Just-In-Time Resourcing®
Part I

Managing the Demand Forecast

Introduction

This paper describes the methods, processes and tools required to more effectively manage demand forecasting to enable Just-in-Time Resourcing® (JITR) – getting the right person in the right place at the right time.

Years ago, the manufacturing industry embarked on a journey to transform itself from a carryover of the industrial revolution to begin leveraging more efficient ways of creating products by using modern technology. This included the introduction of robotic gear to replace manual labor tasks with technology that could perform the same work at a lower cost, and with higher and more predictable quality. The industry also began to understand that it needed to find ways to eliminate the cost associated with idle inventory, and lower lost opportunity costs due to short supply of parts when a peak in demand occurred. This was the beginning of what became known as just-in-time manufacturing, whereby parts are predictably supplied at precisely the time needed and timed to align with ever changing demand forecasts.

The services industry remarkably finds itself in a similar state as the manufacturing industry was in all those years ago. Simply put, processes, methods and tools have failed to keep pace with the large disruptions in traditional labor sourcing and management methods. Off-shoring, near-shoring, globalization, price pressures, increasing competition – all things we read about and deal with every day have changed the way we manage labor. Unfortunately, too many companies have responded with stop gap and tactical measures, in many cases compounding the problem or delaying the inevitable need for real process change.

The Business Imperative for Just-in-Time Resourcing®

Growing competition and marketplace change continue to put unprecedented pressure on service providers to rapidly adapt and innovate in every facet of service delivery. Effectively and efficiently sourcing and managing resources is the new high-water mark for the industry. Similarly to how manufacturers learned through advanced inventory planning techniques to have the right parts available at just the right time, services providers are now challenged to provide the right resources at the right place at the right time - 'Just-in-Time Resourcing®.'

Interestingly, most service providers that are struggling with utilization problems and resulting high labor cost today, have reacted by pushing labor off-shore to lower their average hourly labor costs. While off-shoring is certainly a desirable and necessary part of the strategic labor equation, implementing better demand forecasting techniques is necessary to address the strategic need for sustainable business transformation.

Analogous to targeting near zero inventory for a manufacturer, service providers should target constant full utilization of on-board resources. Table 1 illustrates the economic value of efficient management of utilization in organizations that serve external customers.

# Of Billable resources at $150/Hr.	Annual Revenue from 1% Increase	Annual Revenue from 7.5% Increase	Annual Revenue from 15% Increase
1	$3,120	$23,400	$46,800
25	$78,000	$585,000	$1,170,000
100	$312,000	$2,340,000	$4,680,000
750	$2,340,000	$17,550,000	$35,100,000

Since idle resources are a sunk cost, the revenue amounts in table 1 drop straight to the bottom line as profit.

Objectives of Effective Demand Forecasting

The outcome of demand resourcing affects many stakeholders throughout the organization. Finance wants to forecast expected results to satisfy lenders and shareholders, and public companies, SEC rules as appropriate. Delivery teams need the right information to ramp up or ramp down in anticipation of meeting delivery schedules. Sales teams want quality projects delivered on-time, to satisfy their customers. HR needs to know if they are expected to be recruiting and if so, what skills are needed and when. And so on.

Therefore, some key objectives for effective demand forecasting include:

- Financials
  - Enable accurate financial planning
  - Achieve sustained high utilization
- Revenue
  - Identify sales trends
  - Avoid missed or lost opportunities resulting from resource shortages
- Capacity Management
  - Alignment of the hiring plan (quantity)
  - Enable skills planning (content and quality)
- Delivery
  - On-time and on-budget
  - Consistently high quality

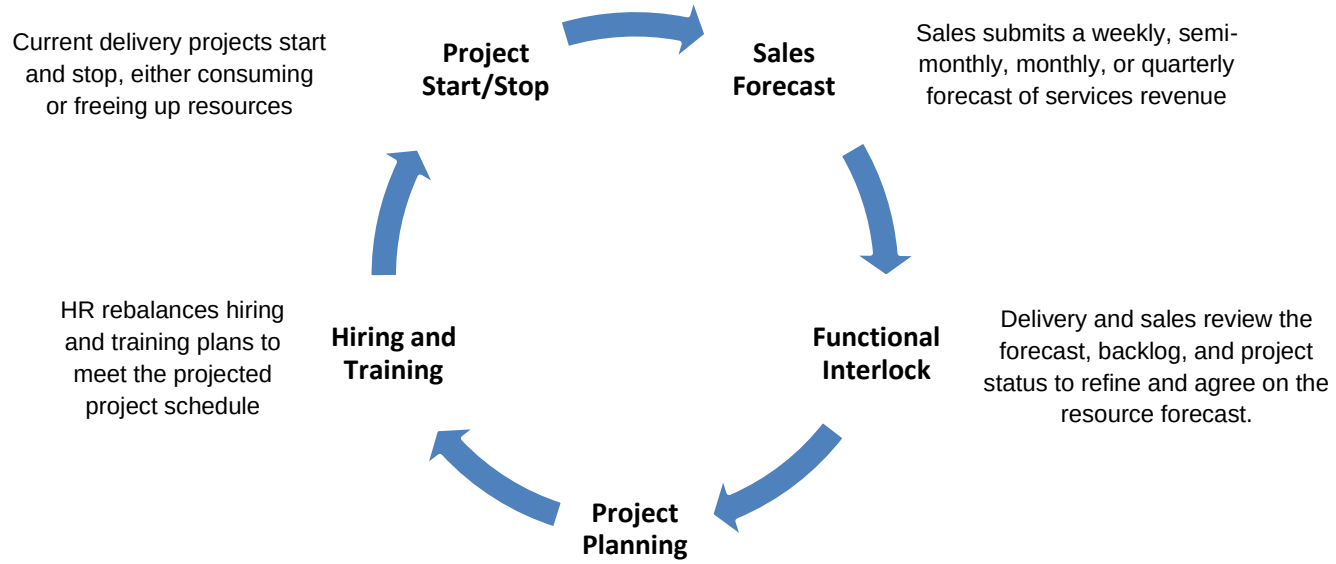
Key Benefits of Effective Demand Forecasting

Resulting benefits from effective demand forecasting include:

- Enables a more predictive management system (vs. reactive)
- Supports a Just-in-Time Resourcing® approach to resource management
- Lowers costs
- Nets more satisfied customers and employees
- Leads to more revenue and profit!

The Fundamentals of Effective Demand Forecasting

There are essentially five steps to the demand forecasting lifecycle as depicted below:



Before we review each of the lifecycle steps, a solid understanding of the challenges you will likely encounter will help prepare you for successful implementation.

There are five common reasons companies fail at executing the forecasting cycle effectively. They are:

1. *Lack of internal functional alignment (divergent expectations)*
2. *Lack of adequate automation (PSA/PPM/RPM) tools – the reality is that many companies still use spreadsheets or outdated automation tools to manage what is in many cases their most expensive asset*
3. *Weak (or lack of) senior management commitment to the forecast process – without top level support it is difficult to garner sufficient attention to a critical need*
4. *Poor management accountability to the result – many companies continue to default to blaming the delivery team when there is a mismatch of demand to supply of resources*
5. *Lack of proper risk management techniques*

Given these challenges, as you prepare to transform your forecasting capabilities, it is important to ask some yourself a few key questions:

- How good have we been at this historically? A comparison of the quality of past forecasts should provide a realistic basis for judging future performance.
- What is the state of our automation tools? A good PSA/PPM/RPM tool is absolutely essential for effective resource forecasting and planning.

- What is the current state of our process to collect demand input? Building effective processes that uniquely fit your organizational structure will take time, collaboration, and effort.

Gaining this critical understanding of your baseline in all respects will help you lay the foundation to implement a forecasting system that will enable true Just-in-Time Resourcing®.

The Demand Forecast Lifecycle

Step 1 – The Sales Forecast

The sales team begins by providing a sales forecast typically in terms of revenue, with project or solution descriptions and associated timing. The delivery team helps translate sales revenues and project needs into the expected roles and skills necessary to accomplish the work. This translation is normally done as part of the on-going business capture process. The preferred form of the forecast is from a CRM or demand management tool. The better PSA/PPM/RPM tools integrate with the more popular CRM tools to alleviate redundant data entry and improve accuracy.

As discussed earlier, senior management should expect reasonable effort will be made to produce an accurate forecast (understanding that all forecasts are still only estimates). The sales team should 'own' the forecast and be accountable for its' timely development and accuracy. Leading practices in this area include measuring ongoing forecast accuracy with a forecast accuracy measure or index. When you add the element of a measure, people pay attention to the input and the result inevitably improves.

A recommended practice is to use weighted probabilities for each opportunity, using some preset threshold for determining what deals get included in the forecast.

The overall form and fields of information collected and reported each forecasting period should be a collaborative effort between the key stakeholders, normally sales, delivery, finance, and HR.

Step 2 – The Functional Interlock

On some predetermined and agreed intervals, key stakeholders should meet and review the forecast. The primary purpose of these meetings is to interlock on the go-forward resource forecast. Since hiring, firing, recruiting, training, and other expenditures and investments are decided at these meetings, this is a critical step where real financial and HR decisions are made. It is recommended that stakeholders work through relevant issues prior to the standing meeting, using the forum to finalize and document decisions upon which action will be taken.

An example of a functional interlock document might look as follows:

Client		Prob%	Service	Jul	Aug	Sep	Oct	Nov	Dec
Sunshine Software	Backlog	100%	Consulting	24	24	24	24	16	10
Sunshine Software	New Business	75%	Development	10	10	10	10	10	10
Johnson Engineering	Backlog	100%	Systems Integration	50	50	60	60	60	50
Johnson Engineering	New Business	70%	Development	10	20	20	20	12	12
Johnson Engineering	New Business	50%	Consulting	0	8	8	8	0	0
Totals									
Backlog				74	74	84	84	76	60
New Business				20	38	38	38	22	22
New Business Prob% Adj >= 70%***				14	26.6	26.6	26.6	15.4	15.4
Assigned to Backlog Projects				74	74	84	84	76	60
Net HC Needs				94	112	122	122	98	82
Net HC Prob% Adjusted				88	100.6	110.6	110.6	91.4	75.4

* Further reporting on roles and skills is done to provide more granularity in the resource forecast

** Probability of closure is used to apply numerical judgement

*** Use a threshold to determine which line items to include and which to exclude due to lower odds

Table 2

The example used is somewhat oversimplified, but illustrates the aggregation of new and existing opportunities, with probabilities applied to account for some degree of risk. The functionality in commercial RM automation tools (PSA/PPM/RPM) have come along in their ability to support the functional interlock process with improved accuracy and efficiency.

Once a decision is made, results and agreed actions are documented and disseminated to key stakeholders and we move to the next step of the process.

Step 3 – Project Planning

There are many aspects of project planning necessary to effectively deliver projects on-time and on-budget. Our intent in this white paper is to discuss the elements of project planning specific to demand forecasting.

Project planning is a function screaming for automation. Let your PSA or PPM tool do the heavy lifting for you. Just as a manufacturer uses a material requirements planning (MRP) system to multiply forecasted demand by the required parts for each forecasted product to manufacture, services organizations need to let their PSA or PPM tool take input on demand to produce an analysis that indicates resource (and skill) requirements to meet forecasted resource demand.

A few important things you will want to do and watch out for. First, automation tools do an excellent job of mundane and tedious calculations, but the output still needs to be reviewed by someone knowledgeable on the data to ensure reasonableness of the output. Second, we all know in every business that salespeople have their favorite delivery resources. Salespeople all want to have the ‘experts’ on their project. The ‘my favorite’ syndrome and JITR do not mix. It is important that resourcing decisions are made primarily on role and skill needs, not on personalities. We all know there may be times when personalities do come into play, however, it should not dominate every resourcing decision. Lastly, even in the best run organizations, there will always be times when

you must decide between two different projects due to unplanned resource constraints. Every organization should have a prioritization methodology to determine which project wins in a push, to remove emotion from the equation (as best you can) and make better fact-based decisions.

Always remember you will never be 100% right, but largely-on-track is a big win and an improvement for most organizations. The goal is to have the right person in the right place at the right time – Just-in-Time Resourcing®.

Step 4 – Hiring and Training

This step could be a white paper all on its' own. Just as resource planning processes have failed to keep pace with the times, traditional recruiting and hiring processes for many firms will not fully support a Just-in-Timing Resourcing® system. The bottom line is that your recruiting and hiring methods need to be able to deliver the right quantity of the right roles and skills at the right time. Recruiting firms and other methods may continue to be helpful but will likely not provide the near real-time recruiting capability needed to drive a JITR system. Important forecasting implications to keep in mind at this point are to:

- Partner with HR and involve them in all aspects of JITR process
- Track, analyze, and fully understand the levers necessary to minimize the time required for onboarding and training, and build plans to improve them
- Be sure onboarding and training time is factored into your resource planning calculations
- Know where you will find and source people from in times when your internal recruitment efforts are unable to fulfill all of your resource needs (e.g., contractors or partners)

Step 5 – Project Start/Stop

This step is another topic that could be the subject of a separate white paper. From a forecasting perspective, it is essential to know the precise status, in as close to real-time as possible, of all of your in-flight projects as you plan for new ones. Your PSA or PPM tool will prove invaluable for this part of the resource planning process. A couple of key points here that will be helpful in the forecasting process:

- The personnel working the in-flight projects must own the timeliness and accuracy of the data input, and therefore setting deadlines for time entry is a recommended practice
- The data should be input no less than every week (preferably daily) to help you achieve near real-time information on project status.

The requirements outlined above seem like a big task for many firms, but in reality, require only a few minutes a day per employee, while providing information worth far more collectively for the organization.

Measuring Success

There are both quantitative and qualitative methods for measuring the success of your resource forecasting process. Quantitatively, start by establishing your baseline and measure improvements in the following:

- Utilization – Look for results that meet or exceed industry norms, and equally important, look for consistency – does utilization go up and stay up? Effective process change will produce consistently better results.
- On-time delivery performance – While there are many factors that influence timely delivery, certainly having the right resources available at the right time and place makes a difference. Look for improvements and the consistency of schedule performance.
- Cost performance - While there are many factors that influence project costs, certainly having the right resources available at the right time and place makes a difference. Look for improvements and the consistency of cost performance.
- Client and sales team satisfaction – Both can be important barometers of the positive impact of effective JITR systems.

Qualitatively, there are many ways to measure success. Each organization will find methods suitable to their needs. Some commons ones include: looking for a decline in fire drill inquiries from the CFO or finance team, resulting from improved forecasting accuracy, or a change in the role of a typical functional manager morphing from a reactionary role to a more predictive (and enjoyable) one. Your clients will notice the difference, and comments internally and externally will become more positive and supportive.

Closing comments

JITR is a major shift in the way service organizations manage resources. The benefits of effective JITR execution can be substantial, and as more and more companies expand their product and service portfolios, the need for effective resource planning will continue to grow. While this white paper dealt with how to plan for the right resource and skills you need to support an ever-changing demand forecast, Just-in-Time Resourcing® Part 2, will deal with how to manage the resource pool to support a JITR system.

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