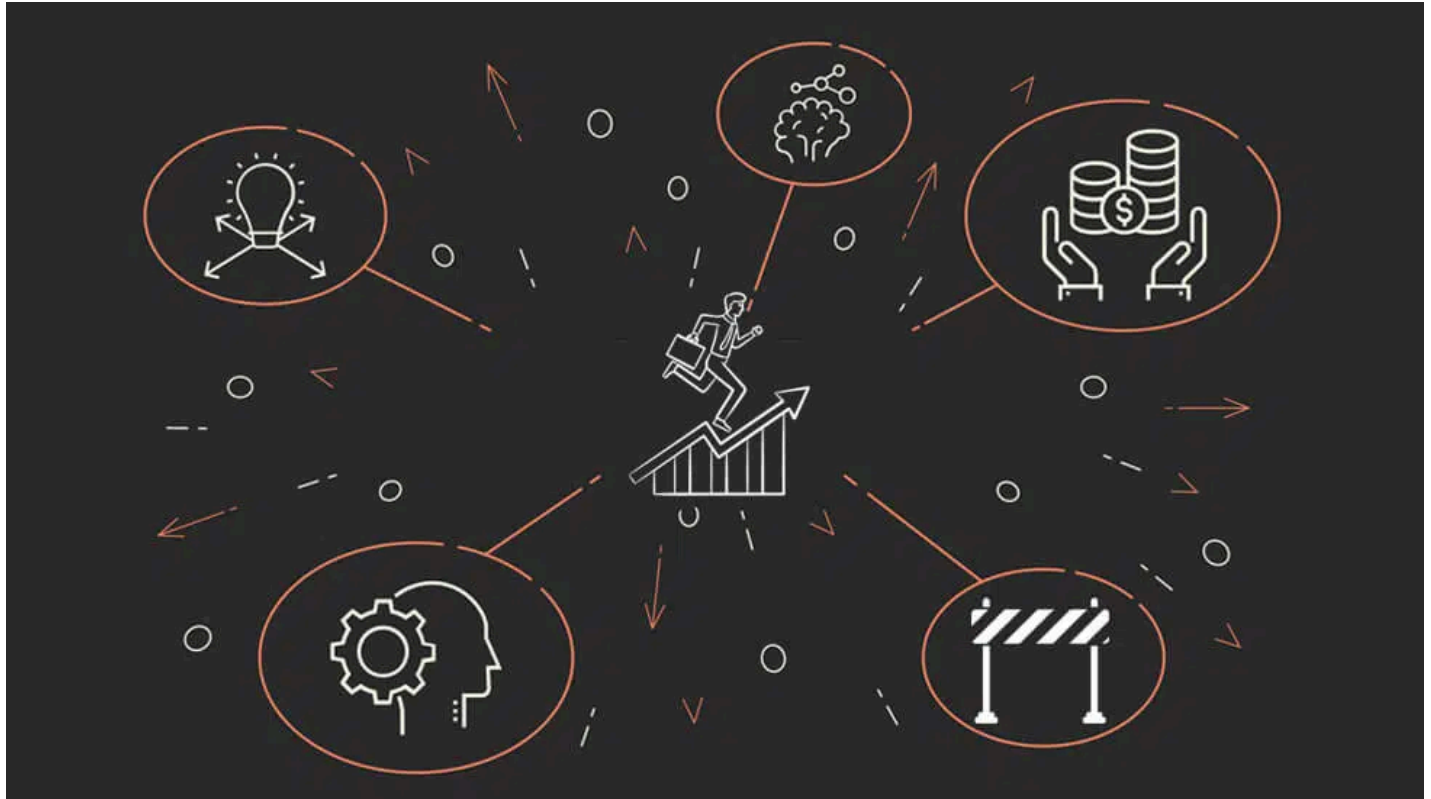


Assumptions and Constraints in Project Management

Fahad Usmani, PMP | September 16, 2022



Today, we will discuss project **assumptions and constraints** by looking at a real-world example.

Imagine you want to go shopping at a mall that takes one hour to reach by car.

You assumed you would leave your home at around 6:00 pm and reach the mall by 7:00 pm.

This is an example of an assumption, something you believe to be true.

What about constraints?

In the shopping example, you can think of two. The first constraint is money. If you have 500 USD in your hand, that's all you can spend on this shopping trip. The second constraint is the mall's closing time; let us say it is at 10:30 pm. This means you cannot continue your shopping after that.

Similarly, projects also have assumptions and constraints. You must understand and manage these factors to complete your project successfully.

Let's dive in.

Project Assumptions and Project Constraints

Project assumptions and constraints are identified at the beginning of the project. Throughout the project life cycle, they will be refined and re-analyzed. Project assumptions and constraints are key to many processes in the PMBOK Guide.

An essential aspect of your project is that assumptions and constraints are not managed like requirements or [risks](#). However, documenting them helps to protect you from future aggravation. You should outline your project's assumptions and constraints in the [project scope statement](#).

Project Assumptions

An assumption is what you believe to be true. These are expected events or circumstances during your [project's life cycle](#). You make assumptions based on your experience or the information available on hand.

Assumptions may not end up being true. They can sometimes be false and may negatively affect your project, adding risk to it.

For example, let us reconsider the earlier example. You assumed it would take one hour for you to reach the destination. What will happen if you are stuck in traffic and can't reach the mall on time?

Your assumption turned out to be false. Now your shopping is at risk because you don't have as much time as planned.

This can also happen to your project.

For example, you assumed that you could get the necessary equipment whenever you needed it. However, you couldn't get it when the time came due to shortages or supply-chain problems.

Now you are in a difficult situation.

Assumptions play an essential role in developing a [risk management plan](#). Therefore, as a project manager, you must analyze each assumption and predict its impact.

Project Assumptions Examples

- You will get all the resources you need.
- During the rainy season, cheap labor will be available.
- All relevant [stakeholders](#) will come to the next meeting.
- Your team members have all the required skills.
- All equipment is in good condition.
- The supplier will deliver consumables on time.

You can see how, if any of the assumptions above turn out differently, your project will be radically affected.

Project Constraints

Project constraints are limitations, like the budget, schedule, or resources imposed on the project.

[The PMBOK Guide](#) recognizes six project constraints: scope, quality, schedule, budget, resources, and risk. Out of these six, scope, schedule, and budget are [triple constraints](#).

These constraints are defined at the beginning of your project, and you must work within their boundaries.

A constraint can be of two types:

1. Business Constraints
2. Technical Constraints

Business Constraints

Business constraints depend on the state of your organization. They are high-level constraints and often defined when the project starts, like time, budget, and resources.

Changes to these constraints are rare, and the project management team has to work within them.

Technical Constraints

Technical constraints limit your design choices. They are fixed, and any change to the technical specifications can affect your project planning.

For example, let's say you're constructing a pipeline. According to the design, the pipeline should withstand a certain amount of pressure; this is your technical constraint, a fixed reality.

Every project has constraints. Therefore, you must identify all of them and develop your plan accordingly. Constraints are outside of your control, imposed by clients, organizations, or government regulations.

Project Constraints Example

A few examples of constraints are:

- You must achieve the first [milestone](#) within one month.
- You have to work with the available resources.
- You will only have two site engineers.

Assumptions Vs Constraints

The following are a few differences between assumptions and constraints:

- Assumptions are believed to be true, while constraints are true in nature.
- Assumptions are good for the project, while constraints are not always favorable to the [project objective](#).
- If assumptions become false, it is bad news for the project. However, if constraints are false, it is positive.

Assumptions and constraints play a vital role in the planning process as the foundation of your project management plan.

Any assumption is a potential risk for your project because you are in trouble if any assumption is incorrect. Your [risk management](#) plan heavily depends on assumptions and constraints. Failing to identify any of them can affect your project.

Summary

Assumptions and constraints are an important part of your project. They need to be identified, controlled, and monitored continuously.

An assumption is a condition you think to be true, and a constraint is a fixed limitation on your project. Assumptions must be realistically analyzed, while constraints must be clearly identified throughout the project lifecycle. Managing assumptions and constraints are necessary to complete your project with minimal obstruction.

Project assumptions and constraints are essential topics from a PMP certification exam point of view. You may see questions about this.

What about assumptions and constraints on your project? Please share your experience through the comments section.



Fahad Usmani, PMP

I am Mohammad Fahad Usmani, B.E. PMP, PMI-RMP. I have been blogging on project management topics since 2011. To date, thousands of professionals have passed the PMP exam using my resources.

PMP Question Bank

This is the most popular Question Bank for the PMP Exam. To date, this PMP Question Bank has helped over 10,000 PMP aspirants pass the PMP exam.

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68 Comments

Kayal Huang says:

<https://pmstudycircle.com/assumptions-and-constraints-in-project-management/>

October 7, 2023 at 8:11 AM

We are using the defined excel document template to collect all information found from reverse work, it is easier for our Applications to review or create the CAIT imported files.

Reply

May says:

October 7, 2023 at 5:32 AM

It is very useful and the courseware is made very interesting.

Reply

mingming.peng says:

September 27, 2023 at 11:18 AM

After reading it, I learned a lot of knowledge and gained a lot.

Reply

Mayra Tarango says:

July 26, 2023 at 11:46 PM

I see that Assumptions and Constraints are part of both the Project Charter and Scope Statement.

Reply

Hamisi Amanje says:

May 29, 2020 at 6:08 PM

For sure the explanatios has full of examples but what is the relationship between Assumption and Risk

Reply

Fahad Usmani says:

June 14, 2020 at 10:13 AM

A wrong assumption can be a risk or can cause risks.

Reply

Engdaw Admasu says:

April 19, 2020 at 5:57 AM

NICE. How many processes have an Assumption Log as an output.

[Reply](#)

Fahad Usmani says:
April 21, 2020 at 10:49 PM

Hello Engdaw, I have to count it...

[Reply](#)

James says:
February 17, 2020 at 3:47 PM

Thanks for this stuff...really useful information
I'm grateful Fahad Usmani

[Reply](#)

Fahad Usmani says:
February 19, 2020 at 11:32 AM

You are welcome James.

[Reply](#)

Seth says:
November 24, 2019 at 2:56 PM

Helpful

[Reply](#)

Fahad Usmani says:
December 1, 2019 at 8:00 AM

Thank you Seth for your visit and leaving comment.

[Reply](#)

Majur Koch says:
July 25, 2019 at 4:58 PM

I needs assumptions of the project management.

[Reply](#)

Fahad Usmani says:
August 5, 2019 at 7:50 PM

Hello Majur,

Assumptions are project specific.

Reply

Bukeka says:
July 22, 2019 at 5:53 PM

What could be the assumptions on the project: Upgrade and Extension of Wi-Fi solution

Reply

Mahesh says:
March 28, 2018 at 6:25 PM

Even today I am looking at this 'cuz is useful to me till now. Knowledge never gets old. thanks a lot.

Reply

Fahad Usmani says:
April 4, 2018 at 10:49 AM

Well said Mahesh.

Reply

Almesh says:
March 16, 2018 at 8:07 AM

Hi Fahad,

It is indeed a great and nice article and the contents are very much engaging that I kept reading until the end.

An assumption is identified and are documented at a high-level meeting during the initiation of the project and are refined and documented in details as a part of the Define Scope process in project planning.

Assumption analysis is a part of risk management process. The project management plan needs to change if constraints change or assumptions are proven wrong. Constraints and assumptions need to be identified, tracked and effectively controlled during the project life cycle.

Best Regards

tiemchart.com

Reply

Fahad Usmani says:
March 19, 2018 at 7:33 AM

Well said Almesh.

Reply

sheeraz says:
September 20, 2017 at 3:51 PM

what stuff one should study limited in nature, in order to pass the PMP exam.

Reply

Fahad Usmani says:
September 23, 2017 at 1:26 PM

The PMBOK Guide, two PMP exam reference book, one good quality PM Exam simulator.

Reply

shobit says:
May 4, 2017 at 12:38 PM

I want to know what can be the constraints and assumptions for a management system which involves customer records, appointments, accounts, billings etc.

Reply

Fahad Usmani says:
May 6, 2017 at 1:16 PM

Discuss it with some working in similar type of profession. He would be able to guide you better.

Reply

Dave Naikasowalu says:
March 2, 2017 at 7:46 AM

your explanations on assumption and constraints is very helpful. Any suggestion on the scope of work for office relocation??..Thanks

Reply

Fahad Usmani says:
March 5, 2017 at 7:42 AM

No.

Reply

Kalpesh says:

February 7, 2017 at 10:14 AM

Hi Fahad,

I had like you to explain the different between Assumption and Dependency. It looks more or less the same ?

Can you help clarify above terms and difference.

Thanks

Kalpesh Parmar

Reply

Fahad Usmani says:

February 8, 2017 at 12:49 PM

For assumptions, read following blog post:

<https://pmstudycircle.com/2012/10/assumptions-and-constraints-in-project-management/>

Example of dependency: you can not lay the ceiling until the walls are constructed.

Reply

michael says:

April 24, 2018 at 5:17 AM

hi Fahad,

what process output produce the change log?

Reply

Fahad Usmani says:

May 1, 2018 at 7:27 AM

Change log is input to many processes and updated in change log is output of many processes. Naming all of them here is not possible. Please refer to the PMBOK Guide.

Reply

STEPHEN ANGURIA - UGANDA says:

January 29, 2017 at 10:47 AM

Hi,
It would be pretty good to give real examples of project assumptions and risk for guidance purposes when one is developing a project proposal.
Thanks

Reply

Fahad Usmani says:
January 30, 2017 at 11:50 PM

Okay, in next update I will try to add some real world examples.

Reply

Fahad Usmani says:
October 20, 2016 at 1:39 PM

You can refer to "Construction Extension to the PMBOK® Guide" available for free at PMI site (If you are a PMI member).

Reply

KELVIN says:
October 16, 2016 at 3:42 PM

I am a construction management student and my research is on the impact of scope management on project delivery in construction projects. the problem is most literature seems to be based on other industries such as IT. where can i source literature specific to construction or can i apply the available literature to my field

Reply

Andre Marcano says:
May 21, 2017 at 6:39 AM

Join PMI as a student, and access the bookstore available to members. There you can purchase books on construction project management Andre.

Reply

Fahad Usmani says:
May 25, 2017 at 11:10 AM

Thanks Andre for replying to this message. It was missed by me.

Reply

Felicia says:

September 22, 2016 at 11:48 AM

I have debate with presenter group. Can you explain more about managing by constraint in projects? Or give me one question about that.. Thankyou

Reply

Fahad Usmani says:

September 29, 2016 at 7:27 AM

A project always has some constraints like budget, schedule and milestones. You have to plan and act according to these constraints.

Reply

Abass says:

August 24, 2017 at 2:49 AM

please can i have ur facebook profile name so that i can add u..thanks

Reply

Fahad Usmani says:

August 28, 2017 at 8:38 PM

Here is my facebook url:

<https://www.facebook.com/fdusmani>

Reply

precious says:

May 24, 2016 at 3:00 PM

i have project which i am doing business case for it. it is the REVETMENT PROJECT, what are the assumptions and constraints to this project?

Reply

Fahad Usmani says:

May 25, 2016 at 8:13 AM

You should ask this question to someone worked with it.

Reply

Tahir Saeed Maqbool says:

April 14, 2016 at 2:38 PM

Fahad literally your explanation technique is very unique. i always read yours topic where i feel any confusion. i am a student of MS Project Management and often i have some confusions so your post are very meaningful for me.....Again Thanks for this Awesome explanation.....
Regards; tahir

Reply

Fahad Usmani says:

April 17, 2016 at 7:47 AM

You are welcome Tahir.

Reply

Bash says:

November 27, 2015 at 11:51 AM

Fahad usmani u hv been wonderfully pls keep it up.....

Reply

Fahad Usmani says:

November 28, 2015 at 11:50 AM

Thanks for these motivating words Bash...

Reply

Fahad Usmani says:

March 7, 2015 at 10:47 AM

Predetermined budget, imposed dates, milestones and the product characteristics can be examples of constraints.

Reply

Fatima says:

March 4, 2015 at 3:59 PM

hi, can you give an example of a project where its scope is constraint, cost is to be accepted and time is enhance. please

Reply

Niraj says:

November 30, 2014 at 8:59 AM

I see that Assumptions and Constraints are part of both the Project Charter and Scope Statement. My understanding is that Assumptions and Constraints both appear in the Scope Statement and are more detailed. These can also be a part of the Project Charter but will be high-level only. Is this understanding correct.

From an exam perspective should be consider these as a part of the Scope Statement only.

[Reply](#)**Fahad Usmani** says:

December 1, 2014 at 12:25 PM

Yes, you are right.

[Reply](#)**Mukund Toro** says:

December 23, 2015 at 7:14 PM

Niraj,

Adding to what you have already said.

Project Scope Statement, after it gets approved, becomes a part of the scope baseline. So assumptions, constraints and whatever else is in the Project Scope Statement becomes a reference for the project.

The distinction between charter and scope statement, is not only based on high level and low level of detail.

Best regards,

[Reply](#)**Nadirah** says:

October 20, 2014 at 9:59 PM

Hi.. I attempting to do the first set of documents to create a project to build a 5 stories commercial building as a practice before my actual assignment.. Other than the resources, time and budget constraints what other are there?

[Reply](#)**Fahad Usmani** says:

October 22, 2014 at 8:52 AM

I suggest you read Scope Management knowledge area from the PMBOK guide.

[Reply](#)**Asia** says:

May 10, 2014 at 12:26 AM

Hi :)

Im interested with your conceptions.. Could you give some examples of assumptions and constraints when the project is about improvement the educational programme..?

I would appreciate your help :)

Reply

Fahad Usmani says:

May 11, 2014 at 9:21 AM

Hello Asia,

I suggest you contact with some experienced in dealing with this type of projects.

Reply

ishaq ALI says:

April 12, 2014 at 8:10 AM

hi,

i have still confuse in "CONSTRAINTS" plz i need explanation of these terms..plz help

Reply

Fahad Usmani says:

April 13, 2014 at 8:58 AM

You can consider it as limitations or conditions imposed.

Reply

Shannon Canning says:

December 4, 2013 at 8:52 AM

Thanks you for helping me to understand the terminology. I am working on my ITT Technical Institute Online PM333 class Course Project. I complete the Project Concept as good as I could and submitted it. I am now on my Business Case paper I was need some more example of Assumption and Constraints that will related to my Project topic which is "Redesign Employee Lunchroom (or break room) for a Company." And to help me visual I went with the local campus for ITT in North Charleston, SC.

If needed you can read my Project Concept at the following link: <https://www.facebook.com/notes/shannon-marie-canning/pm333-project-communication-documentation-week-1-minor-writing-assignment-lab/10152100776970948>

And if needed you can read the Business Case paper but remember it is incomplete at the following link:<https://www.facebook.com/notes/shannon-marie-canning/pm333-project-communication-documentation-week-2-minor-writing-assignment-lab/10152100800810948>

Any other advice you can give to aid in the completion of the papers (Deadline for all assignment for this PM333 is Sunday Night.

I still got to work on the Project Charter Paper, Communication Plan Paper, Risk Management Plan Paper, Quality Management Plan Paper, Post-Project Report Paper and something called a Debriefing Report which talk about Lesson Learned in the instruction of the assignment.

[Reply](#)

Fahad Usmani says:
December 5, 2013 at 10:38 AM

I am not able to access these links...

[Reply](#)

John says:
June 22, 2013 at 11:13 PM

I have scheduled for the exam on Jan 20 (3 days back) and got confirmation mail from Prometric center, but when I log on to PMI web site it still shows the status as yet to schedule the exam.
Do I have to report to PMI or wait for some more days for the status update.

[Reply](#)

Fahad Usmani says:
June 23, 2013 at 11:46 AM

I think it will continue to appear until you pass the test.

[Reply](#)

Bernie Atkins says:
May 22, 2013 at 10:10 AM

Hi Fahad,

I was going through the meaning of Project Scope Statement but as I am from a Construction Management background, I'm finding it hard to provide a Project Scope Statement on a building for example. PMBoK seems to be more related to other industries. Do you have an example?

Thanks

[Reply](#)

Fahad Usmani says:
May 23, 2013 at 7:49 AM

The PMBOK Guide is industry independent. This guide is extensively used in construction industries. I am seeing it in Oil and Gas Field.

[Reply](#)

Ola says:
March 30, 2013 at 8:13 AM

Hi Fahad,

Thanks as always for your usual assistance regarding Project Management. I'd like you to explain the differences between Constraints and Enterprise Environmental Factors. It seems they mean almost the same thing. Thanks again.

Reply

Fahad Usmani says:

April 7, 2013 at 12:47 PM

No they are not the same.

Constraints are the limitations to your project. For example, you have finish this project within 90 days. Constraints are the limitations imposed on your project.

On the other hand Enterprise Environmental Factor is an Environment, you have to work within it.

Reply

km533 says:

February 6, 2013 at 2:50 PM

Hi Fahad,

Thanks for your explanation.

Was going through the Project Scope Statement and found the term " Product Acceptance Criteria".

As per my understanding of this term,it means certain condition/threshold on which the Product/Project will be accepted.

Can you please explain what is your understanding of this term as per the PMI perspective. If you could give some real world examples related to this it would be even better.

Thanks

Reply

Fahad Usmani says:

February 8, 2013 at 2:36 AM

Let us take the example of iPhone 5.

Physical dimensions of iPhone 5 are as follows:

Depth- 7.6 mm, weight – 112 gm and volume – 3.3 sq. inch.

Now the dimensional acceptance criteria for iPhone 5 may be as follows:

Depth = 7.6 with tolerance of 0.001 mm (either negative or positive),
weight = 112 gm with tolerance of 2 gm (either positive or negative) and
volume = 3.3 sq inch with tolerance 0 .01 sq inch (either positive or negative).

Now, if any iPhone model is found exceeding the tolerance limit will not be accepted.

(Note: Above tolerance limits are given for illustrative purpose only. I have no idea about the actual tolerance limit for the iPhone.)

Reply

Mani Naga says:

January 23, 2013 at 8:05 PM

I have scheduled for the exam on Jan 20 (3 days back) and got confirmation mail from Prometric center, but when I log on to PMI web site it still shows the status as yet to schedule the exam.

Do I have to report to PMI or wait for some more days for the status update.

Mani Naga.

[Reply](#)**Fahad Usmani** says:

January 24, 2013 at 6:41 PM

You got the confirmation email from prometric center, that is enough for now. Once you pass the exam, your status will be changed.

Anyway, in case of any doubt you're free to contact the PMI customer care.

[Reply](#)

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