

Unleash Flow by Taming It...

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0:00:05.5 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.

0:00:15.9 Kendall Lott: Hello, PMs, here we are again in this summer. And this is, believe it or not, episode number 100. So important because it's a three-digit number. But other than that, we're very excited to be here and still here after eight years and a month. And with that, I'm going to bring on our co-host extraordinaire in elevating the conversation, Mike Hannan. Mike, how you doing, man?

0:00:39.8 Mike Hannan: Good. I want to say it's only three digits if you're using base 10.

0:00:43.0 KL: Fair enough. So where are you calling in from today, Mike?

0:00:46.8 MH: Beautiful Salt Lake City. No better time of the year than May, June here. And if you're going to ask me, like you always do, Kendall, what's got my goat lately? The answer is nothing. I went on a beautiful canyon run yesterday through the most verdant, lush, green time I've ever seen here since it rained a bunch last week. So, you're catching happy Mike today.

0:01:05.6 KL: I got to say, you've missed four of the best days that happened in DC outside of cherry blossom days, and then the humidity kicks in again tomorrow.

0:01:12.4 MH: And I fly back tomorrow, so, yay.

0:01:14.2 KL: You can land in the humidity. So, I do want our audience to know that today's topic and guest are courtesy of you. So, thank you for telling us about Mr. Steve Tendon here today and to bring him in, a guy that I think you've worked with some in the past. So, let me ask you, Mike, though, before we bring Steve in, what made you think we should be bringing Steve in? What is it about elevating the conversation that says we need to talk to this guy?

0:01:36.6 MH: So, I was working, trying to codify all of my growing knowledge and flow in the Theory of Constraints and how it could be helpful in the world of project management. And I got to know this guy named Wolfram Müller just by Googling some things and finding some interesting video presentations of his. And he gave me a big, "Aha," about there's two real different levels of flow in a project portfolio. One is at the portfolio or project level, the other is at the task level where the work actually gets done, and that flow considerations and the techniques and everything else, therefore, can and should be a bit different. And I really learned a whole bunch from Wolfram and he said, "I got a lot of this knowledge from this guy named Steve Tendon. I just finished writing a book with him last year." And so of course I had to go read that book which had the word "TameFlow" in the title. It was called something like a Hyper-Productive Approach Forward. Is that

right, Steve?

0:02:24.1 Steve Tendon: Hello, everyone. It was Hyper-Productive Knowledge Work Performance: Of The TameFlow Application to Scrum and Kanban.

0:02:31.3 KL: At least it doesn't sound too much like consulting terms. Oh, wait. [chuckle] So, Steve, you just hopped on. Where are you calling in from, man?

0:02:38.5 ST: I am calling from the small island state of Malta in the middle of the Mediterranean, and Mediterranean means middle of earth. So, this is the middle of the universe.

0:02:49.8 KL: Oh, I'm glad you conflate Earth with the universe. That's very 15th century European of you. [chuckle]

0:02:55.7 ST: This is the middle of everything.

0:02:57.1 KL: But I suspect your weather is as good or better than ours, and you have a lot of chances to work with a lot of different types of clients there. So, thank you for calling in. So go ahead, Mike, tell us a little bit about this, 'cause I think what we're seeing are different ideas that begin to collide.

0:03:08.4 MH: So, I've been raised as a traditional PM, but switched careers to a software engineer in the '90s and became an extreme programming guy. And I didn't know that this whole Agile umbrella was formed until a few years after the manifesto was signed, but it all made complete sense to me, a lot of things I'd already tried and used myself. I thought there was good harmony actually between traditional practice and agile practice, which later incorporated some Lean as well. I only came later to the Theory of Constraints around 2010. And so, really trying to figure out where that fit, and how that can drive up the cadence of value delivery across a product or project portfolio. Really started to put all these ideas together, but then the ideas that Steve had and that Wolfram had, really got me thinking more about the people closest to the work, and how we can protect their focus and give them the tools and guardrails that they could use to really accelerate flow at the ground level.

0:04:03.4 MH: And so back in 2015, when I had my first chance to try some of the ideas that Steve wrote in his first TameFlow book, that Wolfram wrote, in my book on ultimate Scrum, Steve was gracious enough to help me out and coach me along, and that was actually one of my biggest success stories. So, it's a belated thank you to bring you on now, Steve, and you've evolved your thinking quite a bit over the years, so maybe there's no better time like now to share your latest and best thinking.

0:04:28.0 ST: My pleasure, and thank you for having me here.

0:04:31.6 KL: You both said something there that I want to go and get out. As the only non-author on the call today, let's make sure the authors get the credit that they need, because I know I have liked your book, Mike, and you've used it to train and mentor me some, so I think maybe our audience would like it. So, let's have one clean shot at this right now. Mike, in your own words, in your own voice, would you please tell us the book that you wrote that customers have liked and that frames your thinking?

0:04:54.5 MH: It's just called The CIO's Guide to Breakthrough Project Portfolio Performance, a little bit of a mouthful, and it was back in 2014. So, you might argue there's been some evolved thinking since then, for sure. But I still actually read through it the other day and stand by at least the high-level flow concepts, and trying to codify some of what you might hear today from Steve in more of a concise executive read, which was what I felt was missing at the time. But the real smart stuff, the really useful stuff, the real detailed stuff for practitioners and change agents, I think you need to go deeper than my book, which is why I think it's great to have Steve on today.

0:05:28.4 KL: So, Steve, tell us again the name of your book and then let's go ahead and talk a little bit about what you're taming in this TameFlow world. Lay out what it is people need to be hearing from you. So, what was the name of your book again?

0:05:39.7 ST: So, the book that Mike was referring to was the Hyper-Productive Knowledge Work Performance. That one was written in 2013 and came out in hardcover in 2015. But in the meantime, I've been evolving the concept. It has evolved a lot since then, and actually this year, I published two books. One is the Book of TameFlow, and the other one is called Standing on Bits.

0:06:07.0 ST: The Book of TameFlow is where I collect a lot of the ideas. It's not the whole body of knowledge, but now we'll get into maybe those aspects shortly, but it's the book you would refer to to get a broad view of what TameFlow is. The other one, Standing on Bits, is more specific for software engineering managers and software engineering management, I should say. For folks who have an understanding of Theory of Constraints and maybe of critical chain project management, but are not so familiar with the ideas of Agile, Scrum, Kanban, all these other methods that have grown enormously in the last 20 years or so. So, I'm trying there to explain how a critical chain project manager, or someone who knows about CCPM, can recognize those concepts in this new framing that is TameFlow. So, applying like TOC to the world of Agile or making critical chain project management more agile. So, The Book of TameFlow and Standing on Bits.

0:07:15.0 KL: Both of you have talked about a journey that had some sense of PM Agile systems engineering that led to Lean Critical Chain. In fact, Mike, that's how you describe yours as an integration of Critical Chain Lean, many of these concepts, and TOC, and we've had other guests that talk about it, from Deming to Lean basically. So, I'm intrigued that what we're really seeing here is integration. It seems that, Mike, a lot of our guests and a lot of our own thinking is no longer... I guess, the negative view is the tribal fighting of the different management theories, but in fact, we're discovering something needs to be integrated. And, Steve, you just said your book in fact was very targeted to people who understand one set of theories to add some more thinking. Can you tell us a little bit, Steve, about your journey that integrated that? We just heard from Mike's, but how... Not just how, why did you realize you needed to keep taking the next step and find the next block that seemed to be missing, or was there but not integrated? What's going on that's causing that?

0:08:08.7 ST: Oh, I'd have to tell you a bit of the background and story though. Before I do that, another reflection, because it's related to what you just said. The last book is called Standing on Bits, and it's a play of words that those in TOC would understand because it refers to Goldratt's paper called Standing on the Shoulders of Giants, which in turn refers to that same statement expressed by Isaac Newton.

0:08:33.4 MH: Right.

0:08:33.6 ST: And you talk about integration, I think it's more than integration. It's actually... No, literally, standing on the shoulders of giants and because you are like a half a pea higher, you can see a little bit more and maybe you add your new perspective. And I think that's what I've been trying to do here to get the ideas of giants, Taiichi Ohno, like Deming, like Goldratt, and put something together that before did not exist. My claim to fame, and we'll maybe get to this at the end, is now that I have resolved this conundrum of how to identify the constraint in a knowledge work setting. But let me give you the story of how I got there and how this happened, because it's a long story, and it goes back to the mid '80s. I started off as a software engineer. So, software engineering in the mid '80s, early '90s was another thing.

0:09:29.6 ST: And I'm probably referring to the Stone Age of this field, given where we are today. But I was very fortunate, because I started off my career in a legendary company, in Borland, Borland International. I don't know if that rings a bell, but Borland was the maker of incredible tools like Sidekick. If you've been using the IBM PC, you certainly know what Sidekick was. And also, a whole lot of programmer tools like compilers, Turbo Pascal, such a tool. Borland grew quite a lot and was at that time between, let's say, 1987 and 1992, when I was there, was the third largest software powerhouse in the world, after Microsoft and Lotus. It was like 3000 people, but that was a fraction of what Microsoft was.

0:10:26.6 ST: So, this tiny company was competing with this giant, Microsoft. How did they do that? Now, it turns out that there is a very good study for this. A gentleman called Jim Coplien at the time was working for AT&T, and AT&T, being a telecom, was deep into software. They wanted to figure out, now, what makes an outstanding software company. Coplien studied hundreds of companies and he identified one team. It was the Quattro Pro for Windows team, the team that created Quattro Pro, the Excel sheet, so to say, of Borland. Actually, it was the other way around, no, Excel was a rip-off, was a copy, of Quattro Pro, but nobody remembers that. Now, why was this so significant? For two reasons. One is that this paper that Coplien wrote also inspired Jeff Sutherland in creating his Scrum. Everyone knows about Scrum today.

0:11:27.4 ST: There are some practices, like the standup meeting, the product owner role, and the Scrum master role, that were inspired directly by that study of Jim Coplien. Now, I like to say I was there so I know what happened, and this interpretation by Jeff distorted a bit of things. So, Scrum is not really what happened, but you see there is like a pedigree there. There is a common ancestry between Scrum and my thinking because of that experience. Now the second part is what is really interesting, Jim Coplien when studying all these software companies and software teams did not take the viewpoint of a process engineer, despite that he was an engineer working for AT&T. He took a viewpoint that was more on the side of, let's say, social sciences, anthropology, psychology. And he started documenting these things by applying a technique that comes from object-oriented programming, it was the CRC card technique: Classes, responsibilities, and I forget the last C, what it means. But anyway, it was a way to capture facets of our reality that, in a programming sense, he wanted to represent with objects. But this way of picking bits and pieces of reality turned out to be founded on another outstanding work by the architect Christopher Alexander, and his work is known as patterns, pattern theory, pattern languages. So, Coplien documented the inner ways of working of Borland in terms of patterns and pattern language, and I thought that was really fascinating.

0:13:14.5 ST: Now, there were three patterns that stood like at the center of Borland's performance. In fact, it took me a long time to realize that they were the most important parts. And when I left Borland, I ended up in other companies and I thought, "Wow, how things are slow here. Nothing is moving compared to where I was." And then after now many years, I think we are in the beginning of the 2000s, I distilled the stock that there are three patterns: The inspired leadership, the unity of purpose, and the community of trust. That's what you need to have in a company to see high performance. In the meantime, as I was in this field, I saw the development of Agile, of Scrum, and in particular, I ran across a book by David Anderson, he was the first one who wrote something of significance about applying the Theory of Constraints to software engineering management.

0:14:11.3 MH: And that was back in 2003, correct?

0:14:14.2 ST: 2003, 2004. And that was my introduction to TOC. And I thought that... I don't know, the more I discovered about TOC, the more I thought it was important. Why? Because remember, one of my patterns is unity of purpose and TOC, with its total unilateral focus on the constraint, the single one constraint, has this incredible power of aligning all actions and energies and thoughts on that single point. So, it became like a catalyst to create the unit of purpose. I was ecstatic, I had found like the magic sauce here, how to create something that almost was like the unicorn, now, it was a myth. Where did you see unit of purpose, in your fantasy and dreams, but here, with the Theory of Constraints, I had something practical that could make it happen. Now, it just so happened that a few years later, David Anderson invented the Kanban method, and he was very explicit that the reason for doing that, among others, was that it was not possible to find the constraints in knowledge work. Of course, I was in despair. My friend, Herbie, and maybe we'll explain who Herbie is, but it's the constraint, was thrown out of the window, and my most important tool to create the unit of purpose was no longer there. And of course, now I studied Kanban and knew it inside out and was really never happy, because the idea of finding the constraint went away.

0:15:44.5 ST: So, I set out with this quest, how can we find the constraints in knowledge work and software engineering? Well, there's so many things that are changing, a lot of variation and nothing seems to be under control. I went for a Master's degree in Lean and Agile software project management with the University of Aberdeen because I wanted to dedicate time to this research. And I searched all possible sources, but nothing was explaining how to apply TOC to these situations. "Okay, no one has done it, I have to do it." And that was the genesis of now, what eventually, 2013, became my book.

0:16:23.2 ST: That study, I crystallized in all my notes that I had collected. And like in 2011, I got the Masters, and then I took a sabbatical, I must get this stuff. I retired on the island of Gozo, which is the second island of Malta, and for one year, I went through my notes and got to the point where I thought, "Okay, now I can explain this." Because they were all random notes and thoughts, and people often ask, "How do you do your stuffs?" I don't know, I just do it, it's like intuition, or experience and gut feeling. So, I took the time to distill these, and that was the first book, the one that I wrote with Wolfram. Wolfram, which, by the way, I came across through Mr. Rudiger Burkhard, who is a TOC expert, and he put us in touch. We had a phone call, it was a Skype call, and I expressed the idea that I'm writing a book and he said, "Let's do it". So, he became my co-author there, and the rest is history.

0:17:23.9 KL: There's so much in there that you gave us to think about. The idea of lateral thinking and integration with other models, the reaching above, as you said, outside of software engineering,

to think about the social side, the idea of patterns that ties to some other stuff we can go...

0:17:36.1 ST: You just... Sorry to interrupt you, but you just mentioned lateral thinking, and who is the father of that? Ah, it's Professor, the late Professor, Edward De Bono, who was from Malta. Malta is the place where you do lateral thinking. [laughter]

0:17:52.0 KL: Landon mentioned De Bono when we were talking in that other podcast, and here it is. So apparently, we all need to go to Malta. Next podcast, Malta. That's where all the good thinking happens.

0:18:00.8 ST: Oh, that's cool.

0:18:00.9 KL: And that's why we're convening in Gordon, it'll be beautiful. There's a lot we heard in there, and so under the assumption that somebody says, "This TOC thing that I keep hearing about on this podcast, if not on others, that I don't have access to, I'm not sure how that all works. And this idea of patterns is real," which pattern thinking is a very interesting thing, goes back in a lot of fields as well. If we had that, you've walked us up to, so then you sat down there for a year and wrote about it, since the book is now older, why don't you just tell us the answer? So, what is the answer for unity of purpose through a TOC lens for a knowledge worker that keeps listening to this podcast. Tell us the answer, man.

0:18:34.3 ST: TOC is grounded in from ideas on the factory floor, or if you read The Goal, everyone should read The Goal, and not once but three or four or five times. But in a scenario, there is the factory floor, and it's very easy to find the constraint, you just look at where is the largest pile of work. Okay. That machine or resource, that is the constraint. And then you apply the TOC thinking to that pivotal point, but in knowledge work where, number one, the work is totally invisible, and number two, the people doing the work well, they are human beings. They're not machines, but they wake up one morning and they are ill and they have accidents. Sometimes they don't want to work, how can that be? Now, how can you find the constraint in that sort of situation? And the answer is not a single one, but it's actually a cohesive system of many things that come together. So, this is also tied to queuing theory to understand how queues affect the progression of work.

0:19:37.5 ST: And there is a wonderful mathematical expression know as Little's law, which basically states that the average throughput is equal to the average working process over the average, let's call it, flow time, the time from start to finish but that maybe needs to be qualified, but it makes sense intuitively. It's like when you're going in a car, your speed is the distance over time. It's the same concept, only that you're measuring things that are not visible. So, number one is, how do you make them visible? Kanban, the Kanban board is an excellent way for doing that. Your sticky notes and those items are what you're looking at.

0:20:19.1 ST: So, what does this mean? If we can apply Little's law, well, we have some mathematics that can be used but we just need to instrument the Kanban board to collect this data, which is the number of items which are on the board, the working process. And we calculate or we time how long items take through this board. Now, there are few things that must be set as pre-conditions. Little's law applies only under certain circumstances, one of which is that the system must be stable. So, the first very simple thing to do is to stabilize the system. How do you do that? There are two ways. One is to care about the statistical flow time distribution. So, you just collect

the data of, now how long does this take, the next thing, and then you plot that count over duration. And that curve is a very interesting curve. You can use that curve to trigger off action or attention when things sort of age. When they take too long, when they are stuck on the Kanban board for too long, you have to intervene.

0:21:23.3 ST: It's a very simple thing to do. You get a visual trigger if you draw the Goldratt distribution chart on the board and you literally see when you have to intervene. When you do this frequently enough, your system will stabilize. When it's stable, you can start to apply Little's law. When you can start to apply Little's law, you can do time forecast, so you don't need to do estimates as you typically do in project management or in most agile approaches. You do a probabilistic forecast and you get a deadline. We expect delivery by the date, it's probabilistic. So, it's not a point, it's a range. Now, if you know anything about CCPM, that you put a buffer on your, let's say, project's critical path.

0:22:08.0 KL: What's CCPM?

0:22:10.6 ST: Critical Chain Project Management.

0:22:11.8 KL: Got it, go ahead. So, if you know anything about that, we need a buffer. Go ahead.

0:22:15.6 ST: Yeah, we need a buffer. So, when you have the probabilistic range, that is a good place to set up a buffer. And as you're going along you apply, again, Little's law in forecasting the next delivery, now one work item after the other. And as this consumes your buffer, you get the same kind of signals that you have in Critical Chain Project Management. So, all the logic of Critical Chain Project Management can be applied likewise, and if you have multiple projects or multiple teams going on and all are generating these buffer signals, you can very easily spot the team that is to say most in the red. So that is your constraint team if you have multiple teams. And there are other factors that come into this picture, I'll don't go into further depth. I'm sure Mike has a lot of insight there as well in terms of the incoming stream of work and the virtual cues that you should model in front of the teams, but that's like a refinement. The basic idea is to find a way to get the same kind of signals you have in Critical Chain Project Management, that in a situation where you do not have a Gantt chart, you don't have a critical path.

0:23:29.7 KL: We keep hearing this and I'm going to unleash Mike here in just a second, but our podcast number 99 was about going to probabilistic plan or not planning really, but forecasting was what we just talked about in our last podcast, and in fact, back to cognitive behaviors in January, we talked about stop planning and start doing predictive forecasting. And so, this idea of the probabilistic has been kicking around, we're hearing from different people, and it sounds like your whole point is we can apply some logic and some math, it's actually been developed, and get these things to start coming together from the different fields, but Mike?

0:24:02.4 MH: Yes. So, here's what I love about how Steve characterized that. And then I'll have some questions to poke at where there might be a shortcoming in my mind anyway. One, I do believe it's proved out in Systems Engineering, Systems Dynamics over and over again that until you have a stable system you really can't do much of anything. So, this notion that I have a project plan on a very detailed Gantt chart that says, I'm gonna be done in 237.4 days. And then I run a Monte Carlo simulation on that and then I get the plus or minus from the range, it gives us... All this specificity gives us the illusion of accuracy. And if the underlying system is unstable, it's complete

BS and I think most of us have come to learn that.

0:24:43.2 KL: My only problem with that is I think it's a tautology. You describe a stable system as one that would be predictable, one that is not predictable, you declare as unstable. So, there's a question about which is found unless you...

0:24:54.3 MH: But we don't manage that way. But we don't honor the tautology in traditional management thinking. We just think we have to spend more time on estimates and get better estimating and send our PM some more training. But here's where I see a possible shortcoming. So yes, I think stabilizing the system solves 80 or 90% of the problem, but there remains this question about, okay, I've got stable velocity, I've got predictable burn down, I've got a pretty high performing team that is itself quite stable, like not a lot of turnover or anything like that, but yet, if we don't have the focus of the critical path or critical chain, we could be flowing things with a sense of urgency that don't deserve it, and worse that can create some burnout on members of the team that think everything must be done at that velocity when everything does not need to be done at that same velocity. In fact, let's give this task to a junior guy to struggle with for a little while and maybe have them learn and grow.

0:25:46.2 MH: So, in my mind, this notion of the critical path or critical chain isn't as important. I think it's only in the very unknown environments, very... We really don't know what this end product is going to look like, we only have a vague idea of what we're even about to build, maybe it's not even a software product, we might have to get a whole different set of skills to build this product at whatever this product ends up being. And we just have to test the market with every incremental experiment and learn and pivot and just try to keep some kind of pace as we go, and then only maybe later does the end goal become known. And in my mind, once that happens, that's where a high-level flow with a buffer to a due date, assuming the due date matters too, by the way, I've long told people, if earlier is better and later is worse and that's it, then you don't need a due date or a buffer or anything like it, just flow. But what about if you have to have a marketing campaign done in time for Black Friday, like most video game companies have to do, half their revenue comes in the Christmas season. So how do you address those things, Steve, that sometimes the critical chain does matter, and sometimes due dates matter?

0:26:55.6 ST: When you are in the situation of software engineering knowledge work, it's very hard to imagine anything like a critical chain because things change so dynamically, so rapidly that construct would have to be updated on an hourly basis, that construct of critical chain project management becomes in and itself unstable. This was a huge insight I had to get that my reasoning was, what if we could apply the control mechanism of the buffer that is from the execution part of critical chain but forget about the planning part of critical chain? If you think about it, now if you do a post mortem of any project and say one of the software projects where there are so many things happening, were in hindsight, in that work that was delivered, there was a critical chain, no doubt that there was one. But we are not able; because of the highly volatile nature of this kind of work, we are not able to draw it out beforehand.

0:27:58.4 ST: So that is the reasoning, if we cannot find the critical chain, is there a way, let's say a heuristic by which notwithstanding that we don't know where the critical chain is, we can still place a buffer, and if we have the buffer, then we have the control mechanism, and in fact, now this is maybe the key differentiator of tameflow with respect to most other approaches, whether conventional product management approaches or Agile approaches, which always are concerned

about this, When would it be done? Now, I don't say I am not. Of course, I am, because we have those deadlines like the marketing campaign or even worse deadlines like regulated deadlines that if you don't keep them, you will get a fine, or contractual deadlines that if you don't keep them, you will have penalties and so on and so forth. So, deadlines are part of life and we have to deal with them.

0:28:54.1 ST: But what I want to say is the focus, the weight of our attention is not on the planning, it's on the execution, and if you have this heuristic, you will create a reactive system that can very quickly adapt to the changing reality. And by the way, the definition that you gave before on our stable system is by definition predictable. No, it's not really like that because in this very changing environment, the nature is unstable, so we have to have a different definition of stability, and that relates to Little's Law, which in terms of TOC, if you connect all the dots between queuing theory, Little's Law, and TOC, you could say that it is really the point of subordination. In other words, the constraints must not be multitasking and must be able to work with total focus on the task at hand. If you get to that point where the constraint is not multitasking, then your system is probably fairly stable and then you can apply Little's Law, and then you can have this probabilistic placement of the buffer, and then you get the signals and the benefits of critical chain execution management.

0:30:03.8 KL: The constraint here is defined as a resource of some sort and the resource is focused.

0:30:07.7 ST: Again, knowledge work is a bit different, it's true that critical chain has with... compared with critical path, gives a lot more importance to avoiding resource contention. But when you come to knowledge work, which inevitably is collaborative knowledge work, most often you have more people working together, and that configuration of collaboration can change depending on how the work at hand. And what really becomes the focal point, from my point of view, is the activity. So, the activity we need to do, like a mapping out of the activities, but every single activity could be performed by a varying number of, let's say, your resources. It's a subtle change and often it puzzles people who come from a project management background because, of course, there is a resource, and so you have this idea that someone is in charge of doing the work...

0:31:03.9 KL: Let me go back then, if you're moving it to... And it could be... And I'm just trying to make sure I understand your concept, is why, for clarity. If we're making it the activity, you said it can't be multi-tasking and I loved your definition... I was like, "Ah, that makes sense to me." But then, that's why I was thinking resource. If stability is driven by, once someone has learned enough about this to say, "I've identified the constraint for flow in an organization," and a way of understanding stability, is that multi-tasking? That sounded like a resource does multi-tasking. So, what is the agent of multi-tasking? You just shifted to activity, is an activity definitionally not multi-tasking... What does that mean you're looking for, when you're...

0:31:41.3 ST: Well, the agent of the activity is a group, a set of people.

0:31:45.4 KL: So, it could be a group? Okay. So, a group is no longer multi-tasking, they are working on the activity that is essentially the constraint, that's the subtle shift.

0:31:52.9 ST: Exactly, it's very subtle.

0:31:54.0 KL: It's stability of a dynamic environment. Oddly enough, this is economics, guys. [chuckle] We're at the marginal... Mike knows I always try and walk it back to something older.

0:32:01.6 MH: Kendall and I are both economists by training.

0:32:04.1 KL: We're at the margin, right? It's never the actual outcome, it's all about the rate of change or the rate of the accelerating. The rate of the rate of change. But anyway, I digress, I stand back and I thank you for correcting. I kneel at the feet of the master.

0:32:14.3 ST: You don't digress there because no one... Now, the key element of TOC... Now, when we talk about throughput in TOC, it's not the throughput of Little's Law, and maybe I should explain a little bit more why TameFlow is called TameFlow. TameFlow got its name because it manages four flows. The first flow is the financial flow, and in TOC terms, throughput is an economic parent, it is revenue minus total variable. The second flow I manage, is the operational flow, and that's where we have Little's Law and we have operational throughput, so the word "throughput" is overloaded because in TOC, it means one thing, in operations it means another thing.

0:32:57.3 ST: And that's why I make the distinction in my books between financial throughput and operational throughput, corresponding to the financial flow and the operational. These two flows are what I cover mostly with TOC concepts and queueing theory. Then I have a third flow, which is informational flow, that is how information flows through the organization and enables decision makers to make the right decision at the right time, with the right relevant information. It's a lot about designing feedback loops and speeding up the frequency of action of those feedback loops. This is where I apply a lot of the pattern thinking. So, not only those three patterns I mentioned as the fundamental ones, but other patterns as well. And then I have the fourth flow, which is psychological flow. How do you keep people in that state of optimal performance, that was identified and defined by the late American psychologist...

0:33:58.2 KL: That is a tough one.

0:34:00.8 ST: Right. Where people are in that sort of balance between the challenge of the task at hand and their actual skills to perform it. Now, I have a very interesting twist on the Buffer Fever Chart...

0:34:14.2 MH: Hey Steve, if I could interrupt for just a quick sec, to get... Before you we get back to the Buffer Fever Chart. That book written by... What's his name again?

0:34:21.0 ST: Mihaly Csikszentmihalyi. [chuckle]

0:34:23.2 MH: Came out in the early '90s, the title of it was just called "Flow" and for those of you who may not have heard of it or had a chance to read it, highly recommend. What he does is he takes as a research challenge or research premise all of these Nobel Prize laureates, from all the different fields that Nobel awards and interviews them about what drove their biggest stream of 'Aha' moments, like what got them in the flow of being global leaders in whatever their fields were. And the book, basically goes through how he distilled that down. And so now you're saying, Steve, you've tried to capture that, in what you call psychological flow.

0:35:00.5 KL: And I'm intrigued by the breadth that we just covered here in our attempt to get specific, because coming from a completely different angle, where I do from strengths-based

coaching and DiSC analysis and Myers-Briggs, all of that book is related to positive psychology. That's the grounding that positive psychology... It's not the grounding of positive psychology, it's the anchor that it often is now connected to. So, it comes from a completely different view point in that sense, and yet we find it integrated here. So, back with you, Steve. Then you have the four flows and you apparently feel the need to tame them.

0:35:29.4 ST: Yes, because anyone of these four can be very rough, let's put it that way, and you could focus your action, your improvement aspiration in any single one of them. You will get amazing results. But it's like having four horses. Now, they can all be running in different directions, be excellent horses, but if you tame them and you put them in line, you get a four-horsepower thing, rather than four one power ones. So, it's that synergy between the flows that I try to create, and I was just about to tell you to... And I'll give you an example of this.

0:36:07.9 ST: So, we were talking about the Buffers, and if you know about TOC and Critical Chain project management, there is this fever chart, it's a green-yellow-red chart, which tells how good or bad you are with respect to this buffer. Now, if you still have margin to go or if you are like... They're on the border of being late, then you need to seek help. Now, that Buffer Chart looks very much like the diagram that Mihaly Csikszentmihalyi used to illustrate flow. So, there you have a connection. Now, I often get into these discussions, especially with people from Critical Chain, who are deep into the math of Critical Chain. Now, how do you place the buffer? There are at least... I don't remember, I think it was at least nine mathematical methods, advanced math methods that apply, in all sorts of stats and probabilities, to find the optimal placement and let's say width of this buffer, the size of the buffer, placement and size, those are the two fundamental numbers you need to have a good buffer. And I say doesn't matter, doesn't matter a bit because as long as you have a heuristic with Little's Law, to have as an anchoring point and a starting buffer, what you do next is that you keep on calibrating the buffer to keep the team in the yellow state. Why? Because that in the Mihaly Csikszentmihalyi's terms, is the flow channel.

0:37:39.0 ST: So, you keep on calibrating the buffer so that the teams are in yellow, and that means that they are challenged enough to be able to do the work, but they are not falling into anxiety, and they're not falling into boredom. So, the whole connecting the dots from get the systems stable, apply Little's Law, find the buffer, and so on, we can connect to this further dot, it becomes a tool to achieve team, collective team psychological flow states. You get the teams to be in the zone. Flow states are typically referred to individuals, but there is also this notion of collective flow states. We have a very simple way to connect the operational flow to the psychological flow.

0:38:24.8 ST: And then there are other repercussions on how we use the buffer signals to trigger important conversations, especially now escalations of the problems towards management. So that same buffer becomes not only the anchoring point for the flow channel, but it becomes also the trigger to exercise the feedback loops in the informational flow. And of course, all of this goes back to the first flow. Now, if you don't have a positive impact on the bottom line, well it's not a business. And there we have all the ideas of throughput economics and throughput accounting that come in completely in TameFlow. I know there are many dots to connect. [chuckle]

0:39:05.4 MH: No, but I love this, and thanks for explaining all that Steve, because reading through your book, I was able to piece a lot of that together. But I think having you explain it this way actually helped me cement it in my own brain further, and the story about the flow book from 30 years ago, also interesting. I want to throw a case at you; this was a real client scenario that I had

that really puzzled me, and it might... I don't know if it will challenge the model or just reinforce it further, but either way, I'd just love to get your take on it, and I think maybe the audience will enjoy the story. I had a client organization, about a 40-person software company that was at risk of going out of business. The venture capitalists were tired of writing more checks. They kept asking when this product that they were all working on, it was just a single product, would finally get to market. And they would get various estimates of, "Oh, maybe another five months or six months, or whatever." Always based on some good velocity numbers. But they had to do something different, and they found me somehow and hired me to help them.

0:40:04.2 MH: And I said, "Look, based on everything I've heard, I don't know if I can help you. I'll take a look and see what I find." But everything I saw with their Agile team, who they were following a standard Scrum approach, they were the most dialed in flow team I've ever seen. They really had each other's backs. They had fantastic metrics, great visibility of the flow of work. They knew about Little's law. They had a really well-synchronized way to get new requirements from prospective customers into this product and flow it downstream. Really, I couldn't find any issues with their single task focus. I found that they could collaborate on the fly in different ways, even with junior people, to keep things flowing. I just really couldn't find anything that I would advise them to change, but of course they had to change something. And so, they said, "We're going to just try this critical chain thing, because you're an expert at it and you can help us." I said, "Yes, but honestly, I don't know if that's going to help you very much, and for a lot of the reasons you just mentioned."

0:41:00.2 MH: "You've already got a lot of the biggest problems solved in a lot of the signaling, the information flows. Your team is in the flow, the psychological flow, the motivation." The only thing that was a little unusual, of course, was everyone did feel this threat of survival, that the company might not survive. The financial flow, if you will. So, they went out and mapped the high-level flow of their product, which they knew was going to change a little bit here and there, but in a scope was well known enough, they knew what their competitors were doing, they knew what the regulations were, it was a healthcare type of software, so they knew more or less where they were going, and the high-level flow was known and stable. So, they mapped it out in a critical chain tool, put a buffer on it, gave up... Had this very nice, aggressive schedule with lots of parallel work streams that were not on the critical chain, and they started. And I really wasn't sure if anything would change, or maybe things would actually get slower. I was quite nervous that they'd just made this giant change.

0:41:52.9 MH: They also, without even asking me, got rid of all of their Scrum ceremonies. The CEO mandated it, which is even worse. Did not even ask the team for their preference. And I thought, "Oh man, this just looks like it's headed for... This is going to be a failed critical chain experiment; I hope I don't attach my name to it." And lo and behold, after about a week, they improved their speed 30%. It was massive. And I said, "Okay, great, but that could be a fluke, it's just one week, maybe everyone's working more overtime to impress the CEO or who knows?" But I asked, "Why did it improve?" And nobody knew. So, I said, "Okay, let's keep tracking." A week later, they improved another 30%. And I said, "Great, why?" And they said, "We don't know." "So, well let's keep tracking and see how it looks at the end of the month." So, at the end of the month, they had improved another 20%, and then we all of course had to do a mystery analysis. "Why did this happen?" And I asked, "Do you guys... Are you working more overtime?" They said, "No, we already worked probably more overtime than we'd prefer, but no additional overtime."

0:42:48.4 MH: "Okay, do you have any new team members? Like added resources?" "No, same resources, working more or less the same way." I said, "You've got rid of the Scrum ceremonies, did that help at all?" And they said, "Yes, we think we're mature enough that getting rid of some of those ceremonies bought us some additional time." But maybe that only explains 10% or 20% of the improvement, certainly not all of it. And so, we kept looking, what else changed? What else changed? And what changed was the buffer signal. They said, "We finally had a high-level plan that was briefed to the board, it was an 18-month plan that was squeezed down to something like 11, with still a three-month buffer in there." The board actually wrote one more check to get them through that 11 months, and everyone knew it, so now we have the deal. And the buffer signal basically was our signal against death, like the death of our company. And boy did we respond to the buffer signal more than any signal we ever did. Boy did we make sure we gang-tackled any issue that got held up for even 10 minutes, if it was on the critical chain and eating buffer for any delay. We got very smart about taking breaks and relaxing a bit when we were not working on the critical chain, or maybe coaching some of the junior guys, or those sorts of things.

0:43:52.9 MH: So, we went... We said we think we changed from the sort of mad scramble mode that we had before into sort of a more selective approach on where to focus and when it matters. And then how to collaborate in a way that really drives speed where it matters the most. And then a signal that tells them when they don't have to worry about that. So, I'm just curious to get your reaction to that story, 'cause like I said, I wasn't even sure anything would improve, I have thought the opposite would happen. But it taught me something about the additional value of that buffer signal.

0:44:22.3 ST: I'm not surprised. Interesting, that experience also included the dumping of the Scrum, what we call the events rituals ceremonies.

0:44:29.5 KL: The ceremonies, yeah.

0:44:30.7 ST: We have to be politically correct. I know ceremonies is not the latest, I got corrected about that on LinkedIn a few weeks ago. You have to be compliant to the latest Scrum guide, I think they call them events. But anyway, it's very interesting that you got rid of them. And I'm not surprised about the improvement given the presence of the signal because that goes pretty much to one core concept, which actually Wolfram is very keen on, and that is how to facilitate the emergence of autonomous teams through this notion that you have to give them a mirror and a signal. Very simple now that the theory behind that is quite deep, that if you have a mirror, which reflects the state of the team, and something that tells them, "Hey, now look at the mirror, what do you see?" And if they get scared when they see the mirror, that's exactly what you were saying. Now they will take action, they will spring to action, and because there was their livelihood on the line, unity of purpose was implied, "We are all in the same boat and we must work together to get out of this." So those conditions created a natural survival instinct that got them to work on what mattered most at that moment. And I think that is what saved the bacon.

0:45:50.4 MH: Yeah. I was just going to give you props, Kendall, because one time I was talking about having a shared objective being the biggest driver of unity and purpose. And you said, "No, I think it's more like a shared fate." [laughter]

0:46:02.1 KL: Yep, I was about to say. So, there's something implicit in here that should shock. We're all talking meta words here and consulting theory and half our audience is going like, "What?"

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My head's exploding." And it's you got to go... You got to do the work of understanding the foundations to be able to manipulate this. I get the point of a fever chart, but I can't build you one. That's the kind of learning, it takes some work to go in there and dig into this. But one thing I just came from my kind of organizational ponderments, my take on your story, we'd love to talk about servant leadership, we talk about positivity, shared goals, I think it was shared fate, unity of purpose screams out of this, thank you for laying out those patterns or highlighting those for us. But I was also going to say, I think this also was an example of inspired leadership. Turns out it wasn't like, "Let's go team." It was, "This is your last damn check. Ready, set, go." That was inspiring. That was a signal from the leadership. And it was in a sense, we always talk about carrots and sticks. And I don't think those are the best terms, 'cause I don't think it's that extreme, but this is a case where nobody likes to talk about the stick but this kind of fits more in the stick category unless we refine those old metaphors a bit. So, I was impressed but...

0:47:04.7 MH: But also, not a stick that some autocratic ruler was imposing to exercise power. It was like Steve said, looking in the mirror and saying, "Oh, this is a difficult picture, the situation we find ourselves in."

0:47:16.7 KL: No, I disagree. Hold on a second. I think actually, the power was ultimately financial. And Steve has told us the first flow you must deal with foundational is the financial, and so this is consistent with that. But let's go further. It was not motivated by power strictly, but it was financial power. What I think is interesting in thinking it through having gone through all those steps, you said it was a committed team, the commitment pattern was there, they were using Agile and all these things and they were on board with it is, it's not enough to say, "I'm threatening you," or there is an external condition called "We don't have enough money." It's that creates a signal that can allow people to make decisions. And this is something that I'm facing with clients. Why do we go through all of these different project management techniques, and we're going to do this differently, and I learned this new theory and all this? Frankly, I'm realizing all of it for me, what I'm working with is, it's so that somebody can make, well whoever that's appropriate role-based, can make a decision. What I just heard you say about this mirror and signal, sure, it may have been a stick, let's just say that metaphor works here. A more negative attribute, negative valence on it, allowed people to see something that allowed them to make decisions to change the course of both their behavior and therefore the outcomes.

0:48:32.7 MH: And I'll add one other thing I think was important, because they had that threat of being out of business for a while. And...

0:48:39.8 KL: So, what was different?

0:48:40.7 MH: The investors. I think the high-level plan gave them hope because I think that's maybe the yellow zone you were talking about, Steve, if everything's always red, then everything gets hopeless. And we don't really have a prayer. But if we see there's a plan, and it actually has support and financing and...

0:48:56.4 KL: That's the inspired leadership.

0:48:58.3 MH: Yeah, so there's the plus side of the hope not just the downside of the threat keeping them in the yellow so to speak.

0:49:03.3 KL: I love that yellow, to me as soon as I heard that, I interpreted it a different way. It's a guitar in tune. If it's too slack, it's the wrong note, it's not a note. If it's too taut, constantly, I'm sorry, you're just sharp, you're literally sharp, the pitch is wrong. It's about being in tune, which is why you're in an inherent tension, but it's the tension you need to be to get what you're wanting as the output.

0:49:26.0 MH: So TameFlow is attuned flow.

0:49:27.8 KL: It's from a guitar and he's making a beautiful chord.

0:49:30.2 ST: But it's all about harmony. Yes. I would like to make a reflection here because no, that point that you raised, that ability to make a decision, that is the central core of my pattern model of TameFlow. What I do with TameFlow is that I work with mental models in the sense of intersection, that gives the holder of the mental model a way to interpret reality. Now, if we are able to give mental models to different actors, say a financial model to those in charge of finance and operation model to those in charge of operations, and so on and so forth, where all these models are consistent and coherent, that they have what you would call in Fred Brooks terms, the trait of conceptual integrity, and you're creating something very powerful. And because the decisions that are made in one part of a company, never mind if it's left or right or up or down, decisions made in any part of a company based on these mental models, will go in the same direction as decisions made in another part of the company or even at another time by someone else.

0:50:40.6 ST: What does this mean? That we are pulling in the same direction, we are causing the unity of purpose to emerge. We are not putting it up there on the wall as an aspirational statement, a vision and mission oh yes, nice golden plaque on the wall, but no, it's just lip service and no one cares about it. But by giving these mental models, we enable anyone to exercise judgment and decide and turn that decision to acts and the acting will change the situation. And someone else who's observing within the company will say, "Wow, that's great. It's going where I want." So, this is also connected to that TOC thinking is a way to reduce the friction, the conflicts within the company, and you're literally putting everyone on the same boat and they're all going in the same direction.

0:51:27.7 KL: I agree, man. This idea that it's not enough, and that actually is a nice integration for us. One system or one set of your organization has finally learned to think through plan forecasts, predict, execute, share, build trust, such that they're making decisions that are moving towards what they want to achieve in the future. And a completely different mental model group agent role is making theirs in their own context and yet they are coherent and moving in the same direction.

0:51:56.9 ST: It has another deep, very deep impact on the organization performance because another tenet of Goldratt was that maybe the ultimate constraint is management attention. Now I know this is contentious, some people believe it, some don't, but suppose it is, what does this sharing of mental models do? It enables delegation to a much deeper degree. So top management can care about the nitty-gritty details. They don't have to micromanage; they don't have to cross-check. They don't have to read through the committee reports every week or every month and get lost in tons and tons of paper. They can just trust their people to make the right decision because they know that these mental models will go in the direction they want. So, there I think is maybe the key to what was happening in that company, Mike, the clarity that mirror and signal brought about gave everyone the same mental model. They were seeing the same thing. They were seeing, say, the

same enemy. And then it's like mission command, get that hill, or your toast. So, I think that was it, then I had a question actually, Mike. Now you mentioned that it was the CEO who decided to rule to remove the Scrum ceremonies.

0:53:09.8 MH: Yes, against my advice.

0:53:11.4 ST: But were the practitioners, were they happy about that?

0:53:15.9 MH: So initially, they were not happy about that. But they admitted, and we actually talked about it for a good hour and a half after the decision was made because I was fearing this could just ruin everything. So, I was running an intervention with the team and just talking and I said, "Look, actually, I don't care what the CEO said, I want you to have the autonomy to choose whatever path you take." I said, "Now you might feel like he took away the power to try this as an experiment for now, maybe you have to try this experiment because he told you to, I'm not sure. But either way, treat it like an experiment and learn from the experiments and then feel free to try some other experiment. And if you decide that there's something about the predictability and cadence setting that the scrum ceremonies, " I'm still going to call them ceremonies. "Scrum ceremonies give you, well then bring them back. And if you find that you've freed up some time, and you have no loss in your ability to coordinate and collaborate properly, and you might actually get more done in the same amount of time, then maybe that's a great experiment." So, I'd like to hope that maybe that had some beneficial impact, I think maybe more likely, they were already such a high-performing team. I don't think they really cared very much what the CEO said.

0:54:26.2 KL: Well, I like the coherence that we just heard today, I'm going to bring this to a close now with you guys. I have a sense between your four spinning plates, almost like a gear working there in your four areas, your four layers that seem to be moving, and I'd love to push in more about which ones tend to move faster, or it doesn't matter? How do they get desynchronized? Et cetera. But I had a sense with your last comment about the coherence of multiple mental models or even perhaps multiple parts of an organization, this is that spooky action at a distance that as an executive you could count on however people are addressing things, these decisions are going to be having these other decision impacts over here, and that we're about making decisions. I think that's the key element that I see. And something that I've been studying in the requisite organization field is who makes decisions and accountability equals making decisions and problem-solving and placing that with a person capable and authorized to do that, the more you get more of those decisions lower in the organization, the more value we can produce out of an organization. This model would now fit with that model, just so you guys know.

0:55:27.5 KL: There's a lot not to like in that model perhaps. But I think some of that standard piece in there is good. That and that something I've worked with is organizational debt, this idea that I'm just always trying to figure out how to get rid of it or find it, you just gave a great example of it. By seeing the underlying patterns, we might be able to find all of those processes that we keep writing waivers for and spending time in meetings about meetings about status, or other variations that we could just eject, we could just spew that out. But that's for another podcast, another time. We've hit an hour of recording here. I don't have a title. So, here's what I want to challenge you guys with, now that you brilliant guys have talked about it, written books on it, heard me mouthing around on some of it right now, what would you say the title of this episode is? What is the punchline?

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0:56:09.0 MH: I got a suggestion.

0:56:10.4 KL: Go for it.

0:56:11.7 MH: How about, Unleash the flow by taming it? [chuckle]

0:56:14.2 KL: Unleash the flow by taming it. Okay, there's one, right?

0:56:17.7 ST: Now that's a good one.

0:56:19.6 KL: Unleash the flow by taming it. Okay, TameFlow, there we go. Well, Steve, thank you for spending time with us today.

0:56:24.1 MH: Oh Steve, Steve, did you have another suggestion? I didn't want to...

0:56:26.7 ST: No, that's a good one.

0:56:27.6 MH: Okay, okay. [laughter]

0:56:28.3 KL: Oh, I heard him sign off on it. I'm sorry, I didn't mean to cut you off. I thought it was okay, what he said. He got the narrative signal. Steve, thank you for showing up and talking to us today. Where can people get hold of you?

0:56:39.4 ST: Maybe the easiest way is on Twitter, where my handle is my last name Tendon, T-E-N-D-O-N. Otherwise, they can check my website tameflow.com. But in particular, I invite everyone to take a look at my community, which is <https://circle.tameflow.com>. The Circle of TameFlow.

0:57:03.0 KL: circle.tameflow.com.

0:57:04.0 ST: circle.tameflow.com. Yes.

0:57:06.8 KL: Okay. It's the circle. And is that to join the conversation and be part of a community?

0:57:10.8 ST: Exactly. It's open where people who have interest in the topics we've talked about Agile, Lean, TOC, patron, psychology, finance, throughput economics, they all come together. We also run a book club. We look at books on TOC, and many other things. So, everyone is welcome.

0:57:30.4 KL: I vibrate. I think if we ever have any convening authority, it has to be in a circle somewhere on Malta. Hub, you got a big place out there? Is there a place to have 15 podcast guests hang out with you and solve a world problem?

0:57:41.0 MH: And to attend online?

0:57:41.3 ST: Wow. So that's the constraint, Malta is overpopulated and space is at a huge premium, but we'll figure out something. It could be a boat.

0:57:49.0 KL: Oh, too bad for us. At least we have an inside play there with Steve. Mike, any last

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thoughts for you sir as we sign off for today?

0:57:54.9 MH: I think we'll have to put all of ourselves in the same boat.

0:57:58.3 KL: So that's a wrap on 100 episodes of PM Point of View, what a ride. The four levels of TameFlow. I came away with more thoughts on probabilistic forecasting over planning, finding and exposing the signal that tells teams where trouble is, and letting them organize around solutions. That way they build their own unity of purpose. Get enough teams doing that and as leaders, we don't need the details of decisions, but simply an understanding that decisions are aligned or common to the ultimate outcomes we need. I realized I also got to get more learned. Let's all check out fever charts, Critical Chain Theory, and the Theory of Constraints and get a deeper understanding about getting things done in organizations.

0:58:37.2 KL: To snag a PDU for listening through this episode, go to PMI's CCR system at ccrs.pmi.org/claim. And scroll to the fourth banner on the left column, online or in digital media, and manually enter a provider code 4634 and select M Powered Strategies. And manually enter the name of the episode, PMPOB0100 Unleash Flow by Taming it, and select Strategic and Business Management in the talent triangle. And with that, let's make the decision to be back here in a month for another episode of PM Point of View. And during that time, keep it in scope and get it done.

[music]

0:59:19.4 Announcer: This has been a Final Milestone Production sponsored by M Powered Strategies.

0:59:24.7 Announcer: Final Milestone.