**Participant 1 Interview-20230829\_095126-Meeting Recording**

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19m 32s

 **Michelle M. Moran** 0:20  
I'm useless containing bear products, so I just gotta you, would you? You would you be have been involved in setting off the factory talk batch process. Like say the phases and the system.

 **Participant 1** 0:36  
Yeah. So basically, so the the system was always there, right? So, but it's at the objective of the system is to execute the batches, right? So there's a whole host of data being collected behind the scenes, but it was basically not in a, it was all there, but it wasn't.

 **Michelle M. Moran** 0:45  
Yes.

 **Participant 1** 0:53  
And if I was structured in the in the way a typical way where it was just ready for use for analytics. So I I was involved with. So if you guys, I suppose when they hired when I started three years ago, one of the first things they said to me is, hey, look, we have a black box up in manufacturing. We're like we know the batch starts at for example 8:00 AM in the morning when the guys come in and we know what they finish it at 6:00 PM. But in between is a total black box. I mean we have the recipe, we know exactly how to build it, but we have no tracking of time.  
So I started basically looking in the back end and I built a store procedure that basically looks at every recipe and summarises it. So I look for the key things like.  
I look for the starter batch, I look for all the consumption. I look for all the problems that get answered. I look for like, yeah, the weights that are captured for the materials I look for any agitation time I look for deoration time and I look for homogeneity. I like the processing. So either we have like single modernization, double homogenization, homogenization and pasteurisation and pasteurisation and and basically and then lab, sample and closeout. So if I can get that I can that's basically summarising the batch start to end. And when I did that.  
Face.  
They owe monitors and the manufacturing team were kind of saying Jesus right, you're halfway to building an OE system for us, right? So if you you, you have all the actuals, but we have no. So that's what actually happened. But we have no target, I don't know like if it took like the Dr ration time would say like we have it all, all recipes are set to 480 minutes. So like what's it like 8 hours whatever, but they they don't. There's nothing in between.

 **Michelle M. Moran** 2:14  
Hmm.  
Yeah.

 **Participant 1** 2:32  
And to say there's nothing to say. Well, how so? What's the targets like that? So we have like the plan, but we don't have the target. Likewise for adding powders or drums or hate P process we they didn't basically have like a target. So what I did is I took the data using my stained stored procedure. I just just expanded the time range for the last five years.  
And use that to then get a timing for everything. So I said OK, every time we add powder or every time we add treated water in this system of this size, how long does it take us? So I try to like exclude the outliers. So I took the valley which was the 90th percentile means it was a repeat full time not the fastest time but a repeatable achievable time for us. And then we assess that. So every time now the guys executed batch they have like a target for everything. So then afterwards if we didn't meet our target.

 **Michelle M. Moran** 3:14  
Yeah.

 **Participant 1** 3:24  
He can say why we can say okay there was slow pumping or the froze the the juice that came in from the boat juicer outside it was it was too cold. It was like moving ice not you know. So then we could start having really good meetings saying hey actually.

 **Michelle M. Moran** 3:34  
Yeah.  
Yeah.

 **Participant 1** 3:40  
This is the reason we didn't achieve our target time and then from that over the last three years we've been putting projects in place to say, OK, mobile tanks are a big problem. Okay, whoa, what's going on here, you know, OK. Mobile tanks are a shared resource between the kitchen and manufacturing. So sometimes when the guys go to use mobile tank. Ohh, there's not one, they're available. So how do you solve that? We can look at we didn't analysis then to say okay how many mobile tanks do manufacturing need? How many do the kitchen need okay take these 10 mobile.  
Thanks. And manufacturing there yours only, so you manage them now they're not a shared resource anymore. So straight away that problems resolved. So Long story short, by like, yes. If you're question was did I do that work? Yes. And that led on to so many more projects because we could guess we could get detailed behind what was happening and like that what you had looked inwards basically the dehydration time because.  
We have about 15% of our recipes in the company that have that required the dehydration time, but because it's such a long time it's more like, hey, what are the factors affecting this is it? Does it change winter to somewhere? Is it, you know, does the flow rate impacted? Is it the system like is it like what can change this cause you know we wanted to to reduce it and I know engineering are actually looking into buying a high share mixer which is essentially a blender to blend all the stuff together to get a more consistent.  
I suppose consistent density and forward their product which will put it will ultimately reduce the duration time. So Long story short, bazi involved yes.

 **Michelle M. Moran** 5:14  
Yoga.  
Yeah, you answered a number of questions there for me. Thank you. I so I just a question then. So when I, I took a look at let's say I printed out just a sample of let's say a product and the what the different phases are involved in this particular product. Now you have your star process and your step one cons which is the addition of all the raw materials which are manual and the water treats it. Then you have step 1-2 and three which is the agitations phases.

 **Participant 1** 5:43  
Yeah.  
Yeah.

 **Michelle M. Moran** 5:47  
But there is no specific duration phase.

 **Participant 1** 5:51  
There is, I suppose, yeah, because I suppose it it's.

 **Michelle M. Moran** 5:53  
There it's not. It's it's not, it's not like, let's say, everything else is spelled out. Step one calms step one agitation. There is no duration phase. So why is that?

 **Participant 1** 5:58  
Yeah, yeah, yeah, it's.  
It.  
Well, it did well it I suppose it's the understanding of the recipes. So the deoration will always come.  
And after the agitation before the addition of the first mobile tank. Right. So I kind of knew because I'd worked on the recipes for so long, I knew exactly where it was. So I know if you look at the recipes, you'll see a long phase start delay between the end cause I'm looking only the key phases, which is agitation at consumption, tank status and prompts and things like that. So like necessarily like dehydration is a process it. So I just kind of knew it was in there. I know exactly where it should be and.

 **Michelle M. Moran** 6:19  
Yeah.  
Yeah. Prompts and different prompts and.  
Yeah.  
Yeah.

 **Participant 1** 6:40  
Like that, you know I it it it you know the recipe just calls for. So I knew I didn't necessarily need to call it out as suppose I knew it was there.

 **Michelle M. Moran** 6:47  
Ohh OK that's fine. Um and then the different kind of metrics are things that you're you're quantifying. So let's say the phase duration times, then there's the phase start delay and then there's the flow rates and then you're phase overruns. So would you look at so the face start delay then that was just that's more or less just like how long it took to start it, is it?

 **Participant 1** 7:03  
Yeah.  
Well, it's the time between. So if one phase ends like say that the aeration, right, take that for an example, you might have a phase that ends at 12:00 PM in the like midday. Then the next phase didn't start till 6:00 PM, but that was the duration time they like. There was just we didn't necessarily call it out as as a phase, but that was it. The the time between one phase and the next phase was your duration time because you first whatever reason we could end a phase and there could be a breakdown on the on the homogeniser will say or something like that. There could be some some issue like the guys go offline.

 **Michelle M. Moran** 7:21  
Yeah.  
Yeah.

 **Participant 1** 7:43  
Lift handle for whatever it is. They would end one phase and they don't necessarily stack the next phase and it's just capturing that time between 1:00 and the other so that we can account for it down the line.

 **Michelle M. Moran** 7:52  
Okay so that wouldn't be reflected. Let's say that wouldn't be such a, let's say that wouldn't be a phase overrun. As such, the downtime, the downtime is just between the start and the end of the phase.

 **Participant 1** 7:59  
Yeah, it know.  
Exactly, yeah.

 **Michelle M. Moran** 8:03  
Yeah, alright, OK, now it's perfect and.  
So what? How does what kind? How is he OE calculated from these results?

 **Participant 1** 8:15  
It.  
Yeah. So it's essentially what we do is. So our production week is from 7:00 AM Saturday morning until Thursday evening, 7:00 PM, so that is per tank. That's 132 hours. If you work it out. So what we do is we say okay, let's say we're going to run.

 **Michelle M. Moran** 8:28  
Yeah.

 **Participant 1** 8:33  
50 batches, 20 batches would say 20 batches and.  
We sum up all the batch running time that might come to 80 hours. So then we know we had 132 hours 80 hours divided by 132 hours will come out. What's that 80 divided by?

 **Michelle M. Moran** 8:42  
Yeah.

 **Participant 1** 8:51  
Duck that about 60% awe. So essentially we're all we're really doing what the OE is the target is, I suppose this supposed it's giving you information on how much you're actually using your equipment. So one thing is like, OK, how much you're using it, but just because the machine is on doesn't mean it's necessarily effective. That's what we, that's where we're measuring the OE 2 will say or the OE3. That's why we put a target against every phase to say not it goes to that next level of okay perfect. You said you were adding bulk water, but how long it should have taken you 20 minutes. Why did it take you 30 minutes?

 **Michelle M. Moran** 9:09  
Hmm.

 **Participant 1** 9:21  
And then that's you say. Ohh well, that's just the way it. That's just the race of pumped. I started a machine that just ran to that long. That's when you might get the engineers involved and say hey, look at take a look at their.  
And that, you know, that might say, you know, geez, that, that pull, that bong that you know we we haven't changed that that piece of equipment and you know 10 years let's look at that and then they might get some sort of an uplift or whatever but that's the reason I suppose we will give you an indicator of how much you're using your equipment and how effective you are when you are using the equipment.

 **Michelle M. Moran** 9:32  
Yeah.  
Ohh Okay and that is um.  
I was with for want of a better word, broadcast it on the dashboard.

 **Participant 1** 9:57  
Yeah, it is. Yeah. So well, power BI and we actually built this DPM. So it's said the digital performance management screen. So it's available in all the areas and actually where we're rolling it out to all the sites in the world.

 **Michelle M. Moran** 9:57  
Barbie. Yeah.  
OK.  
Wow.  
Um, actually screen. OK, that's perfect screens.  
So for example, I was talking to Ollie and uh Thomas last night and um, I'm looking the results that I am looking at the majority of the time the downtime or the overrun is to do with the manual edition of the gums.

 **Participant 1** 10:31  
Yeah.

 **Michelle M. Moran** 10:31  
And for all batches. So there is an overrun.  
For every one of them, so it overruns the target.

 **Participant 1** 10:38  
He tells you have such a problem.

 **Michelle M. Moran** 10:38  
And.  
Yeah, there's a problem. So. So like it's not a solution to change the target, but um.

 **Participant 1** 10:47  
Well, we don't. Well, think about it like you wouldn't necessarily want to change the target cause then you, you you're accepting poor performance, I suppose what you want to do is, hey, you get the smart people in the room, you get the pro and you get there, you get the associates, you get the team leads, you get the OE manager, you get the engineers, you get all the people around the room and say, hey, this is a problem and then you say, OK, well, what's our target? OK, it's 60 minutes. And what are we getting now? We're getting 75 minutes. OK, well, let's look at why is that. And then you start looking at, well, is it to do with like?

 **Michelle M. Moran** 10:51  
No.  
Yeah, poor performance.  
Yeah.

 **Participant 1** 11:17  
Don't be material, is it to do with like we're not like there was some reason basically, but we wouldn't necessarily accept we if we bend to low performance then we'll get a high OE. But we're not necessarily solving any problem. We're just we're just making the numbers look a bit better you know.

 **Michelle M. Moran** 11:32  
Yeah, absolutely.  
And.  
OK.  
And yeah, no, that's that's just your you've answered everything a few questions. Few questions for me, but you've expanded which is fantastic. No that's that's brilliant. Ohh and thank you so so much.

 **Participant 1** 11:44  
Yeah.  
No worries and I suppose it's it's great to see that you're getting into it and more people getting into it because the company is changing, you know, like the whole world is changing. Everyone's becoming a bit more data-driven like everyone has a smartphone. Most people now have smart watches like you track your steps, you track everything, you know, like now in work, like, I suppose it's not odd to think that we're going to be looking at how do we take use data to our advantage to make things more effective and efficient. And having spoken to consultancy firms out there and having matched.

 **Michelle M. Moran** 11:48  
Um.  
Yeah.  
Yes.

 **Participant 1** 12:18  
Us against all other peers in the industry, top performers like we are ahead of the curve actually, so that what they're saying well we what we're doing is actually is world class. And while we're doing actually is we're not necessarily going out and buying software packages and spending hundreds of thousands of millions of euro, we built a lot of the stuff in house because we're just reusing our data smartly. So but there's this is not going away. It's only getting bigger and bigger. So it's great to see that actually people like yourself are actually going out, getting the skills upskilling themselves.

 **Michelle M. Moran** 12:47  
Ohh.

 **Participant 1** 12:48  
Preparing themselves for the future, you know, and it goes to everywhere. It's not necessarily manufacturing like the lab have a lot of self required as well like you know.

 **Michelle M. Moran** 12:55  
I know. Yeah, absolutely.

 **Participant 1** 12:57  
So it's everywhere.

 **Michelle M. Moran** 12:58  
It's a it's amazing. It's really is. I I I am, however hard it is and getting my head around these things as it is, it's actually very interesting just to see what it can tell you. You know, data is that data is key, I suppose. Just a quick question like so in terms of data analytics and machine learning and anything like is that currently is that that's what's applied is that?

 **Participant 1** 13:08  
Yeah, yeah, 1%.  
Yeah.  
But we're not necessarily applying machine learning at the moment because we're our fingers are on the pulse like because we've done like so like machine learning.

 **Michelle M. Moran** 13:22  
And what?  
No.  
You you you've skipped that part. Really. You've gone straight to to the.

 **Participant 1** 13:31  
Well, like, yeah, advanced analytics, who because we're like we're we're tracking everything in real time like we don't necessarily like machine learning would be fantastic in one way where like you know like one problem we have in in the on the site in our company is like the schedule, right. So you can imagine like every area, every PO trying to put that schedule together every week is like trying to get a lot of numbers. So like if you actually asked the guys like how do you do it, you actually like find out that it's a very, very manual process.

 **Michelle M. Moran** 13:37  
Yeah.  
Yes.  
Oh, oh gosh. Mental.

 **Participant 1** 14:03  
So like whilst our team was only in existence for three years and we've done a lot of good work, there's a lot more to do, like there's kind of there's kind of an evolution like of data analytics where it's like okay you get like the prescriptive analytics will what has happened and then you're saying well what should have happened and then how do I affect that, what will happen and then like so then it's like there's an evolution and we're kind of getting there at the moment. But I just had to start. Our team is life. So we're trying to expand so, but it's a machine learning is on the way. But I suppose it's not necessarily like you know the.

 **Michelle M. Moran** 14:07  
Uh huh.  
Ohh yes.  
Yeah.  
Yes, exactly.

 **Participant 1** 14:34  
Answer to all problems and some some business stakeholders do think that they're like just throw machine learning at it's like you don't like, it's that will not. What will that tell us? We won't tell us anything you know.

 **Michelle M. Moran** 14:35  
No. Ohh no no no.  
No. You have to quantify it. You have to kind of justify it. And in fairness like is it going to answer what you want at this particular moment in business in the time like so I do get that. So another thing would be the preventative maintenance side of things. So let's say if the tank production tank goes down and it's a mechanical issue.

 **Participant 1** 14:53  
Yeah.  
Yeah. So we are, we're.

 **Michelle M. Moran** 15:03  
Rather than a software issue, so are is the prevent. Is there preventative maintenance being tracked?

 **Participant 1** 15:09  
There is, yeah. So for the Homogenizers will still last year we had an issue where like the homogeniser seals broke. So the the the engineering team was are the main team was saying well that's kind of unusual like we wouldn't have expected to see that they you know. So basically they said well you know what what's the most pressure on those and it's to do with the like trying to get the tanks into terminal balance to basically.

 **Michelle M. Moran** 15:33  
Yeah.

 **Participant 1** 15:33  
To blast it in the pasteurisation process to kill all germs or whatever and but basically the teams were leaving.  
And I suppose it just goes back to the training of the teams. They were leaving us in thermal balance for too long, so that was putting way too much pressure on the seal. So now we're tracking that in real time and maintenance can see that and they can give feedback back to the team. Like, you know, I think it's just more awareness around it. So like analytics helped us to answer the question of, yeah, there was a problem here. And this is the answer. And now the solution as well. It's just more awareness, you know, the kind of way it doesn't need to because we solved the problem upstream. We don't necessarily need machine learning to tell us a problem is about to happen here. You know, it's just more awareness.

 **Michelle M. Moran** 16:06  
Yes.

 **Participant 1** 16:11  
And then it's just not gonna happen again.

 **Michelle M. Moran** 16:14  
Perfect. Yeah. No, no, I just. I just thought of that. Alright. Cause a lot of the research I've I've looked at is more preventative maintenance rather than the predictive. Like like what she has said that while we are currently doing it's not really applied yet because you're getting what you need from the data for the lowly or the OE, whatever measure metrics. So yeah, a lot of it was basically on preventative maintenance and anticipating issues and documenting them on that. So yeah, no, no, that's that's just wanted to know have has that been.

 **Participant 1** 16:22  
Yeah.  
Yeah.

 **Michelle M. Moran** 16:44  
Applies in there, but yeah, no, that's brilliant, Owen. I think that's it actually, to be honest with you. Thank you so, so much for your time and all your help and.  
I.

 **Michelle M. Moran** stopped transcription