All Things Financial Management
Episode 3: Ms. Erica Thomas: Digital Transformation & RPA in the DoD

INTRO: Welcome to "All Things Financial Management," an ASMC podcast sponsored by Guidehouse, where we discuss all things under the auspices of the Comptrollers' Office and address top-of-mind issues in the financial management community.

TOM: Good Morning. My name is Tom Rhoads. I'm a Partner with Guidehouse, where I work with clients across the DoD to transform and optimize their finance functions. I will be your host for today's Podcast.

For those of you who may be new to this podcast series, let me take just a moment to provide some background on the American Society of Military Comptrollers. The American Society of Military Comptrollers, or ASMC, is the non-profit educational and professional organization for persons, both military and civilian, involved in the overall field of military comptrollership. ASMC promotes the education and training of its members and supports the development and advancement of the profession of military comptrollership. The society provides professional programs to keep members abreast of current issues and encourages the exchange of information, techniques, and approaches.

With that background, I'm happy to announce that with me today I have Ms. Erica Thomas. Ms. Thomas works for the office of the Secretary of Defense (Comptroller). She is currently the director of digital transformation and FM IT portfolio management, and the program manager for OUSD(C)'s robotic process automation (or RPA) initiatives, which includes shared service platform to help promulgate RPA within DoD. Ms. Thomas also co-leads the DoD's RPA consortium, and outside of DoD she is an active champion for the Federal RPA Community of Practice.

Prior to her current roles, Ms. Thomas served as the team lead for DoD's financial management reform efforts as a senior accountant in the Business Integration Office, leading enterprise-wide procure-to-pay initiatives, and the data act reporting compliance. All told, she has over 16 years of DoD financial management experience.

Ms. Thomas is a graduate of Central Michigan University with dual bachelor's degrees in finance and political science. She holds professional membership in the American Society for Military Comptrollers as a certified defense financial manager, acquisition. Ms. Thomas is a recipient of the Department of Navy's Superior Civilian Service Medal, and numerous other DoD and Department of Navy and American Society of Military Comptroller awards.
Ms. Thomas, welcome. And thanks for being here with us today.

ERICA THOMAS: Thanks for having me.

TOM: Ms. Thomas, I have really been looking forward to talking about robotic process automation with you today. There's so much interest and enthusiasm around emerging technologies, and in particular, RPA. You know, I recently read an article where this organization stated that in 2017, they responded to 1,835 different inquiries about RPA, and in the very next year, 2018, they responded to more than 3,300

inquiries about RPA. That is an 82% increase year-over-year. Though the data may be a few years old, I think it really does illustrate the exponential growth and interest in RPA.

I was wondering if you could share with us, what got you interested in RPA and what lead you to your current role as the project manager for OSD's RPA initiatives?

ERICA THOMAS: Sure, absolutely. I will say, if I took myself back to college days and imagine, 20 years from now, or 15 years from now, what will I be doing. I don't know if I would predict this, that I was working for DoD doing what I'm doing. So, it's been an interesting path. But I've been in DoD financial management now for over 15 years, first as a consultant on the private side and now as a government employee. I think I just closed out 10 years as a government employee.

I started my government career with the Navy in Financial Management and Comptroller over there. And, when I joined the Navy, I basically was doing all things special projects. So everything I've ever done has touched on financial management or accounting, but all of it is that it had a thread of process improvements that, again, have the financial management component, as well as, an IT side to that as well. I always joke, I'm technically an accountant, but I masquerade as an IT program manager in some cases. Especially of late of as an RPA program manager. I know enough to be dangerous, but hopefully effective. So, I've really enjoyed it. But I started at Navy doing a lot of special projects and I joined Comptroller about three and a half years ago and at OSD Comptroller, I've done a variety of tasks. I've had a variety of responsibility under Comptroller. But how we got interested in RPA, we were standing up the DoD financial management reform group. And at the time this was a directive under the current secretary to stand up reform teams for a number of different functional business lines. So, as we set up the financial management reform group, I became the deputy of that team.

One of the suggestions that had come up in terms of reforming financial management for the department was, what emerging technology is out there that we might want to consider to improve our business processes and our systems environment too, et cetera? And honestly that was the first time I'd ever heard of RPA. So, I didn't hear of RPA until 2018, which is not that long ago. And initially the ask was, is this even an opportunity space? And we had some contractors in there helping, and that was the initial task, is this even an opportunity?

Very quickly, I would say within less than a month, it became readily apparent it absolutely was an opportunity, and let's jump in. Let's, let's try it out. Let's see potentially what the benefits of this technology can do. Let's do some pilots, improve it and go from there. And I think part of that is, let's not be afraid to fail. It's going to work or it's not, and if it doesn't, so be it. We'll move on to the next thing. But happily, RPA has seemed to stick and it's definitely gaining traction across DoD.

TOM: You know, it's really interesting, Ms. Thomas, as the department continues to accelerate its use of it of digital platforms, it opens new opportunities for emerging technologies and solutions. Already, the department can use software robots to perform manual, rule-based tasks, to re-key digitized data and other standard business practices.

I attended the most recent ASMC Regional PDI, and I really liked the panel discussion that Mr. Little served on, where he talked about the fact that we have 40+ software robots running around DoD performing manual tasks to improve the efficiency and effectiveness of underlying business processes. With so much happening in RPA, could you take a minute and share with those who may not be familiar with what it is, what RPA is, and how it works in the department?

ERICA THOMAS: Yeah, absolutely. So, RPA, or robotic process automation, is really, it's just software. So, it's commercial off-the-shelf software that operates at the user interface level to automate repetitive, standard, rule-based, think if-then type task. So, the analogy I like to use is a macro. I think a lot of folks have maybe experienced building or using macros. And if you've got familiarity there, it's like a macro, but better. So a macro, you build that and it's limited to the one application or program that you built it to, if you have a macro that's specific to Excel or Access, or what have you.

Well, RPA, because it operates at that user interface level, you can build an automation that goes into multiple applications, multiple systems, multiple websites, all in one fell swoop. So basically, any standard, repetitive behaviors that a human is doing; maybe they're logging into a system, downloading a report, then taking that report, putting it into Excel or consolidating reports in Excel, or what have you. RPA automation can do all that in one fell swoop. Unlike a macro, because it's got that user interface level, it's able to bridge the gap and, and connect all of those pieces of the standard repetitive process.

Now one thing I'll say is not all ideas are good ideas for RPA. I've joked about this before, we get a lot of ideas submitted to our team and I've seen them run the gamut. One spectrum is that an automation idea came in and it's like, "Hmm. No, let me show you how to use Excel functionality. This will solve what you're trying to do." So RPA was overkill, right? And then we'll have some other ideas come in that RPA alone would not be the solution. It's more of a sophisticated idea. Maybe it's an RPA plus AI machine learning type technology that would have to be the solution for that.

But RPA in itself, is really used for automating standard, repetitive, if-then, rule-based type tasks. And that's where we're really seeing it take off in the department. Popular uses, and I think Tom, touched on some of these, can be data entry, data reconciliation, spreadsheet manipulation, automated data reporting, it can help with analytics, it can help with customer outreach and communication. We really do see a wide variety of use cases for this across all different business lines. Again, if it's a standard, repetitive process that a human is doing today manually, it is potentially something that RPA could be used to automate in the future. So, it's pretty exciting.

TOM: Are you seeing, Ms. Thomas, situations where RPA can support the audit in terms of identifying and pulling supporting documentation, and then putting that to a SharePoint site where auditors can have access to it?

ERICA THOMAS: Absolutely. I think you mentioned the data might've been a little out of date, but we've seen groups like DISA, for example, who's a bit more mature in their audit journey, definitely reap the benefits of RPA. And one could argue, with the wave of requests from the auditors for the documentation to support transactions - as those get more detailed, they're going to exponentially increase. So, we're in our earlier stages with some groups in the audit, their requests might not yet be tens of thousands of transactions.

We know there are some groups that are more mature in their audit journey that are getting significant sample requests from the auditor. And when I talked to some of those groups, the message I'm hearing, especially those that have used RPA is that, "We couldn't have done this without the use of this technology. It would have been all-hands-on-deck pulling this stuff, and we probably wouldn't have been able to meet the short turnaround time that the auditors request this information." We are seeing that start to uptick. And I think as the audit journey matures, we're going to see an increased need for this technology to help pull the samples, as well as package and provide those over to the auditors.

The next thing about RPA is you can use it for the standard repetitive, but you can also build in what we call “human in the loop.” So for example, you can have an automation pull all the documentation and package it, and you probably want to have a human take a look at that before it goes over to the auditor, because you want to make sure everything is there. But having them spend the nominal amount of time checking and validating the information is still going to be a significant time-saver than the individuals having to go out, find it, pull it down, save it, name it, package it, all of that, along with then a validation step. So, we're again starting to see that increase. And I think that's an exciting opportunity space that we're going to continue to grow in.

TOM: I thought that was interesting how you used the phrase, a human in the loop for the RPA process. And I suspect since RPA is so useful for repetitive tasks, that we're seeing an increase in quality in situations where RPA is deployed as well. So, how has the use of RPA changed the way work is done at OSD and more broadly across the department?

ERICA THOMAS: So I know earlier you mentioned the presentation where Greg Little was speaking, I think at an ASMC event on a panel, and he mentioned 40 automations. I think that was specific to our Comptroller team. Across the DoD, I see RPA kind of catching fire. There's a group called the DoD RPA consortium, I co-lead that with an individual from Army, and it's really a consortium for everybody to openly share what's going on across the department with RPA. For resources to be able to connect with other folks doing this and then gaining lessons learned from other groups and sharing automation ideas and even automations of groups are willing to share that as well.

As part of that group, we do an informal data call every quarter to see, and it's voluntary, to see what automations we have in DoD and get a rough pulse of how everyone is doing. And I think the last quarterly update that we had, we had almost 300 deployed automations within DoD. And these were just the voluntarily reported ones. So, we're seeing a significant use of RPA across the department in all business lines. A lot of what we see in this voluntary data call is this financial management. I think it's about 60% or so of those numbers that are coming back are tied to the FM business line. But we see a significant amount in other lines as well.

In terms of Comptroller, I mentioned earlier, I hadn't heard of RPA until 2018. That's when we started our efforts to look into that. Since our initial pilot automation that we deployed, I think it was around December of 2018 to WHS, we've quickly, within Comptroller, have become one of DoD's RPA centers of excellence. And I think we're the only one, that I am aware of, that offers a shared service platform to ease the barriers of entry for other DoD organizations looking to take advantage of this technology. So, within Comptroller, within the platform that we have, we have two primary offerings. One of them is an

AWS Gov Cloud, high availability RPA platform that offers multiple RPA vendor options, that any DoD organization can connect to, to improve the management and oversight of their RPA program.

Now, our RPA platform is hosted within DoD's advanced data analytics platform, otherwise known as Advana. And really, it helps promulgate RPA across the department. And it does this by a couple of ways. One, it's removing some, I'm not going to say all, some of the barriers of entry that groups otherwise would have getting started, like getting an ATO and standing up and maintaining that infrastructure, et cetera. And two, it's frankly offering a shared service that allows these groups to avoid the pain of obtaining that ATO and maintaining that infrastructure.

And now while the license costs for RPA software are not substantial, the bigger list are the time and efforts surrounding the approvals and stand up and sustainment of the infrastructure, that's all taken care of under the Advana platform. So when we were initially standing up our platform and saw the bandwidth that some of these RPA programs could have, for example, one vendor, and I'll try not to say any names, one vendor, their main platform could host up to between 5,000 to 10,000 automations. Well, when we were standing this up, that's a dream to come up against that threshold, but it's going to take DoD quite a while to get up to those ceilings.

So, immediately when we were standing this up, it was, we're going to stand this up and allow other groups to take advantage of this as well. And that's what we've done. And to date, I think we've got, gosh, over 24 organizations across DoD now connected and taking advantage of that shared service platform. So, it's been amazing, and we've seen a lot of growth on that end, so we're seeing a lot of benefit. And again, the hope is that that helps promulgate and helps, especially some of those newer groups that are just getting started, get started faster and avoid some of the pain and suffering that some other groups may go through if you don't have, or if you're attempting to stand up your own platform. So that's the first offering we have is the shared service platform.

And the second offering that we have is automation. So, some groups join our Advana RPA Center of Excellence, and just want to take advantage of our first offering, which is the platform, which is totally fine. And we have a number of groups that do that. Other groups also want to take advantage of getting automation support. And potentially that could be in a variety of ways where maybe they're asking our Advana RPA team for core support for developing pilot automations or specific automations that their organization is interested in. So, we will develop automation directly for teams if the use case makes sense.

So we'll get an idea submitted to us, and we will assess it, and determine what's the return on effort related to this automation? Is this even a good idea? Is this standard repetitive, is it stable? And we'll go through a number of set criteria where we assess whether or not it is a good candidate. And again, my team may or may not, go after some of those automation ideas that they might need support with. Other groups might want to have their own RPA dedicated support, they want their own developers. They might not want to have to go through the internal racking and stacking that my team does, to decide which automations we're going after each month and they may want their own dedicated support.

And we do have a mechanism through our program, assuming there's funding to help find them some dedicated contract support for specific automations that they might be going after. And those would not have to go through our assessment process and prioritization against all of the other ideas that have been submitted to us. So, we're pretty flexible and adaptable in terms of the offerings that we have, but again, high level, it's the platform of service and the second area is the automations. So far, we've been very successful. Again, I think we've got over 40 automations now deployed that have been developed by my team. A lot of those are focused on the fourth estate, particularly agencies that are on DAI, which is one of the names for the state accounting systems. I think we have over 24 agencies on that one system. And the idea there was, could we play a central role in DAI related automation for these agencies? Because the thought is the processes or business processes should be similar between those agencies. And instead of all 24-plus agencies potentially getting interested in RPA and developing their own individual automations, could we gather RPA ideas across those agencies and develop collective automations that would benefit multiple fourth state agencies on DAI? So that was one of our primary focus areas. And I think of our 40-or-so automations that we've deployed, at least half of those are DAI fourth state focus. So that's been, that's been a successful area for us.

TOM: Ms. Thomas, since that pilot automation for WHS back in 2018, so much has happened in the intervening three years. What are some of the biggest challenges with RPA and what are you doing to overcome them?

ERICA THOMAS: There's definitely some challenges. Number one is really IT and cyber-related challenges. When you think about the normal cyber folks that you deal with, those shops don't have an immediate positive reaction to the word bot. In fact, I try not to use that term because it does sometimes have negative connotations. The joke is our IT cyber folks have spent years trying to protect the DoD network from bots, right?

TOM: Right.

ERICA THOMAS: And here we are coming to them asking to build bots inside DoD. So just the nature of that, you have to appreciate this will initially make those groups uncomfortable. One of the challenges has been making sure that you have communication with your appropriate IT cyber shops as early as possible to start the communication campaign to get them comfortable. And I think the earlier you bring them in the better. And that's not to say that you're still not going to have to have repeat conversations, explaining things again, because again, just the nature of those folks' jobs it's security and protection. You will need to have those conversations probably over and over again and it's just a continuous communication loop. And really, it's just making sure that everybody understands this is not of the gone wild on the network. These automations are built to do a very specific thing. They will only do what you program them to do. They will do nothing else. In fact, if a website has a new pop-up window that comes up, the automation will stop. Unlike a human who might click the button and keep going, the bot any deviation from the standard approved designed automation will not go forward. So, it's definitely not the bots gone wild.

There are, potentially one could argue, more controls and more rigor around it than humans continuing to perform some of those manual repetitive processes. So definitely bringing in the cyber folks early on, and getting them comfortable, because that's very important. The other piece is virtual environment.

So, when we first got started, one of the things I was surprised about that admittedly the vendors did not really tell you. I had assumed that when an automation was running, it was just running, and I'm now allowed to do all these other things. Well, automations can run either attended, which is where they're using the individual's credentials to run the automation, or they're unattended. And that's where you can schedule in automation or build it so that it's triggered to start if an event occurs.

When we were getting started, and I think a lot of groups in DoD when they're getting started, they're starting with attended. And that means an individual is kicking off the automation and using their credentials. What was news to me is that when that individual kicks that off, they actually can't do anything else while that's running, because RPA is very sensitive. And if they're attempting to get into their emails and do other things, maybe they have two monitors, it's going to probably cause an issue with the automation. You basically have to kick it off and then don't touch your computer for the duration.

Now that might not be a big issue if you have an automation that only takes 10 minutes to run, 30 minutes to run. But in some cases, my own team, we had automation that took four hours to run. And while it was still saving about 36 hours of work in for that one automation, it's still four hours where that individual can't get into their computer and they can't do anything else. And that's a pretty significant window. One of the things I wish we would have had on our roadmap since day one is virtual environments. And what that does, and we now have virtual environments for both attended and unattended. Virtual environments are required for unattended, but for attended you can get started just on a physical machine but again, you can't do anything else while the automations are running. The other pain point as well that I did not mention earlier, was in addition to not being able to do anything else while the automation is running, we were finding that it was actually taking us quite a bit of troubleshooting time to do the final deployment of automations to end users. So, because RPA is so sensitive, if an individual, even on the same network, you have computers issued to you by the same group, you're getting, supposedly the same updates; weekly, daily, whatever it is. If you have different settings on your computer, then the computer that the automation was built on, potentially now there could be challenges when the automation is running.

What we noticed with my developers as we were spending a lot of time troubleshooting and getting automation operational with end users when we were doing this on the physical machines. So, by moving to virtual, not only did we solve what I mentioned first, the time-productivity issue. But we also minimized that turn time to get automations deployed. Because now we have a steady stable environment, a virtual environment for both development and runtime of automations, attended and unattended. So that's been critical for that. And I think moving forward, that's also going to help us start scaling automation as well. So biggest challenge IT cyber related and just IT infrastructure related, obviously there can be more challenges-

TOM: Right.

ERICA THOMAS: as your army of digital assistants grows, how do you have better management and oversight of those automations? While a lot of the RPA products have fool's components within the solutions that provide analytics and visualization there, you really have to look at that and say, what else

do we need? So, I know one of the things my team is working on now is how do we build in kind of like, almost the manager of the digital assistants.

So, if we know we have expected boundaries or expected metrics for each of our automations, like the frequency in which we expect them to run and what their success rate will be. Let's build the analytics, let's build that digital supervisor over top of them so that we can quickly see, "Hey, you know, we've got all these automations, which ones might not be executing at the cadence they were supposed to, or maybe they're not operating in the boundaries of what our anticipated success percentage was." So that's been another kind of challenge. And really, it's more of a growth thing as we built the program, how are we addressing this new need that have come up?

TOM: Ms. Thomas, where do you see as the next steps in technology for the department?

ERICA THOMAS: I think for DoD specific to RPA, I think we're going to see an expansion into unattended. So, we do have some groups in DoD that have started down the path for unattended. I think DLA is really the one that deserves kudos. I think they have been in the lead for unattended RPA for a while. I think they've got almost 100 unattended automations deployed to date, which is impressive. I think other DoD groups, Comptroller, the Advana RPA program included, we're close to having the infrastructure stood up and being able to offer unattended automations as well. And I think that's really going be where you can start seeing significant improvements in scaling automations so that more groups have benefit of the automation that have been developed to date. So, I'm excited to see what happens on the unattended front.

I also think that we're going to see, and we're starting to see already, an expansion into more sophisticated technology like artificial intelligence, like machine learning, et cetera. One example of was the very initial pilot automation we did back in December 2018, that was with WHS. And it was an automation that cleared on match disbursements in DAI, of course, the state accounting system. All it was doing was the data entry for the clearing. It wasn't helping with the research, identifying what that corrective action needed to be. It was just doing the data entry, which was still a significant time-saver for WHS.

That specific RPA automation is now being used by WHS as well as DISA. We've scaled it, but again, it's just the data entry. Even in the early days, when we were looking at what that automation was going to be from an RPA perspective, we kind of made a note there's a lot of opportunity space on the other side of that. So not just the automation the data entry, but also with the research in terms of identifying what is the corrective action. So recently Comptroller, did a pilot to use machine learning. So using a lot of historical data from DAI, could we build machine learning models that when a new unmatched transaction comes in, we could apply those models that would then successfully predict what that corrective action needs to be, and then you could have the RPA component pick that up and do that data entry in the accounting system or whatever system that is required.

So that's the pilot that we recently did in Comptroller that was successful and now we're in the process of getting that stood up in production. I think what we're going to see in DOD is more of that. So, RPA definitely has its benefits. But I think RPA in conjunction with other technology things are going to start expanding into new realms of possibility.

TOM: And it seems like that type of technology, especially for the UMDs could be used all across the Department of Defense. It would be a real force multiplier for the department.

ERICA THOMAS: Absolutely. I think, I think most groups would all acknowledge they have some unmatched. There might be a few amazing groups out there that do not, but I think most groups do have some unmatched.

TOM: Right. Well, this has been very informative. Thank you for your time, Ms. Thomas. One last question is, knowing what you know now, what advice would you give early careerists who are just starting out their career in DoD?

ERICA THOMAS: Great question. I think number one is be flexible and adaptable. I can't tell you how many times I have had new projects, new initiatives that have been assigned to me and maybe they aren't exactly related to your sweet spot, what you're comfortable with. But I think if you're open to the opportunities that are presented to you, I think that's a great growth opportunity and take advantage of those. I think the other piece and final piece I would say is really building your network and your reputation from day one.

As big as DoD is, the FM workforce can seem really small. And I am still surprised at how many times paths will cross with former colleagues, whether they be government or contractor. So, it will continue to happen. So definitely if you're just getting started, build your network, build your reputation and just by doing that will help you in your longer-term career in terms of new opportunities and potentially even play roles in helping you find your next opportunity, even if you might not be looking for it. Again, I think for me the network and building that has been very important and critical in my career.

TOM: Thank you again, Ms. Thomas, for your time today. And thanks to all of you listening. We want to ensure that this podcast is relevant and timely to all our listeners, so please feel free to reach out to us with your feedback or suggestions or for specific topics you'd like us to address.

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