64. Risk, Resilience, and Response

Highlights from the 2019 Project Management Symposium

at University of Maryland

Part I

Lisa Price: So this is the third symposium that I've attended, and every year that I come, I get so much value out of it. Particularly for the money, there's no other place that I've come where I've been able to meet as many local project managers, to hear relevant case studies from different sectors as to how to apply project management, and I learn something new every year.

Kendall Lott: And here we are again PMs, or rather, There we were. Another year, another excellent project management symposium at the University of Maryland. We were there in May, microphones scattered across multiple presentation tracks. For the first of our three highlights episodes, we are focusing on two of the tracks: Disaster Resilience and Risk Management. There's a connection.

You'll hear from Gregory Baecher on Post-Disaster Project Management.

Gregory Baecher: What's interesting to me is that we have a long history of project management skills. But the emergency response, really, is different.

KL: Mark Reeson on Project Management in a VUCA environment.

Mark Reeson: VUCA creates a contextual aberration. Something where you say, this just shouldn't be happening right now. And just when I thought I was in control, I just learned I'm not in control of anything. So, I'm going to rethink again.

KL: Robert Schmitz on Carbon Neutrality, Resiliency, and Program Management.

Robert Schmitz: What I took away from this lessons learned was data... Data, data, there was a lot of data. And how do you get this data across to the right people without getting corrupted, or mis-information?

KL: Maria Papadaki on The Relation Between Risk Management and Project Success.

Maria Papadaki: So, risk management is not separate from a day-to-day activity. It needs to be there as a way of thinking.

KL: And Thomas Polen, What's Lurking in your Project Forecast? (whispers) Hint: It's risk.

Thomas Polen: If we're communicating our risk to our customer during the proposal phase, and willing to not be the low bidder... We might not win the bid, but we'll win the war or whatever. We'll win the reputation

Announcer: From the Washington DC chapter of the Project Management Institute, this is PM

Point of View®, the podcast that looks at project management from all the angles. Here's your host, Kendall Lott.

KL: We all know about what happens to the Best Laid Plans. As the fighter Mike Tyson once said, "Everyone has a plan until you get punched in the mouth." Now when the world is changing faster than ever, we find ourselves in situations that take us away from the textbook scenarios. In this episode, we will learn about VUCA environments where everything is changing fast and we must be able to read the signs and adapt. We'll also consider once again the importance of risk management, and why it needs to be deeply embedded in organizational culture.

Now let's go check out the presentations.

Gregory Baecher is a professor of engineering at the University of Maryland. He holds a Bachelor of Science in Civil Engineering from UC Berkeley, and a PhD in Civil Engineering from MIT. He is the author of four books on risk, safety and the protection of civil infrastructure. Here he is talking about post-disaster project management.

GB (3:10): This is a definition by FEMA for the stages of the risk management process. So in response, basically the intent is to save lives and to prevent any further damage from occurring, and then to return the situation to a normal or safer condition. So a lot of what we do happens ahead of time: planning, prevention, preparation. It's only where that line hits, where the disaster occurs and we have to initiate a project, respond, generate the recovery and eventually, after the initial recovery, look at longer term restoration and eventually close out the project.

Clearly, PMI and its PMBOK® and its guidance on project management, all of that applies here with a few changes from a normal project.

So the first thing we do normally ahead of time, prepared as a template, and then tailored to the exact situation, is develop a standard project charter, which is a short one-page, two-page elevator speech if you will, of what the project is going to do, who are the stakeholders, what are the deliverables, what's involved, and what are the constraints and how the funding is going to be handled. So normally, we try to keep that to one page.

This describes the post-disaster project team. This will probably, to all of you who are professional project managers, this is probably slightly different from a normal org chart or organizational breakdown structure. There is typically someone who is the so-called Project Manager. In this case, the Incident Commander, someone with a bit more authority than the normal project manager has. And that person has a staff. These are the staff identification slots that are normal to FEMA projects: a Public Information Officer, a Liaison Officer, whose charter is to coordinate mostly with other state, local, and federal agencies, a Safety Officer to make sure that the project team and the other stakeholders are safe, and then a variety of technical subject matter experts in whatever… in levees, in evacuation, in logistics, and so forth. And under the commander, several steps: planning, which typically is operating already before the project starts; logistics; operations; and really important, well important in any project, but particularly important in these response projects, is a liaison with the various financing entities, typically in the federal government or in the state.

GB: I suppose, being a risk person, I'd like to say just like all projects, everything is risk-driven but that's probably not true... But certainly, the post-disaster ones are risk-driven. Obviously, they need

sound management principles, but safety, identification of hazards, and hazards that may follow on – in the case of earthquakes, there's secondary events; in the case of floods, containment, and that's sort of what we're seeing in the Midwest right now, and an impact analysis on stakeholders and the region, of the potential consequences of those hazardous events. Budgeting is really important, and budgeting necessarily follows federal mandates. There's a long GAO presentation, guidance on budgeting, how to budget for disasters, and then there is FEMA guidance, which is quite detailed, it's part of the CFRs on funding sources, and protocols for funding disaster response operations. And then there's OECD guidance for outside, more European, outside the United State domain. Health and safety is always of critical importance. There is a Health and Safety Officer on the command staff who reports to the project manager.

Most of these catastrophes, these disasters, are due to natural events, not all, but most... And so there are physical exposure issues, there's physical exposure, not only to the stakeholders and civilians, but also to the project staff. There are injuries associated with the direct hazards – flood, earthquake, whatever. There are potentially chemical exposures due to the fragility of chemical storage facilities exposed to the floods, hazards whatever. And there may be biological exposures as well, especially those which break out due to unsanitary conditions following the event.

There's a normal close-out at the end of the post-disaster work, handing over, typically the post-disaster people, the immediate response people, handing over the project and its responsibilities to a longer-term reconstruction effort that might take months for years.

GB (8:20): There is a training available, both to federal employees, contractors, and others, through the Emmitsburg facility of FEMA. We've had both the pleasure and the honor here at Maryland of doing some of the courses up there, in post-disaster project management and related issues. If you're interested in that, you can find more information on the FEMA website, and that's it.

So this is an area that here in our Center for Disaster Resilience, we have been focusing a lot of attention on trying to merge the activities of the Center for Project Management and our, recent last couple of years, Center for Disaster Resilience.

Room Monitor: Thank you very much, thank you for all the FEMA people who have been here who helped contribute to this.

KL (9:13): VUCA. Volatility, uncertainty, complexity, ambiguity. Have you ever had to manage a project in these conditions? Aren't all project somewhat facing a level of VUCA? Yes and no. This awareness is most important in projects that exist in situations of potential harm – loss of life, or of property. Mark Reeson will now walk you through some PM tips for operating in a VUCA environment.

Room Monitor: Mark is an international strategic project management advisor out of the UK. He has over 30 years of experience. He is currently developing POs and disaster management policies in the Middle East, with a focus on sustainability management, his SMART Community Program. Previously, from an armed forces background, Mark has served 24 years in the Royal Air Force as a project professional. He has worked with defense, nuclear, local and national governments. Mark it's a delight to have you here.

Mark Reeson (10:06): Thank you sir. Very good morning to you all. I'm about to take you on a

little journey, a little trip, which starts so nicely, and ends in disaster. But then we'll ask the question, when it's ended in disaster, what can we really do about it? And how can we approach such a situation when you're in that environment that is disaster? It's been labeled by yourselves, in the US Marines, as the VUCA dimension, or the VUCA environment. I will explain why later.

What I'm going to do is I'm going to show you how project management skills are making all the difference to this VUCA dimension, and this VUCA environment. We're going to start with the British territory of Anguilla. Anguilla itself is the most easterly island within the arc and the curve of the Caribbean, therefore leaving it the most exposed to anything that's going to come across the Atlantic, and is the island, just to the east of Puerto Rico.

That was what it looked like in the September immediately after Irma had introduced herself.

MR (11:29): What we're in the process of looking at is rebuilding a whole new community and a whole new island. So therefore, we need to understand how VUCA can help us to do this work. It's more than a simple phrase. The US Marines used it when they first arrived in Afghanistan, and they said, "We're not used to this. This is different. This doesn't look like anything we've had before."

What we're talking about is everybody understands the context, the here, and the now. How is the government running? How is the drive that we've come in on today? Everybody understands the context of their own environment. VUCA creates a contextual aberration. Something where you say, "This just shouldn't be happening right now. And just when I thought I was in control, I just learned I'm not in control of anything, so I've got to rethink again." This therefore means that in stepping into this type of area, you're going to have to rethink everything that you know and change the behaviors that you're used to.

MR (12:45): VUCA covers four key elements. First of all, the rate of the change of the environment that we're in, therefore how volatile we are currently managing. The lack of predictability in the environment, as well. Therefore we come across uncertainty, the level of risk that now comes into play. Then we've got how everything in the cause/effect of all of these forces are inter-connected, therefore creating this complexity that builds around us. And then finally, through either intentional or unintentional reasons, the information mismanagement, or what's become famous these days of faith news, yes? Some people do it deliberately, some people just mis-read situations. You, as the person in charge of all this, you've got to read what it is, and whether or not it's relevant to what you're doing.

To be able to do that, as good project managers, we've got a process. However this is a process that is so flexible, it has to be to adapt to the situation or the context that you are in. The whole idea is to make it that wherever and whenever you step into something – ask any military person this. The one thing they do not want is mission blindness. We're going to go in and were going to sort it out. The question is, "What are we sorting out?

MR (14:20): When we say the environment is very volatile, what's causing the volatility? How much volatility is it? If it's uncertain, then we say it's risk, start looking at sources and causes of risk. Why is it that we don't understand what's going on? Where does the uncertainty lie? What's making the situation complex? Is it what we're trying to actually achieve? Is it our objectives? Is it the goals that we're setting ourselves? Or potentially is it actually the people that we're dealing with? What is it that we don't understand? What is it that isn't coming out and what information are

we missing that allows us to move forward? All of this has to be done as a pre-project assessment before we can say, "It's time to do something." We now have built our own context around the contextual aberration.

MR (15:26): The first step is understanding, "why are we actually doing this?" We have been told we need to go in. Why are we going into this environment? What is it we are looking to achieve by doing whatever this activity is? What I want to understand is, "what's the objective behind this recovery?" Therefore, in understanding the objective, what's the scope of work? What are we actually going to do when we get there? And therefore, by understanding the work in what we are going to do, how are we going to control it?

This sounds like any normal project. As it should be. The only thing that's changed is the context, or the environment in which you're doing it.

But now, we're not just looking at what all the control mechanisms are for the project. Our focus should be on our people as well. How do I ensure that if I take people with me into this environment that I actually bring them back again as well? Because there's the big challenge and the responsibility of the Incident Commander, or we can describe here is our Project or Program Manager.

MR (16:45): You need to be able to create or visualize this end goal. This is what we're going to do, and this is what it's going to look like at the end. To be able to finish that, what I need to do is have the right team.

Some people react better under pressure than others. You find some people, when the pressure's applied, that's when the real person comes out. But I don't want individual heroes. I want as many of these super-fish as possible. But I want them to understand they're part of a team. They're managing a team in the flood operations of over 800 people. What I don't need is 800 individuals. I need one team, a team that knows why we're doing it, what we're doing, and therefore what their role is to do it as well.

MR (17:42): I've got to create an environment and a culture as well, which says, "Just when you think you've got it right, get ready to change."

The big part of being the leader is understanding, "I'm not the only one that makes a decision." Particularly, and more importantly, in this kind of environment. If you are in a position where something is about to happen to you and your team and I'm 20 miles up the road, I don't want you waiting to ask me what you should do next. I need people that can make decisions. I need people that are empowered to know what the right thing to do is, and then to do it when it's the right time to make that decision." By being able to do that, the leaders and the people in charge of the teams need to understand their resources, their people, their team has to have room to grow. They have to have the ability to say, "I can do this. I know I can make this decision." That can only happened if you let it happen. To be able to do that, the team has to have total integrity and trust around it.

But at the same time I don't want people that can only do one thing. I need my resources to mix and match. You're doing that job at the moment. The situation just changed. That is no longer my priority. I need to pick you up, move you there and know that you, even if it's not your primary role, you can support somebody whose primary role it is. Because that shows that great connection

within the team. I need to build the team around the values that we stand for and the aims and the vision of what we're trying to achieve.

MR (19:36): The plan is only as good as you make it. But the plan also needs to adapt very swiftly once you arrive. Everybody knows a good project plan generally lasts two to three days, and then things start to go wrong. Well, within this, try two to three hours and then start rethinking because it's not until you ground and then you actually realize everything that's around you, you've got to rethink the situation. Information was wonderful. Realization is a totally different thing.

Even on the ground, prior to it, but also on the ground, practice out certain simulations. Go through certain scenarios. If we do this, then we do this. How does this affect these people? If I do that, and then reduce this... How does this affect what's going on? Practice what you do, before you just throw yourself into it. Then, you're going to pick up lessons learned.

This does not mean my first job is to raise my lessons learned log. No, we're going to look at that in three months time. Guess what? If I've got a lesson I want to learn, I need to learn it now. And once I've learned it, I need to implement it as well.

I need to keep the whole thing driving. What I've got to do is, I've got to reinforce this mission that we're there to do. I've got to remind people what we were trying to achieve. And what this does is, this allows a message to keep going, and the message gets repeated, and then it drives even further. And what this does, this creates for the team that we're in, and for the people around them, there's a drum beat. We're going to this, we're going to achieve. Do you remember why we said we were here? Now we're going to do it, and we're going to do it right.

MR (21:18): The one thing that will always be constant in a VUCA environment is change. You have to be the person that reads it, adapts to it, and then changes the direction yourself. Constant change means constantly moving things in the right place. But by doing that as well, on occasions we have this problem around succession management.

I have a plan of exactly how we're going to win the Super Bowl this year. This is going to be really easy. After all, we practiced all our drills, we've run all of the scenarios, we get everything right. And then the quarterback goes missing. Now, unless I've got a back-up, and that back-up understands what the role is as well, where do you go from that, how does that work?

This regular performance monitoring has to be done. This isn't your six-monthly check, how well are you doing in the office? I want to know your well-being. Are you feeling alright, are you still okay? Are you feeling of pressure? If you're feeling the pressure, how is it affecting you?

MR (22:28): It has to be a managed withdrawal, it cannot be, "We're done, we're out of here." Yeah? What that does, it creates a bigger problem. Now, what this also does is by having the steady and proportionate approach to leaving, sometimes some people stay longer, than others.

The one message should be, when we leave, it should be in a better state that when we arrived. That was the whole purpose behind what we did. What we should look at as we start to leave, did we align with the delivered goals? Have we put in place a structure that, therefore, can now manage the situation itself? We're also trying to avoid this. If you leave a situation, and there's no control behind it, then there's a power vacuum that's left behind.

How do we do it? We ensure we re-deploy all the resources when they're redundant from their roles. We get them out of there.

Student 1 (23:36): What exactly is VUCA? Is it a methodology? A principle? A process? A framework?

MR: No, it's an environment. It describes that position or that situation you find yourself in.

Student 2: Is it not a part of, an extension of risk management, risk assessment, risk learning? Because other learnings in project management, there seems to be a lot of different methodologies, principles that we actually follow. So what's the rationale behind introducing a new…

MR: I'm not introducing anything new at all. I'm making you look at it from a different angle.

Student 2: At what point do we use it? Post-implementation? Pre-implementation? At what point?

MR: The moment that you know you have a situation to manage, understand it, looking at it through these eyes. That does not mean we don't do Risk Management, we don't do Scope Management. We do all of that because those are the project management skills that we need to deliver whatever the change has to be. What this describes is when you're actually in that environment, understand this is what you're up against. It tells you, that instead of running a project in a routine environment, you're working in an environment which is different. It is changing.

Student 3 (25:00): So there is a theory in physics, called Chaos Theory. And in Chaos Theory there is actually organization.

MR: Yes.

Student 3: And so, are there tools, like the Monte Carlo analysis from regular project management, that can be used in this?

MR: What you're looking for, and Monte Carlo is a good example, you are looking for things that help you with speed and decision-making. Because the key part of any VUCA environment is the speed in which the decision is made. Therefore any tool that you know can help you in any shape or form, as long as you know what it's going to give you as an output (there's the key part) the answer is: Use it.

Room Monitor: Thank you very much. [applause]

KL(25:56): Sustainability is the new buzz word. And sustainable projects are cropping up in corporate as well as local and global government sectors. Architecture and construction play an important role in rebuilding and re-designing communities that have been battered by storms. New building codes, new energy codes need to be developed.

Here is Robert Schmitz on Carbon Neutrality, Resilience, and Program management.

Room Monitor: Robert has 25 years of experience in design and construction, and currently sits on

the board of directors for the New York-New Jersey Green Build Center. Robert, we are very pleased to have you here.

Robert Schmitz: Thank you. So where does carbon come from? It comes from living things, such as plants, living organisms; it comes from the oceans; and then the third is rocks and volcanoes. Carbon has been in the earth for millions and millions of years. And what's happening is, the earth has been able to take some out of the atmosphere and store it over here in the ocean, from the ocean into the rocks. But what we're doing is we're digging up these fossil fuels, and we're putting them back into the air a lot quicker than what we've been storing up in. So now there's an increase of the carbon dioxide in the air, which is causing global warming, which is increasing the greenhouse gas effect.

Back in 2013, our President Barack Obama created this action plan and it's ultimately to reduce greenhouse gases. And colleges and universities, such as UMD, who signed on to this action plan, are deeply concerned about the unprecedented scale and speed of global warming and its potential for large scale adverse health, social, economical, ecological effects. They recognize the scientific consensus that global warm is real and it's largely being caused by humans. So in order to revert the worst impact of global warming and to re-establish the stable climate conditions that made human progress over the past 10,000 years, possible, we need to act on these initiatives before it's too late.

Architects, engineers, consultants, and builders have a tremendous power to mitigate climate change. There is no one solution. A step in the right direction is to work with your local municipality and upgrade the existing building codes to address new design criteria to be resilient and mitigate future natural disasters. It is our responsibility to ensure we are not contributing to this cause, but rather, fixing the existing systems that are set in place to create a better future. All possible solutions must address occupant comfort, health, safety, and sustainable and also encourage biodiversity than possible. So, we have choices to make here.

In the 21st century, we need to build like the future depends on it. With every construction site, there's a critical opportunity to either fight against climate change or feed into climate change. University of Maryland is tracking its carbon footprint, recently issued its 2018 sustainability progress report. There was the reduction of campus greenhouse gas emissions by 49% since 2005, which is huge.

RS (29:13): The severity and frequency of major storms, adverse weather events, is projected to grow more severe in the decades to come. And to ensure continued economic prosperity and health and well-being of the community, action must be taken to ensure the infrastructure of a community is resilient to climate change impacts. Building for climate resilience is becoming a major goal for many institutions, such as UMD. The key focus of climate resilience efforts is to address the vulnerability that communities, states and countries currently have with regards to the environmental consequences in climate change. Currently climate change resilience efforts encompass social, economic, technical and political strategies that are implemented at all scales of society, from local community actions to global treaties, there is a robust and ever growing movement fueled by local and national bodies alike geared towards building and improving climate resilience.

Program Management as it relates to disaster recovery, manages the design, implementation and communication of business continuance and disaster recovery plans and processes that insure

security integrity of company data, databases, information systems and technology; conducts risk analysis to identify critical operations and systems that are core to continue business operations in the event of disruptions; monitors and test plans and back-up systems. And it's very challenging, but it all depends on your processes that you set in place.

RS (31:07): I'd like to talk about the two programs that I was a part of for disaster recovery. The first one is to the New Jersey RREM program. These are both due to superstorm Sandy. REMM stands for Reconstruction, Rehabilitate, Elevate and Mitigate.

There were roughly 9000 single family homes that were rebuilt. These homes had to fall under LMI (low to moderate income) families, and there was a grant cap for these homes of $150,000 per home. The program itself was a one billion dollar program, and it was funded by CDBG funding, which is Community Development Block Grants, by HUD, which is the US Department of Housing and Urban Development. MBP, the company I worked with, teamed up with Gilbane. So Gilbane is a larger construction company, and we were one of three contractors that were brought on board to create this disaster recovery program, that's never been created before.

I was tasked for developing the policies and procedures for this program. So I, how did I go about it? I went and I spoke to Gilbane, who was the boots on the ground, who had the resources and the people, and I went and spoke to spoke to all their different departments, all the way from the beginning, from the intake process to the call center, to the CM side of the house to the ISI, which is the initial site inspections, the ECRs, the exactimates, the cost estimators. I spoke to the inspectors and then of course, the close-out team.

And by doing so, I understood what they were doing and was able to create the policy and procedure... What I took away from this is lessons learned was data, data, data. There was a lot of data. And how do you get this data across to the right people without getting corrupted or misinformation? So Gilbane had its proprietary software that they used for their repository of information called iBuild, and they did not want to budge. And then we were working for the DCA, the Department of Community Affairs, in the New Jersey Treasury Department, who had their own repository for information called "SIROMS." So now, MBP says, as program managers, how are we going to get this information back and forth?

What we did is, we stood up a share point site, which worked very well. So we were able to create a dashboard, and on that dashboard we could tailor it to whatever we wanted. If we wanted to take out one of those 4,000, 5,000 homes, and put it on our dashboard and understand where it is in our workflow diagram, which we created in Visio with swimlanes, to understand where the ball was moving, where this applicant is moving throughout the workflow, we could do that within SharePoint.

Also what we were able to do was, every time data came through us in SharePoint, we performed QA/QC. We needed to do that to make sure basic stuff, the app ID…we had to create unique app IDs…and there was so much work involved in it, but we had to scrub everything before we uploaded it into SIROMS, and that was a way just to ensure that we were delivering the correct information. Because from lessons learned in the past, information had to be sent multiple times, people were using flash drives, there was a Rapid Repair Project in New York, which ran into flash drive transfer of data, and we did not want to have that at all.

RS (34:37): And then next is the New York Governor's Office of Storm Recovery. We're in the process of closing out that project right now. We have a couple of team members embedded on that project, which will be closing at the end of the year. MBP was really focused in the small business program.

Again, it's a larger program. It was 4.4 billion dollars, because it does encompass multiple programs, such as housing recovery, infrastructure and community reconstruction. Community Reconstruction was a very large program, as well as infrastructure. Small business, we had about 250 small businesses all throughout the state of New York.

What was different about GOSR was it wasn't just superstorm Sandy. It also dealt with two prior storms, which was Lee and Irene, which dealt with heavy rainfalls, which flooded the tributaries and the rivers, so a lot of farm lands were inundated by flood waters.

Room Monitor: Great, well thank you very much.

RS: Thanks. [clapping]

KL (35:42): Academic research tells us that risk management is indispensable. Without ongoing monitoring and adjusting, your project can go off the rails. But the question is how many PMs give proper attention to this aspect of project management? Maria Papadaki has done some interesting research on the subject, comparing the academic position, "What does the research say?" versus the real world, approach, "What does Twitter say?" Listen to some clips from her presentation on the relation between risk management and project success.

Room Monitor: She is currently the Managing Director of the Dubai Center for Risk and Innovation, which is part of the British University of Dubai, and she's a board member for the International Institute of Risk in London. She has a PhD in project management and risk management from the School of Mechanical Aerospace Civil Engineering, that's even more disciplines in our department has. Maria, nice to have you here.

Maria Papadaki: I'm really happy to be here after three years of promising coming back. Today, we're going to talk about the risk management. What the academics say, and what the public says.

MP (36:54): It's all about decisions. This is what my motto is: people and decisions. How we make decisions and how we make these decisions with the new generation, with the new digital tools and everything. So coming from 1996, from research about risk decision making that they started through the University of Manchester, it ended with my PhD dissertation in 2014, looking how to improve risk and decision making in a big aerospace organization, and we found across this common things: that people believe that risk management is important; that effective risk management improves business performance; employees knows about policies, regulations; there is a significant proportion that is taking corporate risk management training courses. All these common things, findings from all this research says that risk management is there, people believe that there is improvement, there is opportunity to look so for the risk management data. But people don't do it. I don't know. They say okay, yes, it's important, yes we need to do it. Maria, yes, yes, yes. Let me do my own job and you do yours.

So I've seen hundreds of tools and everything, but culture…no. So risk management is not separate

from a day-to-day activity. It has to be there as a way of thinking. If it's there as a way of thinking, then you do it. If it's not, then you're thinking about tools and everything, then you failed.

MP (38:38): Most of the time, the project managers have a risk coordinator there, somebody there, a facilitator, just to look at the risks…looks the P50, looks whatever , I don't know, do the risk management. The risk register is something that is made risk management to fail, because everybody when they think that they've done a risk register, they put a probability, an impact, they've done their job. But this is not correct.

Few projects quantify risks. Decisions rarely result from risk reviews. And there is no evidence that the data that we gather for risk management is embedded to that decision-making. Have you ever in your organization heard the board of director, or somebody telling you, "Yes, I've based this decision based on what my team found on the risk review, and this is a mitigation plan…"? I don't think so.

MP (39:37): Basically yes, we believed that risk management has to be holistically aligned with culture leadership, systems and structures. It is a subjective concept, and highly related to people's perceptions. And what decisions they're going to take…it's not guaranteed. So you might have the same situation, the same environment, everything the same, but not the same decision. So, as many tools as I have around, there is also judgment and judgmental things that make people make different decisions.

MP (40:15): Okay, let's see what the academia is saying. So first, we got 2,822 papers, then we categorized the whole data basic with key words, we used the PMI terminology, and also the APM, to categorize all the keywords that we were finding, so we end up with a picture.

So the first picture that we end up here, it seems that the occurrence of the key words, it goes together, let's say. So there's a high relation between risk management technologies and project success, in the papers. So when people are talking about project management and project success, they're talking about risk management as well, and it's highly related as well. So the data proves that risk management is quite quite, very close with Project Success.

MP (41:06): And then we went in to Twitter, and we monitored twitters and hashtags, and everything to see what people's perception is about risk management. From 100,000 tweets, we identified only 473 tweets that were talking about risk management and project management. When we analyzed project management by itself on 46000 tweets, we didn't see risk management at all there.

Yes, risk was not, risk was not mentioned as a big factor. Where in the academia research, project management is very related to risk management, the twitter didn't prove what we said. The question is why practitioners are not engaging with risk management. We need to start thinking more and change the way of thinking, how data, how risk management is related to project management. It's a unique environment right now. And technology is running very fast. The risk management process can help people to think. I think what we need to do now is to try and identify risk, and make prediction. But we need to incorporate all the digital technologies around. And project management needs to grapple with all this and see who is managing what. [applause]

KL (42:27): According to Thomas Polen, the biggest risk to project execution is potentially the

project plan itself. He also reminds us that projects have two kinds of risks: threats and opportunities. It's all about mitigating the former, and finding ways to benefit from the latter. Let's listen now to his presentation on project forecasts.

Room Monitor: Mr. Polen currently serves as Director, Solutions Architect for the Project and Portfolio Management Solutions at Deltek. Tom has scoped, during his career, designed, developed, implemented project planning systems in the telecom, transportation, insurance, and defense industries. His mission is to help the field of project management to focus on analysis, rather than development of data and information used to support analysis. So Tom, the floor is yours.

Thomas Polen: Thank you so much, alright. So I can't stand still this afternoon, because we're talking about what's lurking in your project forecast. Let's talk about a typical project forecast, or a project plan, right?

And when I talk about typical, a lot of it's my own experience. I was a project planner for about 20 years. So, from my experience, and possibly roughly, from some of yours, project forecasts are developed by a small group of individuals in a semi-collaborative way. Whereas the project team, might be a large group of individuals. Potential problem number one: We have a small group of people planning for a lot of people. That forecast, from the moment it's input, I've seen so many times over the years, it's wrong because it doesn't take into account the true feelings of the team. It's some people that have some experience on projects like the one that we're talking about now.

So the activities are linked or sequenced together. That's a more technical thing, that those have used project scheduling software like Microsoft Project might have done, is link the sequence activities. And so basic scheduling quality checks are performed to make sure that the plan is good.

You pass some of those checks, some of them are manual, some could be automated, and then you say, "Hey we've got ourselves a project plan." But you can see, and I'm pointing out and calling out, some of the flaws along the way.

TP (44:31): Here's a good one. The finished state is understood. You've got that critical path, a term that some of you might use. What about this intermediate milestone? What about those deliveries along the way? Do those make sense where those are planned, or are those just kind of scattered all over the place? Who's worked directly with project schedules, building them? And working with engineers, that status those schedules month after month? When you don't have a good plan and you start statusing it, what happens? You figure it out as you go, as you're statusing, you start changing links and relationships. Because they say, "The thing that you're asking me about right now is not something that we're planning on working on right now," and you're like, "Hey it's in the 30-day window, man." And then, they say, "The things that I'm working on are not the things that you're asking me about."

I did that for 20 years and finally it dawned upon me... "Whoa, those plans weren't very good." Because they weren't driving the work. The engineers in their mind were driving the work, and I was just trying to keep up. That's not a plan. That's a reflection. That's a painting. Of something that already happened.

Here we go: minimal consideration of risk. You build schedules, you put in five-day durations;10-day durations; 20-day durations and 100-day durations. Those are like all the durations. Every once

in a while, just to mix it up, you put in an activity, and it's going to take 56 days, nobody knows why. And are those duration, are those real? No, they're estimates to begin with... And are those estimates considering risk? And you're eyeballing the work at hand, and you're making an approximation, that's what an estimate is all about. But when you say five days, are you really thinking about this project, this team and what they have to do to get that five-day activity done this time? Maybe. Multiply that by a 5 -10,000-line schedule that has all those little 5-day activities in it. And you get this like consensus bias – that's a word I just made up. Let's say an optimism bias, where everyone was just a little bit optimistic, but you multiply that by the number of activities in the project schedule. It's actually impossible.

It's like managing a baseball team, and just counting on the three-run homer in the bottom of the eighth every single game. It doesn't happen.

TP (46:41): Risk... Risk Management. That's what I'm getting at here, that's what I'm getting at, that we're not doing. If this was an hour session, I'd still be unfolding, the story. What is this? What is this four-letter word that he won't tell us?

Well, here's what usually happens with risk, from my experience. Risks are discussed prior to the project start; they might even develop a risk register. You might even borrow a risk register from another similar project. Who has worked with a risk register?

Whoaa, cool! Someone just start shouting out, define it for me in just regular human terms. Don't worry about like the PMI definition.

Student (47:14): What can go on what can go wrong?

TP: What can go wrong? That's almost exactly what I say. What can and maybe will go wrong during project execution? You write those down. You physically write them down or type them into Excel. You save it in a file and you don't look at it again until the projects over. [laughter] It's funny because it's true. Risks.xls. Specifically. Some work their way into the baseline forecast. "Hey, I want to tell you 50 days, but you know, that could be 100 days, and you know...." "Because of what? Well, we've got to write that down, we've got to document that." We still might plan the activity at 50 days, but we need to discuss the probability of that risk occurring, and the potential impact if that risk does occur.

Those are important inputs to a risk register: the probability and the impact. You give me a risk name – probability and impact. I can take it from there. But if I don't have any one of those three things, then we're still in that sketchy mode.

TP (48:10): A lot of risks sit quietly on that risk register…Track Risk. What does it mean you're doing if you're tracking something? Absolutely nothing, as far as I'm concerned. Yes, keeping an eye on it, but what does that mean? Are we mitigating? Are we doing something about it?

I would always ask, when these risk came up, because I was the one running around, getting status. "You planned that at five days. We're going on day 150…" [laughter] It happens! Task is 99% complete, oh forget it, it's never finishing. But I tell someone I'll be there in five minutes, they will never see me that day. When something's that close, I know something's up. It's the same thing with those surprises. We just need to tackle this one last thing. And they hate it when they're in the

middle of that. I'm like, "Could we have seen this coming?" And the answer was probably, Yes. And we better darn well write that down and get that on the next risk register for the same type of project, so it doesn't surprise us again. Surprise me once, fine. Surprise me twice, we should have been doing more than tracking. We should have been preemptively mitigating.

TP (49:18): Who has used a risk tool that leans on a Monte Carlo simulation? So you're simulating the outcome of a project many thousands of times. At least a 1000 times. Don't do that with a pen and paper. Because you're doing something whose very definition of a Monte Carlo risk analysis – simulating the outcome of the project many, many, many times to find out what the probabilities and impacts of different events truly are – that's not something you can really do with pen and paper. A lot of people have tried with those risk registers. They just add up the impacts on the risk register, multiply it by the probabilities and that's your risk exposure.

Well, maybe you also have that project plan. So how can you do that without also considering the project plan? So, that's where tools... hey we're a tools company, so, you might hear the T word a few times…that's where tools do a good job of helping you integrate the two. So you don't have to try to create like the most ridiculous like mapping exercise ever. In traditional risk tools, the data input is tedious for those couple who've done a Monte Carlo risk simulation, maybe you input three-point activity aspects – minimum, most likely maximum duration. So you're talking to a room of engineers like this one and say, "I know you each gave me a duration for each one of the 10,000 activities in this project plan. I just need you all to give me three more."

Someone's doing the math, they're like, "That's 30,000 more numbers." I'm like, "Yes!" They're like, "Noooo. No, we're going to go engineer the project while you do your little numbers exercise." So it becomes pretty irrelevant to people pretty quickly, when participating in a risk exercise looks so very numerical , when they're off and ready to build something very tangible.

TP (51:08): Risk assessment is viewed as a process, not a cultural mindset. Japanese manufacturing techniques post World War II, where the Japanese approach was to build quality into the process. They said, "We're not going to wait until the car is fully assembled to measure its quality. We're going to measure each component that goes into the car, and if each one passes, then we'll assemble it onto the vehicle." So by the time the vehicle is fully assembled, we know we have a quality vehicle.

So what I see traditionally is, we build the plan. And I've had program managers come to be, and ask, "Okay, now what I'm going to do? Risk load the plan?" Or something like that. Well it's too late at that point. Those estimates that were put in the plan, or have already been in the oven, baked in, and that plan, without risk in it, now has a lot of inertia, and everybody wants to move forward on it, and we've already committed to the customer the end date that's in that project plan. Maybe we even force fit the end-date of that project plan when we proposed, because we didn't do a quality risk assessment, even during the proposal phase. So now we've promised something that we potentially can't deliver on, because it's only now we're talking about risk.

TP (52:18): We're doing risk too late in the process if we're treating it as a separate process. If we're building risk assessment into our estimates, we're doing it right. And if those estimates are during the proposal phase, we're doing it even better, we're doing it in style. If we're communicating our risks to our customer during the proposal phase, and willing to not be the low bidder, and transparently communicate our risks along with that bid, we're kicking ass, people. We might not

win the bid, but we'll... win the war, or whatever. We'll win the reputation. We'll win the next one, when that first contractor low bid and couldn't finish the job on time or on cost. And you might find yourself, as a government contracting personnel saying, "You know what? That Juan Ramonco, they weren't our low bidder the first time. We didn't select them, but we might select them the next time. They seem to really have their act together." And if you're doing risk up-front, during the proposal phase, you're giving an indicator that you've got your act together.

TP (53:20): Discuss it, don't be afraid of it. Don't be afraid to bring up a risk. Don't penalize people for speaking up. Even if a risk sounds ridiculous, write it down, figure it out. Get the right eyeballs on it, and determine if it's going to be on the risk register.

Now, I've heard all kinds of risks come up, the one-in-a-million risks. I live in Phoenix, and I've met engineers who say, "Well, you know what, if we're building that structure and there's an earthquake…" Yes, and if a meteor hits and a dinosaur pops out of the ground, yes, that's a risk, but since it seems to be lower than 1%, let's just leave that off the table right now. Because those are the risks, I guarantee you, if you bring up something ridiculous, people will want to talk about. They start sketching out like a disaster movie. And then observe the shock when the true project threats are uncovered, because those risks that everybody are talking about might not be the risks that work their way to the top of the list in terms of the probable impact.

You might have one big risk that you bring up, and you're like, "That's our number one risk. That's going to derail this project." Yeah, sometimes it does. About 25% of projects have to go through some kind of re-testing, recertification, whatever it is that we're building. But everybody else in the room gave me a low probability risk, but it was never... That might affect everybody. Some kind of business environment consideration. Maybe there's something going on in our industry that requires us to change very quickly, and our old technology won't be viewed favorably. So it's not as dramatic as something not launching the way it's supposed to or something like that. Maybe it's something a little bit more political, but that can work its way up to the top of the list.

TP (54:57): Schedule must be fully linked, flow smoothly, and appropriately ripple when work is late, or risky. So if she's depending on you, and you're depending on her, and you're depending on him, and you're depending on him, if she's late, the schedule needs to show that you're going to be late. If she has a risk that could make her late, you have a risk that's going to make you late. So, you've inherited a risk that doesn't even belong to you.

Differentiate between a threat and opportunity. There's two types of risks: threats and opportunities. Things can be good, there can be upside. Don't be afraid to discuss those. I worked on one project that had more opportunities than risks. Uncertainty. The general uncertainty associated with just getting the job done. We didn't realize everybody was going to take vacation this month, and we needed those three engineers badly. Who let that happen? I don't know, we've got to let them out of the plant every once in a while. Well, that was an uncertain event. We didn't realize we were going to be short of staff during a key point in the project. Everybody thought everybody else had it covered.

These are inputs: risk events and uncertainty. Drivers is an output, but it's a very important output, because we've got to know when the rainy days are. We've got to know when to mitigate risk. We've got to know which risk to mitigate.

You can have 150 threats on your risk register, but you only need to mitigate five right now. But you need the amazing power of computer technology, once you've mapped the risk register and the schedule together, to know which five. Don't pick any five, that's not going to work. You need the top five.

TP (56:24): You might talk about project acceleration. Now that you've identified the risky areas of the project, that you figured out you really don't have a plan because they're outside your control, where are the non-risky areas that precede the risky areas that you can put money into to accelerate? We forget to do that, every stinking time. We spend so much time attacking the risks, we forget that there's non-risky areas of the project that can potentially be accelerated. What a beautiful concept! You know it, you know in your head already, there's going to be a traffic jam later. I'm going to leave early! I'm accelerating my schedule, because it's, it's murder out there on the Beltway!

So I'm accelerating the project. We do that every day without thinking about it. We forget to do that with our projects.

Room Monitor: This is great. Thank you very much. [applause]

KL: Well, well, project managers. All projects are challenging, but when you're in a post-disaster VUCA environment, the stakes are definitely raised. Again, we hear about the importance of assembling the right team for the job, and making sure they work together as a team. Also, the importance of data – for project execution as well as for risk analysis. Take advantage of the data that can be easily gathered in this digital world, and store it in a central system where everyone can access it and update it in real time. And if you want to ensure project success, keep your eye on the risks all through the process, beginning with the planning and right up through the end.

Special thanks to all of our presenters in this episode: Gregory Baecher, Maria Papadaki, Thomas Polen, Mark Reeson and Robert Schmitz. And thank you, Lisa Price, for that sound bite at the top of the episode. I would also like to thank the recordists, Marci Owens, Felicity Keeley, and Prusha Hassan. And most of all I would like to thank John Cable, and everyone at the University of Maryland's Project Management Center for Excellence, for making it all possible.

Announcer: Our theme music was composed by Molly Flannery, used with permission. Additional original music by Gary Fieldman, Rich Greenblatt, Lionel Lyles, and Hiroaki Honshuku. Post production performed at M Powered Strategies.

KL: PMPs who have listened to this complete podcast may submit a claim, one PDU, in the talent triangle "Strategic," with the Project Management Institute's CCR system. Use provider code 4634 and the title "PM POV0064 Risk, Resilience, and Response." Or use the PDU claim code 4634XNG8ZB.

Be sure to tune in to next month's episode, Psychometrics Part II, when we reconvene our round table of experts to discuss the application of psychometric tools for strengthening teams.

Hile Rutledge: If the leader doesn't, can't, won't, actually move, a good intervention, a good solution, actually empowers everybody to do something.

Ray Linder: So it's really, it's not just giving them the knowledge to manage themselves. It's giving

them a way of measuring themselves along the way.

KL: Visit our Facebook page PM Point of View®, to comment and to listen to more episodes. There you will also find links to the transcripts of all of our one-hour productions. You can also leave a comment on the projectmanagement.com portal, evaluate us on iTunes or your pod catcher, and of course you may contact me directly on LinkedIn.

I'm your host Kendal Lott, and until next time, keep it in scope and get it done.

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