

HPM | Module_5_Forecasting_Exercise

OK, class, welcome back. We are-- the second worksheet in this module is a forecasting worksheet, and we're going to do a tutorial on that today. So in the problem that you're going to have coming up, you're going to have to do-- you're going to work on the surgery budget, and then you're also going to do the surgery forecast as part of that same exercise.

So we're going to go through the surgery forecast today. I'm going to show you some different techniques that we can use. And then there's one that's preferred, that, again, we come back to one of our logic statements to support this and it's a good solid way to go about working through a forecast.

Now, I want to go through this worksheet with you before we get started, because there's a lot going on here. It's a pretty busy worksheet, if you would, with a lot of information. So this is for Greenville Hospital, same-day day surgery. It's the income and expense report. Again, it's our revenues, our expenses, salary, benefits, our current expenses, these are non-salary expenses for this unit. And then down here is our overhead, and then, finally, our revenue over expenditures, or for this particular profit and loss statement, it's our bottom line.

So let's kind of go through these columns. So what we have here is we've got last year's actual data, OK? And it's important, because this is going to get worked into our forecast. It's our revenues and expenses that are associated with what we did last year. And then we have our budget that we put through, OK? And this would have been put through before we actually started the year, OK, what we projected that our budget would be. And then we have our monthly activity.

So in this particular-- for this exercise, this is-- the year ends June 30, which means that the year would have started July 1, and now, we're through April, OK? So 10 months of the year has already transpired or has already taken place, and there's only two months left. What we're trying to project here is what we will look like at the end of the year. What our revenues are going to be. What our expenses are going to be. So we're projecting where we think we will be. That's the idea behind this forecast, OK?

So even as early as the first quarter, if this was in October, we would be doing the same thing. We would be projecting where we think we're going to end the year up, because there's some value in that. That gives our organization an idea of what kind of resources that they're going to have. And what our specific department, in this case, the surgery department what they're going to look like, OK? Are they going to have a positive bottom line? Are we projecting a deficit or this type of thing. So it helps us plan for what kind of resources we're going to have.

This is our year-to-date information, So through April, OK? All of our entries, 10 months worth of information is right here, OK? This is the income that we produced, and these are the associated expenses that have transpired,

OK? Our encumbrances are our obligations that we have out there, OK, and we'll talk a little bit about that when we get to the forecast. But these are our known obligations that we have. And then this line is our total year-to-date, where column G and column H summed, OK?

This information here, in J, is what we're going to work on. We're going to drop in what we think we're going to look like at the end of the year based upon all this information that we have here, OK? And then basically, the last column here that we have is our fiscal year-to-date as of April 30, 2014. So this is where we were last year at this same time.

This is important. This is where we were last year at this same time. This is where we ended up at, OK? Two important columns that we're going to use in our forecasting, OK, because we know where we were last year at this same time. We know where we ended up at, OK? That run rate that's going to take place is important when we look at this year's forecast.

So here's some possibilities that we can do to fill in these green sections here. We could simply use the budget, OK? We can just take this budget amount and drop it in here, OK? Call it a day. But this budget amount, we know, was done early in the year. It was done before the year started and before last year even ended, OK? So we did the best we could with this budget, but now that we're into the year, we have a lot more information, OK, and we may not want to rely on that to project our forecast.

We could extrapolate by the month, or we could simply take-- we could simply take what we did in April and multiply it times 12, and say that's what our forecast is. It's probably not a good idea, one, because we don't know if April is a good representation of the rest of the year. And we know that from month to month that our entries are not linear. They're not going to be exact-- they're not going to be exactly the same. So it's a-- I mean, it's one way to do it but probably not the best.

We could use our encumbered amount, OK, which is our year-to-date plus our obligations, OK? I may not have mentioned this yet, but I will now, and that is that I've worked with a lot of different encumbrance systems, you know, that project obligations. In many cases, you can't rely on those, OK? You know, it's the organization's best effort, and there are some, you know, things that are built into it that are there to help provide information for you, but I wouldn't rely on just your encumbrance system to do a solid forecast.

Another method that we could use is to use our current run rate, OK? And what we mean by this is we know that we're currently sitting at \$3,095,000 for this line, OK? And we know how much time has-- we know how much time has transpired, OK? So 10 of the 12 months has passed. So we can divide where we're currently at by the amount of time that has expired, OK, or 10 divided by 12 or $10/12$, OK, and we can project where we think we're going to

be.

Now, what this does is this says that the last two years, or the last two months are going to look like the first 10 months that have-- an average of the first 10 months that have taken place, OK? That's probably not a good assumption, because within the year, we're going to find that revenues and expenses, again, are not linear and they don't-- you know, just because the first 10 months looked one way, doesn't mean that the last two months are going to kind of follow that same pattern. So this is probably not the best way to do it, although, it's probably better than the first three that we talked about, OK?

Another way that we can do this is we can use the run rate from the previous year, OK, which is a more solid way to do this. So when we look at our data here, we can see that last year, through April, we had generated \$2,850,000 in net patient revenue, but we ended up at \$4,176,000. So something is happening late in the year to generate this additional revenue stream, OK? We're generating revenue late in the year is what this tells us, OK?

So we can account for that if we take this year, where we're currently at, OK, and then we divide that again by where we were last year, divided by where we ended up, OK? So this applies the same run rate that took place last year to where we're currently at this year. And if we did that, we would generate a forecast of \$4,534,000 and that is a pretty solid number, OK? That's using this year's current information with last year's run rate and it's a solid way to look at this.

But there's actually even a better way to go about doing this, and this is really effective if you're early in the year. And you know, we've talked about a conservative approach to both budgeting and forecasting, and this next method that I'm going to show you takes into account both of those.

So the preferred way is a combination of a couple techniques, OK? And we're going to use our logic statements again to work this. So if we go back up to our formula bar and we grab the if statement again, we're going to run a-- we're going to run a logic statement here that based upon the lesser, on the revenue side, the lesser of two entries, we're going to ask it to bring back the least of two. And the two that we're going to combine are the budget that we put together and then this run rate from the previous year. And whichever of those two turns out to be the least amount on the revenue side, we're going to ask that to-- we're going to ask our formula to bring that amount back, OK?

So if \$4,350,000 is less than the run rate from the previous year, we're going to ask it to bring back the budget, OK? The same way here with premium revenue, we're going to ask it to bring back the lesser between the budget and the run rate from the previous year, and that will us the most conservative approach to this.

Now, when we get to the expenses, we're going to do exactly the opposite. We're going to ask it to bring back the

greater of the budget or the run rate from the previous year, because that is the most conservative way to approach this. And there's different ways to do it. We could combine different things. In this case here, we're simply taking two different methods, combining them, and asking our logic statement to bring back the most conservative in this.

So let's start to build this. So we're going to say if the budget amount, in this case, is less than the run rate, OK, from the previous year, OK, and we can see that that's true. If that's true, then we want it to bring back this budgeted amount, OK? If it's false, then we want it to bring back the run rate from the previous year, OK?

And that's the way that our-- that's the way that our formula looks here. So in this case, the budget amount is less than that, and we know because we looked at it. It was \$4 million, I think, 500 and some thousand. So it's going to bring back our budgeted amount, which is that lesser of those two, OK?

And the cool thing here is, now, once we have that formula written, we can apply this to all of the income entries, which are just these top three, OK? Because when we go down to the expense side, we're going to have to flip-flop our formula, OK? So we've applied. So let's take a look at what we have here.

So right now, it pulled back the budget amount for this number or for this first entry, it pulled back the budget. And then on this one, the run rate from the previous year must have been less, because it pulled this as opposed to the budgeted amount, OK, which, again, on the revenue side, gives us the most conservative approach.

Now, on the expense side, we're going to run this as well, and when we work the expense, the logic statement is going to be, if the budget amount is now greater than the run rate from the previous year, and that's true, we can see-- if that's true, then we want it to bring back that budgeted amount. If it's false, then we want this formula to bring back the run rate from the previous year.

And when we hit OK on this one, we get this budgeted amount here. But now what's a real time-saver here is because, again, the way our worksheet is set up, we can drag this formula all the way through. We don't have to rewrite this for every line. It's going to be applied, because the way our worksheet is set up, we can capture all of these, all the columns of information down the page.

So let's look at this. So in this case here, it pulled back the budget amount. In this case here, it actually pulled back-- the run rate from the previous year is more than the budget, same way with this line. So let's copy this down the page.

If you get a divisor by zero, you just, you need to pull that out, because there's no information there. OK. OK. So we've applied that same formula all the way through, and what we find is that our current budget was \$444,105. Our forecast now that we're forecasting is \$148,272.

So it's a conservative approach to this, but we're pretty well assured that when we get to the end of the year, there's probably a good chance that we're going to be able to beat this forecast, OK, because we have taken this really kind of conservative approach. This really makes sense if you're earlier in the year, too. If you're, like, the first quarter and you're using this technique, it makes a lot of sense, because it gives you some leeway there, and, you know, a little bit of cushion through your forecast. So that's what we have on this forecast.

Now, there's another piece to this exercise, and it comes through this variance line. And I've seen people kind of really mess this up, not necessarily in our class, but actually in the actual working world. So what we're doing here is we're going to forecast the difference between our budget and what our forecasted amount is. And any entries that come through that are positive are looked at as favorably, OK?

So we want to set this up in a way that a favorable output here is going to generate a positive number. An unfavorable output is going to give us a negative. And to do that, we have to be cognizant of how we work this calculation.

So in this case, again, for the revenue side, we're going to take the forecast and subtract the budget, OK, and we're looking for that difference. So we take the forecasted amount and we subtract the budgeted amount, OK? And this one is zero, and we come down and the first two entries are zero, zero and then because budget equals forecast. And then on this one, we get a negative entry, because the interpretation here is, is on the revenue side, we budgeted \$1,500,000, we're only producing \$1,472,000, so that's a negative impact.

Now, when we come to the expenses, we do the exact opposite, and we take the budget minus the forecast. And you'll see how this works. In just a second, we can demonstrate how this is working.

So in this case, our interpretation here is-- these are expenses-- for the expense, we budgeted \$324,000 in expense, and now, we're saying our expenses are going to be \$337,000, OK? It's over the budget amount, or it's a negative impact, OK, negative \$13,000. This one's a negative \$142,000. From here down, we can apply that formula. We can just drag this all the way through.

So let's take a look at what we have here. And we just want to make sure that all of these are adding up the way that we anticipate it to. So all right, so that sums, and we have a sum on this line as well, and we're summing N26 through N41. And we're picking up, let's see, N42 and N23, plus N18, OK.

OK. All right. And we need it to also apply this to our support units. If there's a difference in the support unit from the budget, that needs to be taken into account as well.

So here's our interpretation of this. We have a negative variance of \$295,832. That negative variance is coming

from two different areas, our revenues are \$27,000 less than what we anticipated, and our expenses are \$268,000 more. Those two coupled together give us a negative variance of \$295,832.

One of the checks that we have to ensure that that's correct is that when we look at what we originally budgeted, \$444,105 and where we're currently at, or \$148,000, the difference between those two is exactly the same as what we calculated here in our variance, OK? And that's right here. It's J56, OK? J56 minus E56 is that exact same amount, OK? So we know that we did our variance.

But we can easily come through here and go line by line and say, OK, this is where our problem is. Well, we know in office supplies, you know, we're forecasting more than what we budgeted. And we know each one of these lines, and as a financial manager, we would be responsible for explaining each one of these, why they're different. And it may just be as simple as, we use this conservative forecasting approach, and this is how we got to these numbers.

But in the end, when we finish out the year, we will have-- whatever variances are here, we'll end up having to provide an explanation for each of those. But remember, the difference in the total budget, or the bottom line budget, and the bottom line forecast is always going to equal this variance piece that we have here, and this is all the detail behind those variances as well.

So this is a useful tool. It's something that, again, I've used at in my own career. Each place that I've worked, we've used some variation of this and we use the exact-- you know, we use these exact same techniques out there in the real world. So this is kind of really where the rubber meets the road, very applicable information that I think that you guys will be able to use in your own careers.

So that concludes this tutorial, and the last tutorial for this module, and then, we'll be moving on to capital budgeting in module six.