

How to Effectively Implement Operator Basic Care into Your Reliability Program

Bowman Mitchell

Welcome to the webinar today. My name's Bowman Mitchell. I work for Redlist. I just want to double-check that you guys can hear me if I can get thumbs up or if someone comes off mute to say hello and make sure that you guys are getting my audio, OK.

Rae Barton

We are reading you loud and clear, Bowman.

Bowman Mitchell

OK, great. In way of introduction, I'm going to share the screen so I can like you guys through. I'm the VP of National accounts for Redlist. A little bit of background on me. I worked for Exxon Mobil for about 12 years as a lubrication engineer and field, field service tech specialist for many different industries, from paper steel mining, and we utilized Redlist quite a bit in my customer base. And that's kind of my background today.

Bowman Mitchell

What I'm going to be talking about specifically is how to effectively implement operator-based care into your reliability program. A lot of companies call it something different. OCRs or operator-driven reliability operator-based care. Some of the common ones that I hear from company to company. And from an agenda perspective, right, this is kind of a quick overview of what I'm going to be talking about today. If anybody has questions, wants to interrupt, feel free. I welcome comments. Questions you know, mid-slide, I don't, I don't have to wait for the end for the Q&A if you if you would like to interject at any time, please feel free.

Bowman Mitchell

First off, we're going to talk about why operator-based care is important and discuss something called the hoop. We'll go through what that means, and then I'm going to highlight some successes. Keys to success and pitfall. Pitfalls to avoid and then lastly as part of the presentation kind of discuss how you can make a cultural impact in your company and then after that we'll kind of go to the software, do a quick demo of how to actually implement something like this, what it looks like and then go into more formal Q&A and just give room and time for people to ask questions. So without further ado, I'll just jump right in.

Bowman Mitchell

So I like to start this off with kind of a story. So if you've heard of John Boyd, if you haven't heard of John Boyd, he is what I would consider the real live Maverick, the real Live Tom Cruise and you know Top Gun he was a fighter pilot in the Korean War. Everyone called him the 42nd Boyd.

Bowman Mitchell

He had an outstanding bet that he would pay anybody that could beat him in a flight simulation situation that he could shoot you down in under 40 seconds. And he does this? Well, he's older now, but over the course of his entire flight training career, he never actually lost. There's no record of him ever losing, so he became a war strategist and turned into a business strategist as well through his research. And he is the inventor of the outlook. He has a lot of publications and it's very, very interesting research. So after my, you know presentation, if you want to read up on him, he's got a lot of good books.

Bowman Mitchell

But John Boyd is A fascinating mind, and I'll try to explain to you what the scenario where came to be. So in the Korean War, it was USA fighters versus Russian fighters. A lot of the Communist fighters doing dogfights, one on one combat air-to-air planes, and the phenomenon that got him thinking down this path was they were winning the dogfights at a very high rate. So in 9 out of 1010 scenarios, the American fighters were winning and he was trying to understand why? Because it didn't make sense, the Russian planes were faster. They had a higher top speed. They were newer and considered superior to the American plates, so when he got down into the details of why he identified 2 key differences.

Bowman Mitchell

The first one had to do with controls, so the controls of the Russian planes were mechanical, meaning they actually would train their pilots to like body build and work out so that they could last. The rigorous you know, the rigors of maneuvering the plane in a dogfight, and it was, you know, the difference with the American planes that they were controlled with hydraulics, which allowed for quick adjustments. Very little automatic, you know effort, automatic controls. So they're very, very quick to maneuver and didn't require a ton of effort.

Bowman Mitchell

The other big difference between the two different planes was the Russian plane had a blind spot in the back behind the head and the view of the American cockpit was 100% three 360 degrees around. So these two key differences were what he kind of honed in as the reasons why they were having success. And these two things, you know, are what led him to develop what he called the OODA loop.

Bowman Mitchell

So OODA loop stands for Observe, Orient, Decide, and then Act. And in the example of the planes you know you're observing comes from being able to quickly see all of your surroundings. Observe the entire scene. Understand where everything's coming from very quickly without having any blind spot. Orient, obviously is to take that data and process it. Decide is, you know obviously be able to have accurate information and make a decision and then act would be obviously those you know quickly make a change and do it quickly.

Bowman Mitchell

So in the term in in the instance of the planes, the faster that they could go through this loop and iterate, the more success that they were having and the two key differences allowed them to observe. You know, the Russian planes quickly. They found out that if you approach from behind, they wouldn't see you and you could shoot them out of the air. And they also figured out if you could maneuver faster and get behind him that way as well.

Bowman Mitchell

So he started applying this to war strategy, applied it to everyday life. He applied it to business and became a very successful business analyst. But in terms of the OODA loop and how this applies to operator-based care or operator-driven reliability, this is you, your kind of have to think about who's who in the loop, right? So in the observed category, you've got your operator doing observations every day, right? They're taking temperatures, they're taking pressures, they're checking tank levels.

Bowman Mitchell

They're checking, you know, basically the facts of the current operation. They're telling you. Hey, this plane approaching from that way, you know, I've got to a bogey in the behind me. You know, they're basically gathering the 360-degree view of the operation and then pushing it to a place where a decision-maker is going to sit. So the first step you've got the operator in the observe seat second step.

Bowman Mitchell

You've got the Orient part of the loop, the admin, the software, the KPI dashboard, and the organized facts. This is where you're pushing data to a single place where it can be presented in such a way that someone can make a decision off on it. So in in many instances, operator-based care is done on paper. That might be someone taking that piece of paper and putting it in a spreadsheet and then keying it into a dashboard. That's a very common method. Not the best, but we'll get into kind of the best.

Bowman Mitchell

The best case scenario, but the next step you've got is to decide.]So these are your reliability engineers, your plant managers taking that data and understanding. OK, so 190 degrees is bad or low level is bad or a vibration threshold of this is bad. We need to make an adjustment and then obviously once they make that determination with good accurate data, then they can act as the millwrights, the mechanics, engineers, and managers going out and actually either designing or correcting or changing or filling or making adjustments is the ACT side of things and what's key to the UDA loop in a lot of ways is how fast you get through it and how fast you can iterate. Because you know, if you're just, you know, seeing things in reacting, that's one thing.

Bowman Mitchell

But a large part of portion of what John Boyd did over time, that's what he went through. All of the various iterations of the F fighters. He was very influential in determining what got put on the next model, the F16, the F20, all of the various different fighter pilots or fighter planes were largely coming from this iterative process of saying OK, that's worked well. This didn't, and making tweaks so in operator-based care one you've really got to understand what data you're collecting.

Bowman Mitchell

And two, you got to present it in a way that over time you can see, hey, the leaks are going down or the high temperatures are still at the same rate or they're climbing or they're going down. So as you make adjustments, change the sill material that you're using, and change the products that you might be using. It's very critical. So one thing that as I was researching the OODA loop to kind of prepare for this, this presentation that I thought was super interesting is a lot of the commentary on it was, umm, in the observed category, the UDA loop doesn't care about your opinions, doesn't care about your experience, it only cares about the facts.

Bowman Mitchell

All you can do is report what the equipment is doing right. You can't. You can't. You can't change the facts based on. I have super experience with this product and it worked in other places. Well, guess what? It's not working here and there's a problem and it's a hot temp. So. So you really got to focus on the facts and what the equipment's telling you to present an accurate picture to make decisions off of.

Bowman Mitchell

Keys to success? Umm, right at the top? No BS really. The reality doesn't care about you or your opinion. It only cares about what is really happening, so that's what you need to focus on. And from my experience simple, simple. It has to be something that can be deployed in any factory, any, any person, regardless of experience, whether they're 30 years of experience and know the plant better than they know their own children, or if they just started yesterday.

Bowman Mitchell

It needs to be something that can be deployed and data gathered accurately at the same time every time. This leads me to the next point of standardized inspections and data gathering. A lot of times I try to really eliminate people from doing any kind of freeform type of scenarios. What that will turn into is, you know, one person will call it a seized bearing. The next person will call it a hot bearing and the next person will call it. No grease lack of Lube before you know it, you got 1520 different root causes for the same exact problem that's going on. So really trying to understand the data points that you want. Drop downs select, you know, really kind of formalizing and standardizing the data that you're collecting will be key to analyzing it and knowing what you're getting and then the iterative loop basically happens is if you find an issue that's not in your drop-down, you know you give them the option to select other issue and then once you select that other issue, you send it to the reliability engineer to say, hey, iterate, we've got another issue coming up, change the form, change the drop downs, update the data gathering standard because we have other issues coming in.

Bowman Mitchell

So that's kind of an example of iterating, tweaking, adjusting, and changing based on the information being collected. just #4 tying the data to the assets and components is very key. Sometimes I'll run across the scenario where you know you're taking a measurement of a whole line of assets and it's all on one paper, right? So each question is titled, you know, asset number one asset #2 and then you got a slew of questions that you're asking for. Each one of these categories well, if that piece of paper is tied to a, let's say work order in SAP that the work order is not linked to any of those assets. It's just linked to a work order saying to do the Odr route.

Bowman Mitchell

That data is very, very hard to adjust and iterate upon, because if you've got 20 routes and each one of those needs a tweak or an adjustment, you're going to have to send an admin to go through every single one of those PDFs and update them, or every one of those inspections and update them. Because I wanted to add one question right. So if we tie the tasks to the assets and the components and I'll show you how this works later, but you just have the standardized form templates that you apply to all of them, and then if you need to tweak one of those inspection form templates that applies to maybe 150 different assets, you just change the form and that will become more clear as I kind of give the demo examples, umm #5 requiring proof of presence.

Bowman Mitchell

Obviously, this makes it simple. A lot of companies now are doing data scans. Basically, you have an A tag on the asset. You pull out your mobile device, you scan it, provides you with everything that you need, but it also ensures that you're actually at the asset doing the inspection. through digitization.

Bowman Mitchell

Really, when I think about operator-driven or liability, you kind of try to understand the gaps, the blind spots, and the places where you're mechanically trying to maneuver the plane. This is a big one if you're using paper, right? Basically the time it takes that operator to turn in that piece of paper and it sits on an admin's desk for a week and then it gets put into an, you know, an Excel spreadsheet and then it gets put to a, you know, PowerPoint that is reviewed once a month by a plant manager.

Bowman Mitchell

That's the same as having a blind spot that you can't actually see all the data, and it kind of becomes, you know, a little bit of the telephone game where I can't read, read the handwriting, right? I really don't understand what asset this came off or you know it's confusing. So each time you change or transfer the data, you lose a little bit of the granularity or the detail. Umm, so that when the guy at the top is trying to make a decision, data is no longer accurate or complete and it makes it hard to make a decision. So it delays the UDA loop, it delays the iteration process and it makes it hard to execute an A really good operator-based care program. So if you can digitize and eliminate any of the manual inputs, that would be very important, which then lends you to automating your dashboards.

Bowman Mitchell

This obviously is key for someone at the top trying to make a decision. They really need to get the data fast, they need to understand what the data means and it needs to be accurate. #8 is really about understanding the impact that your initiative is having. So for example, I'll give this example and show it to you, but quantifying a problem right? There's a leak on a hydraulic tank right? Understanding what the impact of that hydraulic leak is, am I adding 10 gallons a week? Am I adding 5 gallons a week? What product is? Is it a synthetic? Is it mineral? Does it cost \$40.10 dollars those aren't things you necessarily have to have the operator specify other than you know, hey, they scanned it. It's a, you know this specific product and I added 10 gallons. That's pretty much it.

Bowman Mitchell

And then automatically you're quantifying that issue to then percolate up to tell a plant manager this is an \$80,000 problem or this is a \$500.00 problem. And that that helps with decisions involving each person in the loop daily is important. You know if you're collecting data that doesn't get looked at. Culture, you know, attitudes and apathy start to creep. So if you're really serious about this type of work, it's got to be something that all parts of the solution, all parts of the loop need to be involved.

Bowman Mitchell

Problems need to be addressed quickly. Obviously, if it's, you know, low priority, you know you put it on the back burner, but if it's high, high priority addressing that problem faster will let the people on the line know that their voices are being heard and that this isn't just a check, the box exercise, and then you you've got to address and close out the framework so that it's visible to all of the people you know the operators and the plant need to know maybe it's a dashboard on the in the plant as they're walking out.

Bowman Mitchell

How many issues were identified? How many were fixed? Who reported the issues? Just a way for people to say, hey, this is a product of my work today. This is what I contributed to the company. This is the impact that I'm making. Those are kind of my keys to success, Ray. I'm going to pause to see if there's anybody that has comments or questions.

Bowman Mitchell

Can you check the comment board for me?

Rae Barton

Absolutely. We don't have any questions or comments yet, but again, everybody feel free to add questions at any time that they would like.

Bowman Mitchell

Great.

Bowman Mitchell

So the next topic is that kind of want to hit this pitfall. So really comes down to getting rid of your paper. Once you've done that, obviously you need to make sure you're connectivity issues are not a problem so you know there's on online versions. There are offline versions, but making sure that the data flow seamlessly is critical. talked a little bit about this, but allowing freeform responses really makes the data messy. it prevents automation, it makes it hard to make decisions in aggregate. Pencil whipping, obviously, is a problem that disguises the data as well.

Commented [U1]:

Bowman Mitchell

So if you can get that proof of presence, it will really help with that requirement of being the asset, and then you really don't want to put your route onto a single form. Your kind of want to break it down by asset and task and I'll. I'll show you that and how that iteration iterative process will make it easier. The last piece that I think is very, very important to operator-based driven race care or ODR S is really the cultural impact and the example that I like to use for this topic is more of a safety-based approach that we're all familiar with.

Bowman Mitchell

You say. See something? Say something, and that's typically what the phrases are. See something say something. I would. I would recommend we add something to the list of, say some. See something? Do something you know, in my experience with, you know, manufacturing facilities and insurance companies, they actually have this strategy where they rate a company on their apathy index. It's the difference between what the top people are saying and what the people on the line are saying.

Bowman Mitchell

So if uh, you know, a corporate initiative or plant managers are all saying, hey, we were, we care about everybody's safety, see something say something. And you know, everybody wants everyone to go home safe. That's a very common practice among all of our industries. But if you know the process is very manual, takes a lot of time to gather the data, you know if it's paper that you're dropping into a, you know, near Miss Box or an observation box, and it takes a month for that to process.

Bowman Mitchell

And you know, the operator says, hey, there's a missing coupling guard on this, this thing that I'm walking by or leaning over every single day. We need to replace the guard and they enter that into a paper process and it takes a month and 1/2 to process and then by the time it gets to somebody that would actually have the ability to fix it, can't read the handwriting, doesn't understand what? What you know, part of the plan it's in, or if it misses any of that information to the point where they can't address it, that person says Nah, actually, you really don't care about our safety cause I used your process and it doesn't really work. Right.

Bowman Mitchell

So if there are blind spots or hard to maneuver or problems to get through that loop to present accurate data, you never get to do something and culture can really suffer on any initiative. But you know, ODR S is included if you don't close the loop quickly. Umm, you don't get that. You start to creep with the apathy, but the faster you can do it, you know if, let's say it's a digital form, somebody submits, takes a picture says, hey, this is the asset cuz they pulled it out of a drop-down, submits it, it hits the radar of plant manager. Oh yes, this is a safety issue. Sends out a millwright.

Bowman Mitchell

The next day fixes it. That person feels heard, their voice there. They start to believe in the process because they say, yeah, of course. If I see something I say something, something happens and that's really I think the biggest key to any of these initiatives like operator-driven reliability is really kind of closing that loop. And yeah, that's kind of the last slide that I have before kind of moving toward a demo of an example scenario that that I have prepared for you.

Bowman Mitchell

So, umm, I'm going to transition gears and jump into that or the group. OK, so I don't know if everyone on the call is familiar with Redlist, but really high-level Redlist is a platform that integrates a lot of workflows. A lot of people focus on lubrication programs and operator-driven reliability. Inspections, digital inspections, reporting a lot of different workflows, but I'm today, I'm really going to focus right down to operator-driven reliability and just give you an example of what we've discussed or what I've talked about.

Bowman Mitchell

So and they go into uh screen share with my iPad. And Rae, can you confirm that it's coming through?

Rae Barton

Yes, it is.

Bowman Mitchell

OK, great. So the way that here at Redlist the way that we do this is essentially we have what we call teams across the top here you can see a drop-down that says you know, operator-based care ODR route example, this would be like your operator team and you can divide it into different sections of your facilities. But if I click on that drop down you can see a. A lot of different workflows that different companies have, so they might have different teams doing loop routes. They might have different teams doing maintenance. They might have different teams analyzing oil analysis. They might have different teams doing Tink-level checks or operator-base care, right?

Bowman Mitchell

So I'm going to. I'm just going to dive into one of these examples. If I go into this paper mill 30-day inspection, this could be a daily, a weekly, or whatever makes sense. This is where I kind of defined like you really need to break it down into an asset and component list so that you can check those off and that data lives on that component lives on that asset instead of on a piece of paper that's attached to some obscure work order in SAP, right? So as I go in, I can scan this asset. So if I use the scanner, it'll filter me down to the list and then each one of the checks that I might have.

Bowman Mitchell

So let's say I'm recording a pump level. I can go in and I can say it's full. It's 3/4. It's half full. Did you fill it back? Yes, if I did how much oil did I add? I added 10 gallons a week. And you know which oil did you add? I'm adding synthetic gear oil. I'm adding mineral hydraulic oil or whatever makes sense for that operator to fill that metadata in so that as soon as I click submit, it's pushing to a dashboard it's saying hey plant manager, I've got a leaker right. And so as you're filling out these checks and these inspections and you know, let's say you're doing the coupling inspection and to start my maybe the first iteration is just checked condition, right and after a month of doing that, you're like oh well, you know, we're having these issues come up regularly.

Bowman Mitchell

So let's say hey, which issue are you having? If you select satisfactory, deficient, right, that's kind of how you know in this process and this ODR, it would probably take me about an hour to build each one of these. All five of these different inspections that I have on this route, but if I need to make a tweak or an adjustment, I just go to this form, add a question, and then it applies across the entire mill where this, this question or this form comes up hundreds and hundreds of times. OK. So that's kind of the idea behind, you know, making it quick and easy for you to iterate on, change, adjust and then get that data up as fast as possible.

Bowman Mitchell

So the example of getting the data up fast would be where it's digital. You're able to create a dashboard that's summarizing the data. So where a plant manager or reliability engineer could go into that dashboard and say OK over the last month, year, the week we've identified you know 36 of these issues in this section of the mill, umm, we have 3 repaired leaks, 6 of them are active right now.

Bowman Mitchell

The biggest leak is in the wet section under this asset, and it's costing us this much money in synthetic gear oil because we're topping off 10 gallons a week times \$40 a gallon times, you know, so on and so forth, just from having that operator just specify what the product and the amount you can quantify it report on it so that the plant a plant manager can go in and say, well, we've got this and this you know maybe I shouldn't focus on this \$400.00 leak, I should focus on this \$80,000 leak.

Bowman Mitchell

So it kind of drives the action plan for a down day or a shutdown and allows them to really understand the facts. The reality? What's going on in there in their facility you know this is 1 simple example you would have. You could do something similar with vibration detection, or if you're doing thermography inspections and checking you know high temps bearings problems, you know these are just simple examples of how you could present the data.

Bowman Mitchell

Umm, within Redlist. You know, this is an embedded power BI. It's Microsoft's analytics platform. But you can basically construct and configure whatever scenario that you want to track and look at trend lines and so on and so forth. So really, if you go back and kind of rewind a little bit, we've got your operators gathering data, the data goes up instantly, makes communications creates this E slide where someone can Orient the data, orient around the data and make a decision and make an action plan. And then you know, as you see similar problems creeping up over and over again. That's where the reliability engineer would get involved and say, OK, we should redesign. We should change materials. We should improve the product. We should do something to change and then let's add a question.

Bowman Mitchell

Let's add a question that says, you know, did you do X, and based on the response that might change the behavior or the performance of the equipment.

Rae Barton

We have a question, Bowman.

Bowman Mitchell

Uh, awesome. Tom, go ahead. What?

Rae Barton

How would it change in a current form affect past data retrieval?

Bowman Mitchell

Great question. So the data is all stored in what we call the sequel SQL database. What we do with our customers is, basically if I adjust the form here, let's say I go into the leak detection will leak oil level report that I showed you earlier, you make a slight change and you say hey, which oil did you add? You're going to add a question to that and you add a different option because we're going to start tracking the error air compressor oil, right?

Bowman Mitchell

Right. So you make a change in the form. One step that you would obviously want to make is making a change in the reporting so that you would update you know what's being displayed. Umm, so our team has report builders that would assist with that. A lot of companies will have internal report-building teams, but if you don't, our team would. You'd get on a call with us. We would update the report, and make sure that whatever you're changing in your reports is updated or changing in your forms is updated in your reports.

Bowman Mitchell

It's an iterative process, right? You have to make changes. You have to see accurate data, but that's a really good question. One example of doing exactly what your question is, Tom, I had a question. I had a company that I supported when I worked for Exxon as a lubricant supplier. It was a crane company. They ran about 100 cranes in the industry and one of the major problems that they were having, umm was boom failures. So as a crane, you know, telescopes in and out, here's what they call wear pads on the side, the corners, and that you got to grease those where pads.

Bowman Mitchell

Otherwise, if there's too much friction, it will suck the aware pad in and it will actually deform the boom, which requires you to replace it. Very expensive, about \$1,000,000 per crane to fix and it's a simple problem in the telltale sign is kind of like an operator-based care inspection. It's as the grease depletes, it'll start to chatter and we changed one question on their operator inspection. That said, is the boom chattering OK and how we created the OODA loop?

Bowman Mitchell

Was the communication automatically came to me and the problem it wasn't, it wasn't that the mechanic didn't know that it needed grease. It wasn't the fact that the owner of the company didn't know he could prevent the problem, and it wasn't the fact that the operator didn't report that there was an issue, right? It was just a gap in how that information was communicated. So it over the last 50 years, this crane company had basically said, look, I'm resigned to basically have this happen two to three times a year and that's just my operating expenses because there's too many people.

Bowman Mitchell

There's too many pieces of equipment and I just can't get to everything well, we added one question into the form. That said, is your boom chattering and we automated a communication to me as their support person as a loop supplier. To say if I get 3 repetitive boom chatter alerts for one piece of equipment in a week, send an email to the owner and then the owner would then get on his guys and say hey, you guys need to get out and grease that crane by the end of the day, OK what ended up happening was exactly what we described about round culture.

Bowman Mitchell

It was a culture shift that was based basically on that operator. As soon as he submitted that he knew within 30 days of starting this project. He knew that if he submitted boom chatter three times in a row, someone called Bowman Mitchell was going to send an email to the owner of his company and the owner of the company was gonna send an email to him.

Bowman Mitchell

And it didn't really change the fact that, you know, nobody was upset about it. It just elevated the issue to the point that the operator realized. Oh, this is a bigger problem than it than I thought it was before the mechanic realized. Oh, this is a higher priority because the owner cares about it and the owner realized hey, I just don't want to spend this \$1,000,000 repair right?

Bowman Mitchell

So what is happening is the operators would start filling out their dailies with the boom chatter and then put a note on there that said, don't worry, Bowman, we're gonna get to this by the end of the day. And so the culture shifted to say, hey, owner cares about it. We gotta make sure this is done. It's high priority. That was about 6-7 years ago that we initiated that.

Bowman Mitchell

I stopped checking after about 60 days, and I'll occasionally go back to that company just for kicks, just to see, and they still haven't failed to boom since we started that project, but it's all about connecting each person in that loop with accurate information and helping them understand what changes and tweaks and iterations can we make to prevent the problem.

Bowman Mitchell

And that's really what it comes down to with operator based care is just giving them a simple way to check off the facts, providing those facts to the right people, and communicating an action plan and iterating really that's all that is all it comes down to the demo I can get into more depth but that's it's a really simple process you know going back to my iPad.

Bowman Mitchell

You know from a functional execution strategy, you know you need to be able to see what's done, what's not done right. You need to be able to require them to actually complete the work, right? So if I haven't scanned this asset and I try to complete this, it's going to force me to say, hey, scan it. So I can't sit in the lunch room and complete my work. I have to actually be on that asset, scan it, and prove that I'm actually there. If you want data to be collected, you know if I try to complete this one that hasn't been filled out. Umm, I can require them to fill the form out. So you make sure that the data that you want to be collected is actually collected.

Bowman Mitchell

And you also want to make it easy for them to complete the work. So you know, I fill out all five of these inspections and then I can just tap boom, done, complete. So those are kind of the ways you make it quick. You make it fast. You make it easier, you eliminate all of them. Hey, I gotta take this paper and put it in a spreadsheet type of work. Then you just make people's lives easier, and then and then follow up fast and the culture starts to shift and then you really have a program that will start allowing you to iterate and make tweaks.

Bowman Mitchell

You go from F15F16 to F20 and you get the you know the world class pilot or airplane, right? So anyway, that's what I had today. I know we planned an hour. I have some time left for questions. If anybody wants to stick around and ask any questions, I'm happy to stay on and umm, give you guys about 15 minutes of questions so. Thank you for joining and hopefully this was entertaining or interesting and useful for your business.