Episode 109

How project management helps your build

The show notes: www.houseplanninghelp.com/109

Intro: My guest today is Cesar Abeid - project management professional, author, speaker. He's host of two podcasts - Project Management for the Masses and The Construction Industry Podcast. We're going to be exploring project management, what it all means and whether becoming a project manager of your house build is actually a good idea.

I asked him about his book and why he chose to write it on this subject, rather than anything else he could have done.

Cesar: Yeah, well the reason being that I'm naturally disorganised. I'm a mess [Cesar laughs] if left to my own devices! And project management really helped me, not only in my personal life but also my professional life as well, to actually finish what I started.

As an engineer and a creative person I've always had many ideas for things to do and I would start many things but I typically would not finish them. Simple things from reading books to more complex things too - construction projects in the house, vacation trips that I dream of taking but never did. So what the project management did for me was to give me not only estimates for how long something's going to take and how much it's going to cost me, but also the confidence to actually finish it.

Ben: That's interesting that you said there was a stage when you didn't use project management. And to be honest I read your book because you're a friend of mine, we're in a masterminding group together and I wanted to support you. But as I got into it I just realised that I too must be doing projects and have no idea about this framework. So can you explain it a bit and why you have your method, or perhaps explain how this method has come about?

Cesar: Here's the secret: my method is not really something new! [Cesar laughs.] There is a body of knowledge for project management out there and there are different methodologies, different frameworks. The one that I've learnt and the one that I use is the one proposed by the Project Management Institute (PMI). Prince II is the most well known in the UK but it's the same idea.

And what it does for you is it gives you a, not quite a step by step approach, but a framework for you to take something complex, for example the building of a new home or in my case here the writing of a book. And it gives you a framework to take that idea, define it as best as you can and then break it down into manageable parts, and then put them in a system that allows you to sequence the activities into schedules. And also so you can do estimates for budgets and also resources, you know how many people you're going to need to work on this project. And it gives you that clarity.

So for a professional project manager who's been hired for example to manage the building or the design building construction of a building or a home, they can go through this exercise and through these steps and then turn back to the owner, to the sponsor of the project, and say then your house is going to look like this based on what we decided and you'd be able to have it on this day and this is how much it's going to cost you, right. And so you as the sponsor can make the decision or can change specs or say you know what, that's going to take too long. What can we do to make this a shorter build, and then the project manager is equipped to actually change things around in the planning to match your delivery date for example. So okay actually we need two more people to work on this part. We need to make this the foundation, instead of three days we need to make it one day. And you can go through that with clarity and not just winging it if that makes any sense?

Ben: Let's just take this step by step then and start with defining what a project is.

Cesar: Right. In the book I call it the 'composing phase'. So especially for a home project I like to break it down into two parts. I like to break down the design part as a project and then the actual build as a separate project. Especially in construction. Construction is kind of particular because you can't really . . . for example, halfway through the construction project you can't just change your mind and decide you know what, I think I want three storeys instead of two when the foundations are already laid!

Ben: People try! [Both laugh.]

Cesar: I guess you could do but...

Ben: It's not sensible! Don't do that!

Cesar: You might as well start over right! But project management, not only applies to construction it applies to software development for example. And in software this is something that could easily be done, to change requirements.

So I recommend you take the design phase and look at it as a project and then that's when you decide what your house is going to look like, how many storeys, how many windows and all those things.

And the composing phase is when you try to define that as best you can. So sit with the other stakeholders of this project and it could be your wife, it could be your team, it could be your business partner, and brainstorm. You know, what do we want this project to look like? What are the features we want this project to have? What do we want this project to do in detail? And I understand that a lot of times you don't have all that information right from the beginning, especially if you're just starting to design a home for example. You might not know. But as best as you can just try and come up with a set of requirements.

And recommendation here is to brainstorm freely. I like to use mind maps because they are very flexible. And just write things out. Okay, I'd like this project to have this feature and that feature and I'd like for it to do this and that, and write that down. And that's what I call the composing phase.

Ben: So coming away from that composing stage, what are you looking to have? Is it actually a list of well this step goes into that step? Because you can break it down into smaller chunks can't you, or is that more the decomposing stage?

Cesar: That's a decomposing stage. At the composing stage I like to come up with the document, or it's called the scope of work, and it's a one page document you can say this is what we want to do, you can even start thinking of a rough budget at this point. I'd like to spend no more than 'x' amount of pounds or dollars, and these are the resources I have and you come up with a document. You're not thinking structurally too much right now. You're not thinking about how things fit together properly. You're just trying to come up with a document that is basically the scope of work. This is what we want to do.

And then comes a decomposing phase. That's when you start thinking about how does this project decompose into some more

manageable parts and how do they fit together, and we can talk about that as well.

Ben: Breaking them down, my big thing around this is perhaps I've done that before with other projects. When do you know that it's small enough segments or when do you know that actually you've gone past and you've gone down to too much detail?

Cesar: Right. Well the first thing about breaking down, and I like to address this every time I talk about this topic because I used to do this wrong and apparently what I say now, what I'm about to say, resonates with a lot of people because I think it's a part of how we as humans do things.

If we've not been exposed to project management and we try to just use our brains and do the best we can, when you try to break things down what I used to do is let's say I went to break this house down into manageable parts, I would start writing a task list. Okay, one I need to do this and I need to do that. This is what I need to do do do do. And the problem with this approach is you're taking something that is a thing, for example a home, or home is a noun right? The word home. And then you're trying to break a noun into verbs right, and that doesn't quite work. So what we do when we do that, instead of breaking it down into smaller things we're breaking it down into a sequence of verbs, a sequence of actions. So we're actually locking ourselves into a way of doing the things instead of the thing itself.

So when breaking things down, I recommend you break it down into other things. So a home would be broken down into let's say roof, foundation, walls, windows, insulation, the land. The things that you can break it down into. And then you take each one of those and then you further break it down into other things.

And there's no hard rule but one of the rules on the project management methods usually proposes, is you break it down until you get to a point that this one thing you need to deliver can be either done by you or handed off to someone and that person can deliver that one part in let's say a period of time between a day and two weeks, or a day and a week. And that is when you've broken it down enough. If you get to that point you say okay this is going to take just a couple of hours to do, maybe that's too much of a breakdown, or if you decided this is going to take a whole month then you need to break this down further.

And the advantage of that is that you can hand this work package as we call it, to someone and not only can they do it but they also can give you an estimate for time and cost. Because it's something that's fast enough for them to actually, if they're an expert on this particular part they'll be able to give you an estimate no problem.

Ben: And this is all still on paper, on the computer, wherever it is? We haven't done anything have we?

Cesar: No. This is just the planning part. As we say you plan the work and then you work the plan.

Ben: And is it Peter Taylor, maybe you can explain this analogy that he's got? He's if I'm right a British project manager, and he says that the projects should be fat at the beginning, skinny in the middle and fat at the end.

Cesar: Yes. That's what he says. And what he means is, and this is from the project manager's perspective right, because the heavy work of the project manager is at the beginning when you plan, you're trying to plan the work, and then doing the execution phase which is the middle part, if the project is a home build that's when the builders are building and you as a project manager if you've planned it well that's the part where you do the least amount of work. [Cesar laughs.]

Ben: But then surely the end would be skinny as well?

Cesar: That's a thing. And the end of a project, the closing part that's when you need to make sure contractors, sub-contractors are getting paid, permits are being fulfilled, and so you get involved again from a higher level perspective. So that's what he means, to make sure that the project was delivered as planned, that's not the roofer's job, that's yours, as a project manager.

Ben: What do we need to do to get this project into action?

Cesar: Yeah, so as you mentioned the decision making time. That's when you, after you decompose, and you have an idea for budget and cost and things like that, just sort of a rough idea, that's when you make a decision and go well this home is too big for me or it's too expensive or it's going to take too long and then you can make decisions.

         But what happens a lot of times, we never get to this point. We either start our project without enough planning or we just get

overwhelmed at the beginning and we never get to this point and we never do it. So the point here is to make a decision whether or not to proceed. And you can decide to stop it. You can decide to "quit" but it's not because you're overwhelmed or you don't know what you're doing, but because you made a conscious decision that this is not for you right now. And you can only make that decision that is informed after you do some planning. And after you do that and you make a decision and you change things around a little bit, that's when you start thinking about risk, and then building a team and then delegating and then you start estimating in more detail, and then you can actually start thinking about doing the work.

Ben: I'm going to go through your processes. So onto the next one: defining activities. Have we talked about that a bit already, or was this a separate step?

Cesar: No, that's a separate step. So you break your project down, all the way down to a work package which is the one thing. It's still a noun right?

Ben: Ah, yes!

Cesar: It's still a thing you can deliver in between a day and two weeks, and then that thing you're going to do, that's when you define the activities that need to happen for that thing to be done and delivered. That's what I mean by defining activities.

And just a step back here, if you break this down I like to use a mind-map or an organisational chart type of chart for how you break down your project. So you start with the main project in the centre and then you subdivide it into smaller parts and then you take each one of those smaller parts and you subdivide it further until you get to the magic work package.

And the cool thing about this at the end of this process is that if you do the work packages, all you have to do at this point is the work packages because if you do all of them then the levels above them will be done, and then the levels above will be done and the project will be done.

So when you break it down to work packages it basically strips away the complexity of how everything fits together and you can focus on those things that take about a day and a week to do. And that's all you have to do. You can sequence them in terms of dependencies, okay which one should go first, you know foundations go before roofing for example, and you can delegate,

you can estimate. It just basically takes a complex project like the building of a home and turns that project into a sequence of smaller parts. You have to at least focus on those parts.

So what we do then is then if you really want to get a very detailed schedule for example then you sit with let's say the roofer, so okay what are the activities for this work package to be complete? And that's when you talk about tasks. Now we have verbs! And that's what you do. That's when you define the activities. You take each one of the work packages and you come up with a list of tasks that will be necessary for them to be done.

Ben: I'm going to push you through the next bits quite quickly - managing risk. If you've just got any comments?

Cesar: Yeah, when I was coming up with this method, I just want to get to the bare bones. The simplest approach that I can take and when I was doing research for the book I actually did a podcast series called Project Management for You, folks can find that in iTunes. And we tried to interview some of the best project managers I know, including Peter Taylor that you mentioned, on what are the most important parts of project management so we can explain this to the lay person. I was surprised that a lot of people told me that risk management was the most important thing in this whole process! [Cesar laughs.] So I put that in the book. It wasn't my original intention but the more I thought about it, it made sense.

So risk management is when you sit down with your team or other stakeholders and you come up with a list of risks which are potential issues that could happen in your project. And the rule here is to think about risks that are both impactful and also probable. You can brainstorm freely about what could go wrong here and you write a list of let's say 100 different things, and then you try to narrow it down. Okay, of these things what are the ones that are probable, and of the probable things what are the ones that are most impactful and important. And then let's say you come up with a list of ten to twenty, or I don't know how many risks that you think are highly probable and if they happen it'll be a major impact on your project, and then you come up with a contingency plan for that risk. What are we going to do if that happens? And if you have a team you can actually assign that risk to someone in your team, so they can watch out for it and raise a flag if they see it coming.

Ben: And that takes us quite neatly on to delegating and team building.

Cesar: Yes, so if your project is complex then you're going to have to work with people and when you go through this exercise of composing / decomposing it becomes clear what it is you need to delegate. Because some of the things that, especially if you're building a home, most of those work packages will be things that you are not the best person to be doing, either because you don't know how to or because your time could be better spent elsewhere.

So that is what this process brings in terms of clarity, so well we need these types of professionals here that we don't have. And that's a great way.

It's one of the things that people tell me all the time, saying how do I know what to delegate? I don't know what to delegate. I feel like I should be doing everything, I like to be in control.

And project managers, so you still feel like you're in control because you did all the planning and you're overseeing all of this, but you can still delegate because when you delegate that work package to a member of your team you don't just delegate it, say listen here is what I want you to do, I want you to tell me how much this is going to cost me and when you'd be able to do this, because that information is very important for you to do your estimates. You have not only a word from your roofer for example that they're going to do the roof, but you also have more information, the costs, you also have the schedule.

And with that you can say they tell you this is going to take me ten days to do and I'm going to start on September 1st. You can make a note to yourself that that's going to happen then and you can make another note to yourself to check in with him say on September 5th and ask him how are you doing, are you halfway done? So it gives you all these tools to not only know what to delegate but to delegate better and to also control and monitor it's being done better as well.

Ben: Estimating duration and cost is next one on your process.

Cesar: Yeah, so if you have your work packages and you know how much each one of them is going to cost, all you have to do is add them all up and you have the cost for your project.

And duration is a little bit more tricky because you need to sequence your activities that you've broken down from your work packages in sequential order. But as you can expect some

activities can be done concurrently, especially if you have more people working on the project.

I describe a simplified version of building a schedule in the book, but that's the idea, you have your work packages, you have your activities, you can sequence them, you can find the dependencies, you can find activities that can be worked simultaneously and you can even say hey, I'd like to do more activities at the same time so you can make a decision to bring more people into the team so you can do that and crash your schedules so deliver your project earlier.

Ben: It's interesting that these next few stages, there's a part of me that almost says, oh well yeah we know about communications, leadership, doing the work. That's obviously a very bad thing, but do you want to comment on those three as we move through it? I don't know why I'm thinking that, just as we've done all the hard work, it's that beginning part that always seems the bit to focus on.

Cesar: Yeah. That's what I found too. It's especially for us technical... I mean I'm an engineer, I'm all about the numbers. So just tell me the numbers, I'll do the math. Math doesn't lie right? Math always works!

But if you pick up a book on project management most of the books will say that the job of the project manager is communication. 90% of what we do is communicating. So there should be a chapter in the book about communication and it's important, because you have to be having these conversations of brainstorming sessions for not only composing / decomposing but also communicating with your contractor, sub-contractor, okay give me the estimates, how are you doing. So it is what the project manager does most of the time is to communicate so it's important to know how to do that well.

I come from the construction industry. The construction industry is a very tense industry as you may know Ben. Most projects are, the way work is given out is based on the lowest bid mentality so everybody who's working on construction project, for the most part, they are there because they were the lowest price. A lot of the sub-contractors, they even are in the black because they wanted to get that job, or because it's a high profile job for them, or because they need the work they need to employ the crew and they might not be making any profit at all.

It is a tense environment and you as either the sponsor or the project manager, you need to be able to communicate in this environment well because things do go wrong, and when things go wrong in a construction project people start pointing fingers and the environment becomes tense. And there are other concerns as well in construction projects like safety and regulations. So there's a lot of delicate topics that need to be addressed and if you are a good communicator then that plays to your advantage. And that's what I've found.

Ben: We've talked about a number of different steps and we've finally got round to doing the work, which we have mentioned is the lean part. So shall we just go to the end of the project now?

Cesar: Yeah, doing the work I think is the shortest chapter in the book! Because as project manager you might be doing all the work but you also might just be overseeing all the work.

Ben: In the show notes what we'll do is we'll have this whole process and we'll obviously have links to your book because it seems silly not to. You'll get a much clearer explanation than this. I'm sorry if I tried to chase you through this but I think it's important to see those steps there and how they relate to house building.

         But coming back round, as I mentioned earlier it sometimes seems strange that once you've got to the end it's the end. So, reviewing, managing change and lessons learned.

Cesar: Yeah, so reviewing is a simplification of what we call the monitoring / controlling in project management. And basically that is so you have your plan, you have your gantt chart, you have your schedule, you have your costs, your budget, and not only that you have an idea of how the money is going to be spent throughout the project.

         You don't spend all the money up front or at the end, you spend it throughout the project. So what you can do as let's say the house is being built, you can always look back and say okay where are we standing right now? And in construction a lot of times contractors / sub-contractors they will get paid based on progress. So if the builder's wall is going to cost him £10,000, at the end of the first month they've done 50% of the wall they'll send you a bill for £5000 and then you pay them.

         So you have a lot of information regarding progress, based on how people are billing you. So you can look back and say well what was the plan here? How was I supposed to be in terms of the progress

for each of these activities and how am I doing overall in let's say the 0-100% progress in this project. And there are tools that can help you with that. I don't cover them in the book because the book is a bit of a higher level tool. Any project management tool will be able to help you do that. To help you find out how far along am I overall and how am I doing.

One thing you can do too in a gantt chart there's always going to be a critical path which is the sequence of activities that are most important for your timeline. So for example if you are falling behind schedule, project management will help you decide which activity should I throw money in right now. In other words, to speed things up. It might not be what you think but when you do this project management exercise you'll be able to find exactly what are the activities that are critical when it comes to my schedule and my budget. And then you can as you monitor and control, as you review it you are able to make these decisions.

Ben: Now I'm going to ask a mean question here, but looking at your book and how that came together, it was a Kickstarter project. How come you weren't able to hit your schedule? What went wrong? Can you analyse that in a review?

Cesar: I can totally analyse that in the review, and I know exactly what went wrong!

When I started planning the project what I did was in the composing phase I decided to work with a coach who's done it before, so in a way he was kind of like my project manager here, even though I managed it myself but I had his guidance because this coach has helped over hundreds of people write books and he knows the process and he knows all the moving parts.

So we did the composing phase, he didn't know that that was what I was doing [Cesar laughs] or the name of it, but I basically sat down with him and said let's talk about this, let's think about all the requirements and then we did compose it as well. So I was able to come up with budgets and schedules and all these things. So I was able to come up with a number for my Kickstarter campaign that I just didn't pull out of a hat. It was a number that was calculated.

That part and all those things that he helped me with, I had to hire an editor, and I needed a timeline for the editor, he knew that information. He knew how much roughly that was going to cost, I needed to hire a designer for the cover, an interior layout designer as well. We were able to break those things down and all that was

pretty much on the spot. It was right on. The part that did not go according to plan was how long it was going to take me to write it! And looking back, doing my lessons learned session here, is I'd never written a book before and I grossly underestimated how long it was going to take me to write it. And the coach was able to give me an idea of how long it would take me, but there were other variables that we didn't take into account, for example it was right around the holidays. I was not going to be in town, you know English is not my first language, so maybe it takes me a bit longer to write than your regular writer that he's worked with!

And the other thing too is the editing process, it took longer than I expected as well. So that dragged on and I like to think then that if I write a new book I will be able to have a better estimate for those parts, then my estimates would be a bit more accurate.

Ben: If I got you to build a house right now, does any of that experience translate, and what would you be thinking? Would it be something that you would want to project manage?

Cesar: I probably would not project manage it myself. I think experience says a lot. If you hire a person and they're able to do it faster, to do it cheaper, I find that it's worth the investment.

As I said at the beginning I'm a person who is naturally disorganised. I'm easily overwhelmed and I find that there's great value in outsourcing that overwhelm onto somebody else who will not be as overwhelmed because they've done it before!

So I think it's money well spent to hire a project manager who has knowledge of the subject matter that you're trying to do. Especially if it's a project that's going to be very expensive and time consuming and of such importance such as building a home. By all means you can overlook that, you can oversee the process as a sponsor, you can co-manage it with him or her.

Ben: There are different levels as well aren't there? Sometimes you'll bring in a turnkey solution so that they will do the whole thing, or you bring in a contractor who will do a part of it, or you might do the self-build yourself or be using sub-contractors or you might do a mixture of it all. This is what gets so complicated for someone doing this first time, and I agree with you whole heartedly [Ben laughs] I want to stand back, and I want to be able to enjoy it really! To walk onto site and say what's going on here. I think you still need to be present, don't you?

Cesar: Yeah, dependent on what's your definition of enjoying it, I think it can dictate how much you want to be a part of it.

As you said there are turnkey solutions, you can just hire a project manager and have them manage the project for you, and in a way you're not handing it off, you're just hiring help right. Sometimes the contractor will be the project manager, sometimes the architect manages the project. Depending on how you award your contract and how you want to build this it could be done different ways. And again, it depends on your level of comfort and your level of desire of how much you want to be involved for sure.

Ben: I also think it depends where you want to go, if this is almost a career that you want to get into or you see yourself building again in the future or you just have a passion. Maybe you're very passionate about it. But I have seen the people that tackle the most themselves, that's when the project goes on the longest and it does seem to have a tension in relationships as well!

Cesar: [Cesar laughs.] Yeah, yeah. And that's why, even if you're going to tackle it yourself you may want to hire a project manager as a consultant. Okay so help me through this process, what do I need to do next you know. Not in terms of the build itself but in terms of the planning and then as it's being built, okay what should I be looking out for here. You've built houses before. What tends to go wrong? What is the most important thing I need to be focussing on right now? So I think it's important to have the kind of input from someone who's experienced and has done it before.

Ben: Cesar. This has been absolutely brilliant. I know I have been very mean and accelerated you through your own process, even dropping a couple of steps hoping you don't notice! [Cesar laughs.] Is there anything else that's very important in just looking at these basics and thinking about a project, in this case obviously a house?

Cesar: Yeah. The one thing I like to say is we are naturally not wired for complexity for managing complex projects like this, just using our minds. So my main point here is to have a method, have a system that's external to your brain. So you can plan the work and then work the plan as we say. That brings peace of mind, it removes the overwhelm, it brings clarity and all of a sudden you know where your money's been spent, you know when you're going to have the build done and it just makes the whole experience a lot better. So even if you don't read my book, just work with someone that can provide you with this level of detail and planning so you can sleep at night and enjoy your new home when it's done.

Ben: Cesar, thank you very much.

Cesar: Thank you Ben for the opportunity.