Process Complexity Is Your Enemy

How to reduce it with Decision Management

When you look at business process management there's a lot of benefits that people often ascribe to business process management. You can improve operational consistency. You can make it possible to do the same thing over and over again very repeatably. As a result of that and because you've streamlined these processes you can improve customer experience. You can make it more pleasurable, more interesting, more… more straightforward for your customers to interact with you.

When it comes to these benefits complexity of process is your enemy. If you have an over complex process it's very hard to assure that its quality is good, that it's the right process, that you're following steps that make sense. Customers don't like long processes and complex processes tend to take longer to execute. They tend to be more time consuming, have more interactions and so customers are less likely to be delighted by their attraction. They're more expensive obviously. If you run a process with more steps and more engagement then it's going to cost you more money. It's also harder to change a complex process. You have to find the right steps. You have to identify the right changes and that's more difficult the more complex your process gets.

And then lastly it can be hard to apply what you learn. If there's too many steps, too much complexity in your process then it's hard to know exactly how you might be able to improve it even if you have the data.

So what causes complexity?

Well let's imagine we start off with a fairly simple process and this is not meant to be a real process or… or even indicative of something that would be legal or appropriate but let's just use it as an illustration. Let's assuming I'm selling some kind of insurance, medical insurance and I've got a low risk applicants where I'm just going to give you the policy and tell you what it costs. I've got people that I'm going to conduct some kind of medical exam, do some tests and I've got people I'm just going to say no. Now my first thought is well, you know young people, they're all pretty fit and healthy. We'll just accept them. We'll tell 'em what the price is. Middle aged guys like James, well we want him to have a medical test and meet a doctor and do all those things and then old guys like you know like Dave then we're just going to reject, right? Okay, so far so good but then we say well you know what? Some of these middle aged guys when they fill out the form they tell us they're really sick. So why don't we just go ahead and reject them if they're really sick. We don't need to go spend all the money on the tests. Okay. So we add that in. And then we say well you know what? We have another problem. George has been a customer of ours for 20 years. Do we really want to just reject him when he turns 50? Well, no. Not if he's been a pretty good customer. So now we add another piece. We say well, okay. I'm going to… if you're already a customer and you haven't made too many claims then we'll keep you. We'll just run you through a normal medical test. But if you're a new customer we're going to say no and if you've been a really bad customer because you keep making claims against this policy then we're going to reject you.

And then someone points out well, some of these young guys do some really stupid things. You know there's the guys who go base jumping, there's professional skateboarders. So some of these guys do things that are too dangerous. So maybe we ought to think about what sports you play and if you play a really dangerous sport, let's say you're a base jumper,

we're going to reject you. And if you're a professional skateboarder or football player or something maybe we want to make sure we test you to make sure you haven't had 73 concussions or something. And now I already start to have a fairly complex process. It's not terribly complicated but I haven't really got very far yet. I haven't got very sophisticated in my thinking. And I'm creating complexity in this process because I'm embedding decision making in it. I am failing to identify that I'm making this decision – who's low risk, who's medium risk, who's high risk. And as a result I'm starting to create complexity in my process. And this is actually a very common cause of complexity in processes. That you don't differentiate between the decision making and the process itself. But it's not the only cause of complexity.

Now here's another example. This is actually based on a real story. I met a government agency. Actually I was in western Virginia earlier this week and I met another government agency that had exactly the same problem. They had a certain number of permits. In this particular case they had 30 permits and they really got into business process management. They had a bright, shiny, new business process management system and so with this shiny hammer in their hand they went out looking for nails. And naturally of course they found a lot of nails. They found 30 nails. One process for each permit. Now sure, the processes all looked kind of similar and it seems logical to assume that they've got a lot of overlap but nevertheless 30 permits, 30 processes. Well that causes complexity too because I have to manage all those processes once I've created them. I have all these new process designs and even if they are fairly similar, even if they share activities I still create complexity in my overall system by having multiple processes within it. So that's another cause of complexity. Failing to manage the sheer number of processes that might be involved.

Then the third one is local exceptions. I do a lot of work with companies that are… that have implemented big ERP systems and supply chain systems and so on and they'll often say things to me like well we have one global process for that and 473 local exceptions because they lay out a process and they say well, but you know the North Americans, they actually have different things they do in that first step. And then when we get to that second step, well a couple of countries have special things they do in those circumstances. Then once we get to this branch point where we have two paths, one of the paths you know… you know the Brits and the Canadians have to do this very strange and then the other path is this whole set of EU regulations. And so we go through this process of adding all these local exceptions. Sometimes they're for countries. Sometimes they're for departments or business units. Sometimes they're for product lines and what was a standard global process ceases to really be such a thing. It becomes a global process that is overwhelmed with local exceptions. And these local exceptions too therefore cause complexity.

Now there are obviously other causes of complexity but the question is what can you do about this? How can you eliminate some of this complexity from your processes and improve their agility, improve their manageability and so on. Well decision management turns out to be a very effective tool for doing exactly that.

Now, let me give you some concrete examples. Who has a Blackberry? Anyone got a Blackberry? Okay. So you know… almost everybody. Okay. You know when it stops getting email there's this whole sequence you have to do to make it… make sure it works. Like take the battery out. Put the battery in. You press these buttons and everybody who has a Blackberry knows what the sequence is because it happens when you travel, right? Well of course if you call the call center what's the first thing they ask you to do? Well they ask you to go through this set of steps, right? Because the next step, which is it's not your Blackberry's problem, the problem is it's mis-configured on the switches, is a really complex one. And so the process for the level two tech support people involves well go look at this

data in this system. Take those values. Compare them to the values in this other system. If you go this kind of switch it's got to have this kind of relationship and so on. It's a very complex process except of course it isn't a process at all. It's a decision. Is this Blackberry configured correctly on our switches and if not why not. Because that's what you have to decide before you can go fix it. And what this organization found is once you took that decision out of the process and you automated it, first of all you dramatically speeded up the level two tech support process because now they knew what was wrong with the Blackberry, the decision making set. Here's what's wrong with the Blackberry configuration. But more interestingly you could now put that at the front of the level one tech support process. So when you called in the system would say it's not configured correctly. So there is no point in asking this guy to take the battery out, put the battery in, press the buttons because there's nothing wrong with his Blackberry. What's wrong is with our configuration on the back end. So that decision then becomes available to improve other processes and in fact even in theory to become available on our website. So you could say type in your phone number and we'll tell you if your Blackberry's configured correctly on our back end.

And they had several issues like this where what they did is by managing these decisions separately, by using rules based technology to automate those decisions and by managing those decisions in parallel with the rest of the process they were able to get a much earlier decision making in these interactions, dramatically improve consistency and accuracy and improve their level one tech support.

Give you another example. They had built a… a decision making component around international travel. That when you traveled to multiple countries with a cellphone you have to say okay, what countries am I going to. You need dialing instructions. You need to know if your phone's going to work. You need to know if there are plans that you need to extend your plan by adding a… a rider to it so that you can have international support and so on and so on. And they're whole process was very complicated. Which countries are you going to and it would walk through this whole series of steps. And what they discovered of course is there's a decision in here which is what do we need to tell this person before they travel? And so they would ask a few questions. Where are you going? Do you just want cellphone coverage or do you want email coverage too? And then they had a decision making component that said here's what you need to know about that trip. Here's the dialing instructions for the relevant countries given the phone you have. Here's the recommended changes to your plan to make sure it doesn't cost you a fortune when you're traveling. Here are the warnings for those countries in terms of how many hundreds of dollars a megabyte the data's going to be and here's a phone. Your phone actually won't work in the third country but we can lend you one that does. All packaged up, simpler processes, much better customer experience.

Well the government agency that had 30 processes. Well they… they noticed a couple of things. First of all they said this is like for work on your house. So they said the first problem is because we're assuming you know what permits you want but maybe you don't know what permits you want. Maybe you just say I want to do this to my house. I wonder what permits I need. So rather than making you figure that out, maybe we could add a decision making component that said we're going to take control of that decision. Instead of making you make that decision we'll make it for you. We will ask you what you want to do and then we'll tell you what permits you need. And then when they did this they said well you know, we could go one step further. We could ask you having determined what permits you need, we could ask you for the data those permits are going to requires us to collect. And they found that when they put this process… when they, sorry, put this decision at the beginning of their process, they turned it on its head and said you tell us what you want to do. We'll figure out what permits you need and therefore what data we have to collect. They actually found that

they only had a single process because actually issuing the permit was the same in every case. It was only different because they had slightly different reasons for needing the permit and slightly different data involved in collecting from the consumer to see if they needed to do inspections and so on. And so by focusing on this decision at the very beginning and by turning it into a more customer centric decision they were able to reduce the number of processes they had to manage from 30 to one.

Now it's worth bearing in mind here that there's a little bit of a difference between a decision and a process and a process obviously you know has sequence. You do a whole series of activities over time. You're… your performing a set of activities over… over often an extended period. You're engaging people in that process. And a decision is typically made at a point in time. It's not a sequence of activities in quite the same way. You're looking at a particular moment. You're saying what are the range of options that I could take and then focusing in on the one that makes the most sense. What is the action I could take? What choice could I make at this point that will maximize the value of my interaction with my customer and with my supplier, with a partner? And that selection from a range of choices is essential to a decision. It's… it's what makes it a decision. But it is also true that you are committing to act on that decision. You're not simply finding something out. You're trying to determine what you're going to do next and that's an essential component as well.

Now if you manage decisions separately in this way, if you take control of these decisions, you put them in parallel with your processes you get four main benefits out of it. First of all you get these simpler processes. It's much easier to manage the process that you have as a result because it no longer has all this embedded decision making complexity. Secondly, because these decisions now become much more automatable, they're much less likely to involve lots of manual tasks, manual steps, let's say typically do if you embed them in a process. You have the option to automate these decisions. To either automate all the simple ones. To make it easier for someone to make the final choice perhaps in a complex decision. And what you do therefore is you move resources away from just handling day to day transactional decision making and into thinking about how you run your business, handling the more complex cases, dealing with customers more effectively. So you get in general a higher utilization out of those resources. You're able to put the limited resources you have to work more effectively.

Now there's a lot of interesting analytics at the moment. Who's got an analytic project under way at their company? Some kind of analytics? Okay, a few of you. All right. So analytics is… is a big topic and in fact I suspect more of you do than think you do because it's often run in odd little places. And those analytic projects, what's analytics good for? Well it's primarily about making better decisions. And a lot of analytics projects are focused on people who make decisions and how do I make their decision making better. But once I have control of the decisions that run inside my process well now I can use analytics to improve how I make those decisions too. I can improve the way I interact with customers, the way I interact with suppliers, the way I handle transactions using analytics because I have a point within my process at which I can apply those analytics.

And then lastly I can enable continuous improvement much more effectively. A lot of business processes if I want to improve them what I actually need to do is improve the decision making within them. Think about a… a process to handle orders. Well one way I could make my orders a more effective process is to improve my pricing and discounting so that I get the maximum revenue I can out of a customer given their price sensitivity, given the competitive environment. Well that isn't a really process change. I'm changing the decision I make about what discount you're eligible for. And if I make that change, if I continually refine my decision making around discounts so that I optimize my pricing to get the most out of you

without driving you into the hands of a competitor then I have made that process more effective even though I haven't actually changed the process. What I've done is I've changed the decision making upon which that… that process depends.

Now it is also true that this agility thing is a big deal for companies. It's really important to… to be able to change the way you do business quickly, effectively and accurately and without involving huge IT projects, without spending a great deal of money. The world, as we're always told, continues to change ever more rapidly. I realize I've been saying that now for a decade but it's still true. It still changes faster now than it did when I started talking about this and so the need for agility doesn't go away. And one of the interesting things about separating decisions and processes is the way in which it increases your agility.

And in fact if you're starting to think about core business processes, things like your order to cash process, your… your core supply chain processes, you probably actually don't change them very often at all because changing them involves massive organizational disrupting that tightly coupled with your organization chart, with your performance management environment, with the way you review hundreds or thousands of people's performance. So changing them is a big deal. And so if you have separate decisions within those then your ability to iterate and increase your agility by making the decisions changeable independently is really dramatic and certainly once you start talking to folks who've got these global processes they try to put in place for their organization, the ability to change those processes is very limited by the sheer interconnectiveness of those business processes. Keeping the decisions separate, managing them separately, enables you to change decision making and therefore the total effect of a process independently.

And this really matters because decisions it turns out are very high change components. You think about it. If I changed the regulations that I'm enforcing then all the decision making I have about eligibility has to change. I have to change who's eligible for a benefit or a service based on the new regulations. If I change my policies internally, perhaps I change my policies about what I need to know about a supplier. Well I have to change my validate supplier decision to reflect that new policy. If my competitors change their behavior, something over which I have no control at all, I have to change my pricing, my discount structure to make sure I remain competitive. I guess I don't have to. I could just go out of business but assuming I don't want to go out of business I have to respond. The markets change. Any one who's doing risk management today is doing it very differently than they did a few years ago because the financial markets, the housing market, these markets have changed dramatically and you have to change your decision making to reflect that.

You know consumers of course are notoriously fickle so those of you who are dealing with consumers have to change your behavior around terms and conditions and the way you interact with consumers to reflect what they regard as the best practices. And obviously if you're trying to detect fraud, you know fraud is often described as an arms race. You are constantly trying to get better at detecting fraud. Your fraudsters are constantly trying to find out how you do that and beat you to it. And so all these things generate a tremendous amount of change for your organization but it's change in decision making and if you have separate decisions, if you're managing those decisions, then your ability to respond to this change is dramatically increased.

It's important to remember that not every decision is suitable for a decision management system. So what kinds of decisions are we talking about? We're not talking about big, strategic decisions like what markets to be in or whether to open a store in a new location. We're talking about decisions that are intensely repeatable. Decisions you make every day, every hour, every week about customers, about partners, about suppliers, about transactions,

about orders, invoices, because those decisions are repeatable and therefore building a system has potential. You're going to make the same kind of decision over and over again and building a system to make that decision starts to make sense.

And these are non-trivial decisions. These are decisions that are regulated or where we have a lot of internal policies. Perhaps they're ones where some kind of assessment of the data has to be done to make a good decision, an assessment of risk or assessment of fraud before we can make a good decision. Perhaps there's a lot of business know how embedded in one of these decisions and so experienced staff make it a lot better than new staff do. So we want to capture that experience. Or perhaps it's not that complicated a decision but it changes all the time and so we want to be able to make sure that we capture the current version of this decision at any given moment.

So these repeatable non-trivial decisions also have to have some kind of measurable business impact. We're going to make an investment here. We're going to build systems. So we'd better be able to show that we get a return on that investment and that means you have to understand how the decisions you're going to automate impact your key performance indicators, your business objectives. It turns out that you can model that. You can look at your decision making in your organization, look at these repeatable transactional decisions and you can see which metrics, which parts of your business management system are affected by it. So you can say if improve this decision this is the outcome I might expect from it. These are the objectives, the key performance indicators that I might move in the right direction.

And then lastly of course it has to be a decision that you're willing to automate. Organizational adoption of these systems is always an issue. You have to be realistic about it. You have to focus on decisions where people will accept a system, making or helping it with a decision. But often that means you can't take that first decision you think of. There are top level decisions in your business process. If we were an insurance company for instance doing commercial underwriting and you asked them okay, can we automate the… what's the price to underwrite this small business they would say no. Small businesses are too variable. Commercial underwriting's too complex. We want our underwriter to look at every decision. Okay. But within that decision there are other decisions you have to make. Is the application complete? Do we insure this kind of business? How risky is the location at which this business is being operated? Those smaller decisions are often much more amenable to automation. So you have to understand at what level you're willing to automate these decisions. Are you willing to automate them completely? Willing to automate only the simple ones or willing to automate parts of it while leaving the final decision to a human. So you have to understand that also if you're going to build decision management systems.

Now if you build decision management systems there are four key principles you have to apply. First of all you have to build them in a very decision centric way. You have to keep the decision in mind as you build them. They're about managing decisions so you can't build these kind of systems. If you think of them only as part of a business process or only as part of a legacy system or only as part of a complex event processing system. You have to think about decisions as a separate artifact. The second thing you have to do is you have to think about how to make these systems transparent and agile. We… we saw earlier decisions are high change components. They suck in a lot of potential causes for change. You have to make changes to them quickly and that means any decision management system has to be transparent. You have to be able to see how it operates so that you can make changes to it quickly and easily. That drives you typically to use things like business rules management systems to get that kind of transparency and that kind of agility. You can't just write a bunch of code to build decision management systems.

Thirdly they use analytics but they use predictive analytics in particular. If you think about a decision when you make a decision you're making a decision that's going to impact the future. If you can make decisions that impact the past I would keep that to yourselves because that's a clear competitive advantage but assuming you can't do that you've got to make a decision that's going to have an impact on the future. But the only data you have is data about the past. So unless you can turn that data into some kind of prediction about what's likely to happen in the future you can't really use it. So decision management systems consume data and analytics through predictive analytics.

Then lastly but by no means least you have to set up an infrastructure where you can get better at this. Decision making is not a static thing. It is something you have to get better at and improve and test new approaches, see what works and evolve that. Decision management systems are not once and done kinds of things. And if you look at success stories around analytics, around business rules, around these technologies what you find is the companies that are most successful are the ones who build into the system this ability to try new approaches, test them, learn what works and what doesn't work.

So I'm going to leave you with a final thought: If you want to build these kind of systems, if you want to have this kind of control over the way you interact with customers, if you want to simplify your business processes, there is one crucial thing you have to do. You have to think about decisions as a separate thing, as a unique concept within your business. Think back. It wasn't that long ago we didn't really think about business processes in our businesses. We still had business processes we just thought well we have these systems and these silos of organization and sure it… all these people have to cooperate in order to ___ the process in order but we didn't think of it as a business process and because we didn't think of it as a business process our ability to improve it, change it, find it, innovate it, was very limited. Now gradually we've realized that in fact these business process thread through our organization are worth managing. That they create value if we manage them well. We have to make that same transition around decision making. It's not enough to say sure we make decisions but we just let people do that or you know we may be trying to present information to help people make these decisions. We have to take more explicit control of these decisions. We have to understand them, find them, model them and build systems to manage them more effectively.