

From Insight to Action: **Business Analytics for Midsize Manufacturing and Supply- Chain Companies**

PANELISTS



PAUL A. HOY



DON RICHARDSON

MODERATED BY:



DAVID R. BROUSELL

MODERATOR (DAVID BROUSELL): Good afternoon everyone and welcome to Managing Automation's webcast for today: Business Analytics for Midsized Manufacturing and Supply Chain Companies. I'm David Brousell, Editor in Chief of Managing Automation Media and I'll be your host and moderator for today's webcast. Just to go through our agenda for this afternoon, I'll discuss very briefly what the format and objectives of this webcast seminar are, I'll introduce our two highly qualified speakers how will be discussing this important subject for the midmarket, I'll talk a little about some of the market drivers we see here through our editorial work and managing automation in the BI, or business performance management market as we call it here. Just after that we're going to have presentations from our panelists and this will include a technology demonstration which I think you'll find very useful and informative and then we'll go into questions and answers after that. And as our introductory host just mentioned, this webcast is being recorded and it will be available on the MA website following this webcast in case you or any of your colleagues within our companies are interested in seeing it. So with that, let's go first to our poll questions, we have two of them. If you just take a couple seconds and answer these questions we will see the results in just a few more seconds. Go ahead and take your questions. OK, so we see the results right now. And on our first question, does your organization plan or forecast the following, we can see our entire audience is saying certainly sales about almost 67% say so in finance and even more in the production capacity area. And are these plans or forecasts closely integrated? It's a dead heat at 50% apiece. So interesting topic we'll come back to this I'm sure during the Q&A with our panelists as well as you our audience. But in the meantime let me go forward and set up the presentation. Just some background for those of you who may not know Managing Automation, I certainly hope you do, if not I'll just give you a brief thumbnail. We were founded in 1986 so we're just about entering our 25th year

of publication. Our focus has always been on technology strategies for progressive manufacturers. We address the entire horizontal functions of the manufacturing enterprise from design and development right through to pride in delivery to a customer. And all the processes and technologies necessary to automate those activities. We're part of a company called Thomas Publishing Company which is a publisher of ThomasNet which many of you will probably remember as the Thomas Register of American Manufacturers. It's a company that's been focused on the manufacturing market exclusively for almost 110 years. Our host for today's webcast, Webinar, is IBM Business Analytics a world leader in business intelligence and performance management technology including planning and consolidation software. A key element of IBM Business Analytics is the IBM Cognos business unit and overall IBM serves more than 23,000 customers in more than 135 countries with its analytics products. So the perspectives you're going to hear today from IBM cover many, many different manufacturing vertical segments and many, many thousands of customers. So the perspective you're going to get is very rich and deep in many respects. Also if I can just go into a few statements about how we do these webcasts at Managing Automation, our purpose is really quite straightforward and simple. Our purpose is to help educate YOU our readers about technology and business issues via a problem solution information approach. We want to present to you the best information we can gather with regard to these subjects but also very importantly hear back from you about what you're doing and what some of the issues are and what some of the questions you have with regard to the implementation and use of these technologies, and that's why the Q&A is so important at the end. And very typically on these webcasts, information data is presented by journalists such as myself, technology providers, end users, market analysts, all members of the manufacturing ecosystem so to speak that participate in this. And as I mentioned, we want to

keep this a very interactive format and hear from you at the end. The specific objectives and goals for THIS webcast on the midmarket and the use of business analytics is how midsize manufacturing supply chain companies could really apply and leverage the power of analytics intelligence tools without the high costs often very lengthy implementation times and the requirement for ongoing and typically expensive IT support that is found in many of the larger multibillion dollar companies that have invested in this kind of technology to improve their performance in the marketplace . We at Managing Automation very strongly believe that these tools are not only necessary for midmarket companies but that they have to be able to avail themselves of it and a chief competitive advantage using them without having to deal with these issues, or at least mitigating some of these issues. So we're going to be looking at how companies can improve their planning, budgeting, forecasting processes, really drill down into their elements of their supply chain and gain greater visibility of that supply chain and at the end looking at what the goals of all this is about, really get more demand drive responses to customers as well as their supply chain partners within their overall system. And as I said before we want to show you a demo of the relatively new IBM Cognos Express BI product and how it can help achieve some of the objectives I mentioned with regard to quick implementation times and the mitigation of high costs that typically much larger companies encounter when they're deploying business performance management technology. As I've already been introduced, I've been Editor here for a good number of years, been in the technology markets for a number of decades, my background is really in the IT or MIS area, I used to be editor of a magazine called Beta Nation many years ago and since 1978 I've been plying my trade so to speak here at Managing Automation and learning all about the manufacturing market and as I've said many times to different people it is the biggest and the most extensive vertical ever created. In

manufacturing we have every type of company you could possibly imagine and over the years I've found it to be most fascinating and instructive going forward. There's always something new to learn and I'm sure I'm going to learn something new today on this webcast as well. And joining me as one of our panelists is Paul Hoy, worldwide executive sector executive, business intelligence and performance management at IBM Business Analytics. Paul comes from the Cognos side of the house. He's very well known to us. If you've been reading Managing Automation for any length of time you've seen Paul quoted in many articles Managing Automation has done on business performance management or business intelligence marketplace. He's got 20 years plus experience in this marketplace serving as I mentioned before a broad swath of manufacturing companies in many different verticals so his experience and his perspective comes from that and I think you're going to find it quite valuable in our discussion today. And also joining us today is Don Richardson, the co-founder and COO of Acumetrics, an IBM business partner that provides a wide array of professional services to support performance management implementation and deployment to companies. Acumetrics has a special competency in Cognos software and Don also was a founder of Acumentrics.net to deliver IBM Cognos technology via the cloud so to speak as a software as a service. So we're very pleased to have Don with us on this panel today to discuss what HE encounters when he's out at client sites doing the hard work of making this technology work to its optimal levels. So just to go over some key market drivers that we see here at Managing Automation to our editorial work and what's driving the interest among midsize manufacturing and supply chain companies for this kind of technology we've been tracking this for many years and certainly over the last 3 to 4 years business intelligence technology when we do our annual buying and pension surveys among you our readers, business intelligence technologies come up at the top of the list of

manufacturing companies wanting to invest in new technologies. Why? There's a number of reasons why not the least of which is we all know our market is quite globalized at this point, we do business in marketplaces where we have many new competitors and we have many new rules of competition to deal with as a result of the flattening of our markets. What were companies in remote locations years ago are now direct competitors today because they're able to function on a global basis. And what this has really driven is a demand of very real time accurate information in companies so companies can respond much faster to changes in demand, in market conditions and to meet changing customer requirements. As we all know the demographics of our values customer markets are changing very dramatically today and customers are demanding not only faster response times but they're demanding an understanding of their businesses in much greater detail. And combined with that one of the major things we have seen going forward as I'm sure all of you are experiencing in your companies is that to get to that stance of being able to provide real time accurate information to people when they need it, all of us have to deal with exploding data volumes in our companies. WE now measure data volumes in the petabytes and we have growth rates in many of our reader companies that are exceeding 50 to 60% a year. So to get to the nuggets of information you need to be able to make that real time decision making, you need new tools. And you not only need tools to enable you to see what happened, you need tools to be able to tell you what to do next, what we call predictive information coming from these vast stores of data. So there's a huge requirement among our reader companies, among you our audience, for this kind of technology to deal with some of these issues. And if you were to overlay the big trend we've been reporting on for more than 10 years here at MA, this move to cross functional business process automation, or integration across our companies, where we're trying to get away from the soloed automational stance that many of us have taken over the

years. This even accelerates the overall demands and trends that are driving our market. And in the last few years of course we've seen a huge move to mobility and the explosion of new devices on which information and data are delivered. And we're getting these through the Ipad, through Blackberry, we're getting it also from new constituencies that we have to deal with on a real time basis in our businesses, whether those are partners, customers, or new internal users that may not have been as plugged into our networks as others more central to IT may have been. So we're seeing an explosion of data volumes, we're seeing an explosion of new data sources within our companies and combined with the basic business trends driving the market today this move to cross functional business process integration as well as the demand for much greater speed and agility in our markets. We believe very strongly that these factors are driving the adoption of business performance management and BI technologies and why they've become so indispensable to decision making and how our companies perform. So with that, I'd like to turn it over now to Paul Hoy from IBM who will discuss some aspects of business analytics in greater depth. Paul?

PAUL HOY: Thank you David. And I appreciate the good job you've done setting the stage for the market drivers for business analytics and some of the top of mind areas that are on people's minds when they start to look at taking the information matter captive within the transactional systems in their environment and really starting to use that for information to make better decisions. You've used a couple different terms in your description of the area. You've used terms like business intelligence, business performance management, business analytics and it's probably important to really ground ourselves in what the definition is and what the goal is of business analytics. Really it boils down to some very simple business concepts specifically we take the information that has been generated through all the various transactions systems and

beta sources in the organization. As you described, there's a growing number of these data sources in each of these organizations. We take that information and our goal is to drive actionable insight from the beta sources for decision makers at all levels of the organization so that the goal is not just to analyze performance but to optimize business performance. So let's look at what that actually means. Actionable insight is taking the information taking the data taking these correlations that can be found from the information and serving it up to the users in such a way that they can really make decisions on that information. So it's actionable information, actionable insights so that they can really not just see what's happening but start to really make decisions that affect change in the organization. The next major piece is at all levels of the organization. So this is not just for the executive users, not just for the data analysts, this is for people at all levels of the organization and key in that is really taking that information and serving it up in a level of granularity and serving it up in a way that is tailored to those individual business users. And then the final element to it is we're no longer looking to just drive better business to make better decisions. If companies are going to be truly competitive and be market leaders in their respective categories, the information and the insight that's locked in the transaction systems really have to be used to optimize that business performance so it's going through and not just making good decisions, but making good decisions that take the entire operating parameters into account and then really optimizing performance. So not just looking at how do I increase sales revenue or how do I increase profit or how do I decrease inventory, but really doing all of those at the same time. So it's really optimizing that business performance across all those dimensions. So when we take that and look at it in the context of a midsized manufacturer what that really boils down to is taking a progression of information. We've arguably as an industry done a great job of creating data. We have transaction systems that align

every area of the supply chain and frequently we'll see organizations that have 8 to 10 different transaction systems. The next progression is taking that data and putting it into some type of format where it's trusted information, a single version of the truth, taking information so that I can see nuggets of information on inventory that might come from an ELP system, my supply chain scheduling, my PLM systems, my customer insight to a point of sale information, really bringing all that information together and creating a trusted information source that moves from just reporting into decision making. So it's taking that information and as I said before, serving it up in a way that can be used for making better decisions and then finally the ultimate step that you see people driving towards today is optimizing that business performance. Looking at it even more basically, what we're really talking about is answering 3 fundamental business questions that people get asked every single day. And those boil down to what's happening, how am I doing, what's taking place out in both the market and in my own manufacturing environment – WHY is it happening, what's the causality – and then what's likely to happen, what do I do, what's likely to develop in terms of business context, and what are my potential solutions and my potential mediating activities based on different situations. So people that have looked at business intelligence for a number of years know that there's a lot of pieces to it, reporting, dashboards, score cards, planning, really if we start to break that down into how business users use that information and we start to look at what is happening. In midmarket manufacturing today the technology of choice to help address that is the realm of scorecards and dashboards. So we frequently see people looking to address what is happening by setting up score cards and score cards have various key performance indicators, they have targets that I have, they have metrics that I might want to achieve, and then it's looking at how is my performance against those metrics and targets. So I'll have that as a driver in terms of looking at the score cards and

dashboards. Then the next area in terms of understanding what's happening is the level of reporting, helping to drive reporting, helping to get down to that underlying causality, so really doing some of that deeper level reporting on my performance. And then what we frequently find is different metrics, different areas measured at different levels of granularity. So some metrics need to be measured on a weekly or monthly or quarterly basis. If I'm looking up the quarterly financial performance that's probably a good level of granularity. If I'm looking up supplier score cards, maybe weekly or monthly is the realm that people want to look at. But if I'm looking at production information and quality and service levels, frequently we see organizations looking to do real time monitoring, so it becomes much more important to do that in real time analysis. And then the business analytics really needs to include all 3 of those dimensions. But if I then focus on the next area, WHY is something happening, getting into the causality, this is the area of ad hoc [inaudible] and statistical analysis, they're starting to look at what's my performance over time, starting to look at that causality and increasingly it's becoming driven around the content analytics, or analytics of unstructured information looking at information where my customers may be talking about me on the web and I want to bring together that unstructured content so I can go and see what they're saying and bring that into the analysis. So it's really trying to get a deeper dive into the analysis and understand the causality behind what's happening. Another key element of it is in terms of looking at the graphical statistical analysis where I can easily start to summarize and aggregate information throughout all levels of the company and then drill back down into the various levels that are going to give me the most insight. I want to start to look at what is likely to happen, this is probably the most exciting area of interest today when people are starting to look at how do they use that information that they have and make better business decisions. So this is starting to look at the element of predictive

analytics. This is starting to look at simulation and budgeting and planning, not just financial planning but also operational planning. So to start to look at the changes in markets, what is likely to happen. If I increase demand, what is the impact of that on my supply capabilities and what's the impact of that on my financial performance. So not only doing the simulation and modeling on a forward, from a user assisted perspective, but also adding predictive modeling as well, so easily helping users build predictive analytics in so they can take insights from data, take information on things that are happening and then start to look at how do I take that baseline information and actually predict performance. So it becomes a key determinant in terms of understanding how my performance is going to change and not just waiting to report on the change but really starting to drive that performance. So we talked about a couple different elements, what's happening, why and what's likely to happen and if I look at that from a manufacturing performance framework in terms of how midmarket manufacturers are looking to orient their business and bring business analytics into user based solutions, we see a couple key trends. We see the need for people to gain visibility of their organization by looking at end-to-end supply chain performance. As I said earlier, one of the key market trends that we see in mid-market manufacturing is putting in metrics across the entire supply chain. [Inaudible] when people will do that, looking at the center of the screen here, by automating supply chain metrics across the entire organization, frequently following models such as the Supply Chain Council score model, which looks at (undone) supply chain performance. Those metrics then drive the underlying sales and operations planning activity. So the sales and operations plan set the targets and set the metrics. They also become the goal setting for those metrics. So based on my sales and operations plan, I'll go through and I'll set those targets. And then I'll use metrics to track my adherence to those targets. And at a relatively high level of the organization – I'd say high

level looking at the products families, looking out for one-to-two years, I'll just set a sales and operations plan where I can align my forecast, my supply plan and my financial plan. We'll talk a little bit more about that in a moment. And then I take that higher-level, aggregated, collaborative sales and operations plan, and manufacturers then use the business analytics to link that into the day-to-day planning. So I have strategic [inaudible] I guess in (O.P.); I track my change in my business conditions; and then on a day-to-day basis I'm using operational planning and executions. I'm looking at production dashboards. I'm looking at vendor scorecards. I'm looking at inventory projected balances based on projected changes in the market conditions. So I'm really driving that detail to daily analytics, and bringing it down to individual users that can shape performance. Similarly, I'm looking at deeper analytic application areas. So I might want to drill down specifically into areas of workforce performance or procurement or sales performance, but really driving down into deeper, (pointy) analytic areas. And then as we said earlier, predictive is becoming a key drive into the business analytics market space for manufacturing. Predicting demand; predicting maintenance needs; predicting customer buying behavior so I can start to use my marketing dollars better. So it's the whole element of not just modeling and simulating what's going to happen, but actually predicting. And the key from a manufacturing perspective, as David mentioned, explosion of data sources, to really have this end-to-end visibility, requires that I look across my entire organization, across all the transactional systems. So we frequently see these areas based upon numerous transactions systems that are brought together into a performance management view into one data warehouse, and then delivered however the user wants to consume it – scorecards, dashboards; (then it's) pushed out to various mobile devices, but (direct) from one operating platform. And then again, on a day-to-day basis, the supply and demand systems become the systems of record for

operating. So business analytics really becomes that overall top-level command center, if you will, [inaudible] bring your information together to make better business decisions. When we look at where the midmarket is really focusing their initiatives and driving business value (from) business analytics, we've seen tremendous uptake in the area of supply chain performance. So obviously business analytics can apply to any area of your organization. There's no area that doesn't benefit from better decision making. But when we look at manufacturers that are looking to drive ROI, to reduce cost, and bringing higher revenue plans, supply chain is an area that we see specific focus on. Recently IBM completed their global chief supply chain officer study, where we looked at the various top-of-mind issues around supply chain executives. And it's areas that bubble to the top, and I'm sure you'll see in your own organization, visibility across the entire spectrum – controlling cost, managing risk, getting closer to the customer but getting closer to the customer at a time when we're globalizing our operations and globalizing our supply chains. So it's really that combination of bringing a better line of sight, better visibility into an organization that's expanding operationally. So with these areas as the major drivers – supply chain, specifically through supply chain planning from an (SNOP) perspective, and supply chain execution, we see some key trends in terms of how people are driving value and where they're starting from an implementation perspective. One of the (fast) ROI areas that people focus on is around supply chain metrics. And we've provided enablers to help that supply chain metric approach so that people can very rapidly provide pre-built supply chain analytics and link those end-to-end Supply Chain Council score metrics. So imagine an environment where I'm looking at my entire supply chain from planning through purchasing through production through inventory through delivery to the customer, the supply chain metrics provide the ability to look at metrics in each of those functional areas. But then also to look at

those metrics across those areas that the survey said is important to people looking at cost control, looking at agility and customer responsiveness. So a key operational area that people are focusing on from a business driver is the area of supply chain metrics, frequently around the Supply Chain Council score model. But really taking end-to-end visibility. And we've delivered what we refer to as blueprints to help accelerate these implementations by linking over 550 pre-built supply chain metrics to help accelerate that process. The next major area that we see tremendous drive in is in the area of sales and operations planning. And it's interesting, because the goals of sales and operations planning is to link my demand planning, my forecasts, my sales planning, with my supply planning, my production, my supply chain capabilities, and then bring that into the financial perspective. So looking at, based upon this plan, can I make money (at the plan)? Can I service the plan in a more cost-effective way and still meet my financial goals? And when we did the survey at the top of this presentation, we found that 100 percent of people have automated forecasting in their sales area. We see that very frequently. Everybody focuses on getting a sales forecast. Less focus on actual detailed production scheduling and bringing production forecasting in. There's always a production schedule, but when we get into the area of predicting and modeling my production out into multiple years, that's where we see less people engaged in that integrated processes. And our survey indicated that today. And then the last piece is finance. That tends to be one of the most decoupled parts of the planning process. There's a financial plan that's frequently not directly tied to the sales plan or the supply plan. But yet, sales and operations planning really drives its value by being able to link all those different plans and bring them together so that (that) continually changes in supply, demand, and see the financial impacts of that. So great opportunity for cost savings and alignment around sales and operations planning. And as the analysts study the mid-market manufacturing

environment, they point out the need to grow smart and profitability as we come out of the recession. So they point to a sales and operations planning system as a key determinant of good health and growth back into profitability. So we've described a couple of different use cases. We've described a couple of areas where people gain value from the, integrating business analytics. Now the final stage is, how do we bring that into the midmarket and differentiate the offering(s) so that (we'll) truly address the needs of the midmarket. And we see a couple key areas there. Midmarket has the exact same business issues and problems as a large enterprise customer. The challenge is, they face challenges around [inaudible] TS – that's to install this analytics application. Being able to drive the integration of planning, score-carding and business intelligence. Being able to easily service large numbers of users without building up a large IT staff to support that. So what we've done, from a solution perspective, is we've taken these market drivers that David alluded; we've looked at how business analytics can address them; then we've implemented implementation accelerators that we call blueprints in these functional areas. And then we've packaged those into a purpose-built application called IBM Cognos Express. And IBM Cognos Express is an integrated (BIN) planning solution that's purposely built for the midmarket. So it brings together pre-built functionality, pre-built integration, (BIN) planning, the ability to bring together pre-built infrastructure so it accelerates time to deployment and eliminates some of the IT resources necessary to build those areas. So if you think about it, we've put together a pretty compelling alignment of business analytics to complement transaction systems, business analytics that integrates the scoreboarding, dashboarding and planning for simulation and tracking of my day-to-day activities. We've put that together into an easy-to-purchase and easy-to-deploy package around Cognos Express, specifically around the midmarket needs. So with that as a background -- we've talked about some of the value, we've

talked about some of the areas where people utilize business analytics – now I think it makes sense to step back and take a look at what it might actually look like in the day of a life of a business user. So with that, I'm going to turn it back over to David to introduce our demonstrator for today. Thank you.

DAVID: Thank you, Paul. That was a very interesting demonstration. I hope we can come back to talking about some of the points you made, particularly around supply chain and SNOP a little bit later. But meanwhile, I'd like to formally introduce Don Richardson from Accumetrics who will be our next speaker and will provide the demo I mentioned. Don?

DON RICHARDSON: Thank you, David. Today I'd like to do a demonstration of how a manufacturing company might leverage Cognos to effect an integrated sales and operations planning solution. The demonstration that I'm going to do isn't going to be a full features and functions dump, if you will, but an example of how Cognos brings value to manufacturing companies. Before I get into the demonstration, I'd like to just do a little bit of an introduction to Accumetrics. We're an advanced IBM business partner. We focus on the Cognos suite of products. We're both a reseller and a solution provider. We develop solutions that are somewhat plug and play for manufacturing companies. And as David introduced, we also offer Cognos as a hosted solution, to deliver the software and service type of product. We serve clients across North America and we have a particular affinity to manufacturing. The demonstration I'd like to do today is going to talk about how we're going to take a sales forecast and use that to feed into and drive a production plan and be able to look at our capacity as impacted by a sales forecast. We're also going to see how we can use that sales forecast, feed into our financial plan, so that our sales plan ties to our finance plan. Which is often, as Paul mentioned, a disconnect. You know, we have finance over here doing it, and sales over there

doing something else. So what I'd like to just present to you is how a mid-sized company can leverage Cognos to have a more integrated solution. So what I've got here is a simple dashboard. In the upper left-hand corner we're looking at our sales forecast. And you can see the chevrons give us the ability to filter this view in different ways. So I can filter on a set of products or a different set of customers – that sort of thing. And what we're viewing is our quantity and our net sales in terms of our sales projection. Though by clicking on a chevron, then I get an opportunity here to filter down, and I can do my forecast based off different groupings, as I mentioned. On the right-hand side, we're looking at a capacity view. So in this case, we've highlighted two of our machine resource groups that (tend to be) our bottlenecks. And we want to pay close attention to the impact on them from our sales forecast. And at the bottom, across the bottom we have an income statement view. And what we'll see is, right now we have nothing for our Q4 forecast, all right, in each of those areas. So what I'd like to do is first start off by building my 2010 forecast, actually building it off of my 2009 actuals. I'm going to go down. I'm going to select my 2009 actual sales quantity at the top level. And I'm going to then bump that up. So I'm going to go from the nine, the four million units sold in 2009 and bump that up to 4.4 million units in Q4 for 2010. And really what I'm doing is – it's called a proportional spread – so I'm actually taking the (sales) at the skew level, at the ship to customer level, and bumping those up all incrementally to reach my new target sales forecast. And as I said, you can do this a number of different ways at a number of different levels of granularity. But I'll call this my top-down sales forecast, if you will. So what we'll see is, as soon as I've selected and updated my forecast, I now also have my net sales forecast. What we're doing in the background is reaching into the ERP or the order entry system and grabbing the pricing that's associated with each product and each customer in those periods. So if I had different pricing in

October than I had in December, that would be reflected in here, in terms of generating our net sales forecast. So this is, again, reaching in and leveraging all that data. In the background we have an (N) memory analytic server that can handle vast amounts of data very quickly. What we'll also see now is that, at the bottom, we now have a revenue forecast in our income statement that ties in and matches directly with our sales forecast. And now our finance people have the exact same view of the business from a revenue point of view, as sales does based on the forecasted ship quantities. At the top right now, we also see a machine capacity view, or a machine load view, if you will, depending on how you like to speak to those. What we've done, again, is highlighted two of our key machine resource groups that are, tend to be our bottleneck. And we're looking at the load that we now have across those resources. So we're taking our hours required and our hours available, and calculating the utilization. Again what we're really doing in the background is reaching into our ERP, we're reading our bills and materials and exploding those down to the component parts that have to be made to our several little parts and we're also exploding it down to our methods or our routing across which resources, how long would it take to run this many pieces, that sort of thing, to get our machine load and compare it to available capacity. And what we see is obviously in December, in particular, we've got a bit of an issue where based on the sales forecast, I'm going to have issues out on the shop floor. So what I'm going to do now is I'm going to jump over to a slightly different view which is my capacity planning view, or my shop floor planning view. And again for the purposes of this demonstration I'm keeping it somewhat high level and not getting into too much granularity. Because again it's not a features and functions dump as much as to give you a sense how you can use a solution like this. So this screen is now split into two. So on the upper side we're looking at our again my key machine resource groups, so I've got my quantities of resources within that

machine group. I've got my hours available which I'm reading from my shop schedule and my ERP. I've got my hours required, which again is taking my sales forecast, blowing it through my bill of material and then my routing and then generating the number of hours I need on each machine group. And then calculating my utilization. And in the upper left hand corner you'll see that we're doing this at 100% efficiency. And so what that really means is whatever efficiency we've got defined within ERP we're accepted that as the gospel in the top half of the screen. However, we've just seen a big spike in our sales forecasts, so the reality is if you've run a manufacturing plant, you know that when you go through a big change, it typically doesn't go so smoothly so what I'd like to do is just a bit of a what-if scenario analysis, and look at the impact that we have on our 4th quarter. So I'm going to come down to the bottom area that allows me to do some what-if scenario and I'm going to change the efficiencies in these resources to 90%. So I'm going to give ourselves a bit of a penalty for the quick ramp-up that we're going to have on the shop floor. When I do that, as soon as I hit enter, you'll see that I immediately re-calculates the efficiency and the hours required based on that change in efficiency. This is real time analytics, leveraging data that's within your ERP. So as soon as I made that change, I can see the impact, and what we'll also see further down is that we can tie all this right into our finance statement. Okay, so now I've identified and in particular I've highlighted December, but what we have is in October and December on machine group A x and we've got issues as well as an AY. So let's look at make changes to the number of resources we're going to dedicate to these machine groups, see if we can adjust for and offset that, to get us back down to that 100% utilization. So I'm going to quickly update the number of resources that I want to dedicate to those machine groups and again as soon as I hit enter and go back through, going to re-calculate through all the bills and materials and methods and re-calculate that utilization for us, and with

those adjustments now we're back down to something that seems achievable. Alright, so very quickly again, to this point, we've entered a sales forecast strictly at the quantity level, reached into our ERP to the pricing, extended it to our revenue line, pushed that into my income statement. Now I've come over to the capacity side to see of the impact of that sales forecast, and how that's affecting my two bottleneck machine resource groups, I've done a bit of a what-if scenario analysis, to estimate if you will some of the impact that that might have. Alright. So very integrated, very powerful and real time, so I think that this is in my experience in manufacturing, this is leaps ahead of where a lot of mid size companies are and we're doing it with the IBM Cognos Express product. Then change gears a little bit, I'm going to go to a financial planning dashboard now if you will, or reporting area, and what I'm looking at here is my expenses, so within here what we want to do is do some what-if scenario analysis around our expenses, so we're looking at our total payroll, and we've expanded our total payroll to look at things like pension and overtime. And you see where we have no overtime in October, November or December and we've got pension, we've got bonus. The reality is if I'm going to dedicate more resources I need more bodies. So what I want to do now is I'm going to go into a head count view of the business, and I'm going to do a little adjustment. I'm going to go and I'm going to say for 2010 Q4, I want to ramp up from 700 employees up to 722 employees. And again this is just some of the tools, you can do a lot of different data spreading within Cognos Express. And as we do that, then we'll also be able to see that when I make that change to the head count, I'm also going to see an impact on my payroll. I'm also going to go into my payroll parameters, so this is what we call driver modeling, so I'm able to set up a bunch of different drivers, in this case, pension values, profit sharing, bonus provisions, overtime allowance, that sort of thing, and I can put in the different driving factors and use those to go through my head

count, to then blow out and look at what that means in terms of my costs. So in this case what we'll do is we'll go down and we'll enter a bit of overtime in December. Let me just put in 2 ½ %. Sorry it didn't capture that update, so it's going to be the data spread, update my head count, you see we're up to 722 at the end of December, that's just saying start at one number, go up to the other and do the math for me in between so I don't have to figure all that out. And we'll see that the payroll is now at \$6,713,000, so we'll just sort of keep that in the back of our mind if you will and we'll add in our 2 ½% overtime for December, and as soon as I hit enter it's going to blow through all of those calculations and parameters and drivers that we have defined, and now we'll now reach back into our expense form and see the impact of those changes. Now what we see is we have overtime in December and we see that our total payroll has bumped up to \$6.7 million for the year and this is in particular for the U.S. manufacturing group. So now what I'd like to do is jump back to our sales and operations in the dashboard which is where we started. And we'll look at the income statement view at the bottom, and I'll just explode that payroll number so I'll select the U.S. manufacturing which is where we made that head count in overtime change, so I'll change my filter view. So I can expand my total all company, choose the U.S. manufacturing plant, and then what I'll see is you'll see that the number matches what we had over in the payroll sheet. So again what we've done is sales forecast in the capacity plan. Use that capacity plan to make some changes to our headcount and maybe our expectation of overtime cost and have all of that feedback into our income statement. So a very powerful tool, leveraging all of the data assets within our ERP to get pricing, to get bills and materials, to get routings to get machine capacity plans, to get shop schedules, expense drivers, financial drivers to make my financial forecasting easier without having to cell by cell calculations or changes, and visual basic scripts within Excel, that sort of thing. So that's actually the end of the

demonstration. I'd just like to re-highlight what we walked through. We walked through how we can take our sales forecast, use that to drive a production and in this case, a capacity plan as well as have it feed into our financial forecast. This can then be expended further. We can have our production plan drive our costs so we've got our labor costs, we've got our other operating costs and have that feedback into finance based off what we're seeing in the production floor. We can also have production and distribution feeding into our human resources model. And then have those labor costs feed right back into ur finance model. So again some of the things that you can do all done on Cognos Express, real time analytics, and I hope that give you a sense for one of the ways that you can leverage Cognos to help drive your business performance forward.

DAVID: Thank you very much Don. And Paul as well, we'll be going into our Q&A in just a moment. If you need more information, there's a couple of contact pieces of information for you. I think I can start off the question and answer session, if I may with a question I think that either Paul or Don can address, maybe both. Paul, in particular, you talk about the applicability of business analytics technology to the supply chain, as well as the sales and operations process. If I were a mid-size manufacturing company and I was just getting started down this road, what would be the best advice you could give based on your experience on how to get started or what to do first? Should I tackle the supply chain process first? Should I tackle the sales and operations process first? Should I tackle both at the same time? What's your guidance on that Paul and Don? Paul, you want to take it first?

PAUL: Sure. I think that the key is it's not a one-size fits all. What we really see people focusing on particularly today is where am I going to see short-term ROI. When I say short-term ROI, most of the engagement stha twe see, people are really looking for ROI in nine months or less, so they're really trying to break it into sub-year chunks where they see that return. And, what we'll

see, people usually have an initiative that they know is going to drive some value, so they may have an agenda where they really need to get their arms around their performance and see how they're tracking those metrics and getting and visibility so in those cases, they may start with more of a supply chain visibility agenda. In other cases, it may be relatively straight-forward to track performance, but as you're rooted to the top of the broadcast, they may be having trouble addressing changes in the market, changes in customer demand, or changes in the supply. Then in those changes they're going to see more short-term value from the sales and operations planning approach, so frequently we'll work with clients to help address where they're going to see that ROI, and then from a design perspective, we see people that are really focusing on that overall manufacturing performance. So they want to make sure that they design the approach and to address both elements of it, but they'll tailor the implementation to where they're going to see that short-term ROI and get the biggest return, usually around the customer-facing metrics or cost-related metrics.

DAVID: So you're saying that it really is very, very dependent on any visual company pain points, where they need to really address things based on what they've been doing and how they've been performing up to date. Is that your experience also Don?

DON: Absolutely. Actually the last three implementations we've done of Cognos Express have each started with a different element, so one started with a planning solution, one was purely a reporting solution and then another one was an analytic solution, and all three of these clients have expressed the desire to at some point have all of it. We didn't go into it too much but the Cognos Express Product is licensed so that you can begin with one of those areas and then bring in the others up where components as you're ready to tackle that part of the business so it makes it what we said at the beginning stages of Cognos Express is it can start anywhere, and I can

grow it and I can bring it in as I'm ready, so absolutely and it's also a function of where's the biggest pain, maybe offset a little bit about with some low hanging fruit, also what are you ready to handle? What can you tackle? I mean if you're in the middle of your busy season or down season, this isn't the only project going on, so you also have to balance it with all the other initiatives in the business.

DAVID: Yeah, so you're both advocating really is takes small bites, don't try to do the whole thing at once. But take it in a measured fashion.

PAUL: Yeah, design for the bigger picture so that you don't find yourself into a box, but really implement it in a smaller measured bites so you're getting incremental ROI, rather than waiting for one big bang approach that never really delivers on the objectives.

DAVID: And Don, you were quite clear in saying that more or implying that the forecast itself, the upfront forecast itself is so critical to the rest of the process, and obviously we live in interesting times, the last 18 to 24 months has shown how volatile the economy can be and what can impact that volatility can have on not only operations, but certainly supply chains. Any advice from either of you on how we get the forecast better? Paul, you want to come on first?

PAUL: Yeah, and I think one of the interesting strengths as Don was going through his demonstration it was important to note that it's all being done in simulation mode, he was trying different scenarios, it was looking at what's the impact of various scenarios operationally but really providing a guide, an analysis to multiple scenarios. Well that's directly applicable to how we're seeing people handle forecasts and there is no more one size fits all forecast that we'll see people start with last year's information. We'll see people project growth and new product introductions, of different forecasts that factor in some of those growths. AS I said earlier, it's

seen as predictive, really explode and not just give me a forecast, but really based on market drivers, patterns, product adoption, start to predict that demand, so we're seeing a lot of different approaches to forecasting and then compare them not just on the sales side, but on the financial side, the operational side, and really start to look at those best case, worse case, most likely scenarios and trade them off, so it really becomes a key to assessing multiple versions and then I think the other big thing is not just looking at forecasts from a sales perspective, but back to the survey before, 100% of the respondents said they forecasted the sales, then it dropped off at production and finance. The other best practice that we see is really using that forecast to predict what's happening across operationally and financially as well, but that's the integration to the SNLP.

DAVID: Right, Don, you're seeing the same thing?

DON: We're seeing that, but is also have a bit of pet peeve, if you will, almost is what I find typically is happening in mid-size businesses is forecasts are being done in a vacuum so to speak, so there's one person who does the sales forecast or there's two people who do the sales forecast, and it's sent out to everybody else, and now hey, there's your number go hit it, and what we're seeing there is and I didn't spend a lot of time on it, but the ability to filter down, so what I want to do is I want to put that forecast in the hands of everybody, so maybe the CFO or the CSO or somebody is responsible for that first, that top down sales forecast, but then what you want to do is engage everybody who has a hand in that, to see that back and to say look, your number is a little higher, maybe this product are going to drop off and this one I'll build up to try to still hit my number, but now at the rubber the hits the road level and am able to participate in that and share my knowledge of my particular area, to make the forecast more accurate and you know with the tool the way it's integrated is you eliminate a lot of the time lag and a lot of the effort

with an Excel based thing where the top down forecast is sent out in a spreadsheet and then 6 people send back their versions and somebody is supposed to re-aggregate that and make the changes and of course there's errors in the translation and so on and so forth, and then that's taken so long that we just say, okay enough is enough. We don't care that it's wrong, we need a forecast to give to somebody till it's done. The other thing you want to do is get into repetitive. Don't make it a one time thing. That model could be updated every day by every salesman in his particular region and I think that's the key to getting more accurate forecasts.

DAVID: Yeah, very, very interesting. Absolutely. We're kind of at the top of the hour, one final question. Gentlemen. AS a mid-size manufacturing company embarks on this journey, based on your experience, doing so many implementations and evaluations, what guidance or best advice can you give to our listeners to in the sense of what's most important to watch out for? As you go down this task? Things that may have tripped up other mid-size manufacturing companies that they should be aware of so they could have success with this kind of technology. Paul you want to take a shot at this first?

PAUL: I think one of the things that we see is there could be a natural tendency to start at the data, and I have a lot of data, a lot of information, what can it tell me about my business? And you see a lot of people get tripped up, at I want to measure everything, I have to have metrics across the whole organization. Really, we see that the best practices are starting at the strategy and starting at the goals, what are your business drivers, what are you looking to achieve as top level goals and strategies and then drive down from there to say what are the measures in each of the functional areas that support those strategies, so if I have a growth strategy, let me start to look at metrics around new product introduction and bringing new products to market, and my readiness from an inventory and an operational perspective to bring those products together, and

my suppliers along for the new products, so really starting with what is the end-goal for the company, what is the big prize and then making sure everything is aligned to support that. And a lot of cases, it brings you to a similar type approach but you really honed in on making sure that operationally everybody is supporting the business drivers and strategy of the company.

DAVID: Don, last word on the subject.

DON: I really like the way Paul presented that and I think the other, I'll just add quickly the last piece of that is that will also give you that bigger picture where you want to go and then from there you can pick the priorities in terms of okay we're going to start over here but you have in the back of your mind all the other things that you want to do so you haven't painted yourself into a corner or gone and set up a sales planning solution that won't integrate even to the other plans that you want to do so Paul hit it right very, very well.

DAVID: Well thank you both. And, thank you IBM for sponsoring our webcast for today and thanks Paul Hoy and Don Richardson for being our panelists on this important subject for mid-market manufacturing and supply chain companies. I'd like to thank our audience for participating and listening in on this call today. As a reminder it will be archived on the Managing Automation Website following this broadcast, so you can access it later on if you so desire or anybody in your company so desires. Once again I'm David Brousell from Managing Automation Media. Thank you for attending and we look forward to seeing you on future Managing Automation webcasts. Bye-bye.

Ladies and gentlemen, that does conclude the conference call for today, we thank you for your participation. You may now disconnect.