

KANTATA™

Forecasting & Optimizing Capacity

Why the Future of Your Business Depends On It



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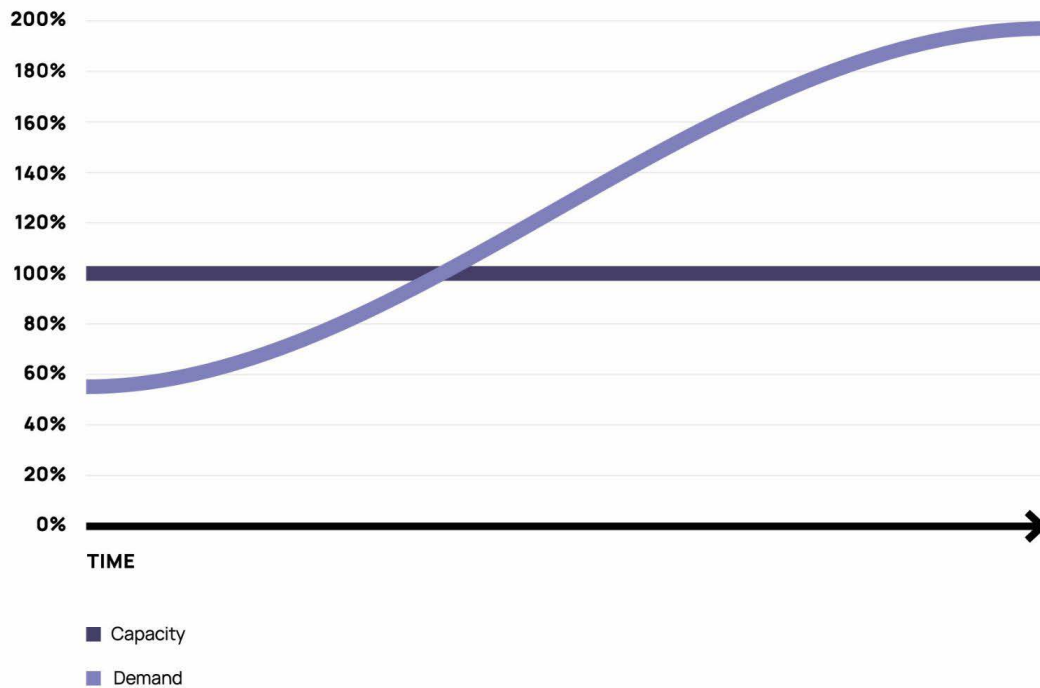
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Introduction

While demand may fluctuate due to changes in the market, a company will always have far more control over its capacity. By understanding current capacity and then optimizing it, a business can better handle downturns in demand and be prepared for sudden increases. As a result, a services organization can consistently perform at a high level and keep their margins both consistent and predictable. Consider the differences between a company that does not understand its capacity and a company that does and has at least some control over its resources' capabilities. The business that understands its capacity will know when to take on more clients, when to take on freelance workers to meet new types of demand, and how to temporarily scale back on resources to match lulls in demand. Businesses that aren't aware of their capacity are more likely to take on more team members when demand is dropping, causing low utilization rates, agree to new projects that they are not properly staffed to deliver them, and lack access to resources in the event of sudden increases in demand, causing the company to miss out on opportunities.

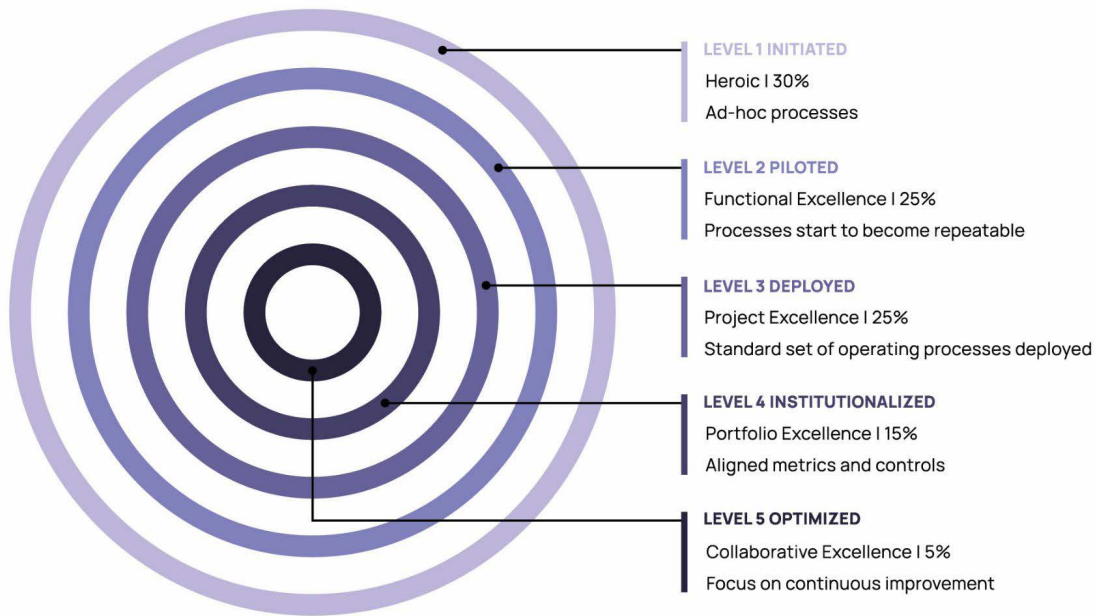
Success requires a business to have a strong understanding of the market's demand for its company's goods and services along with deep insights into how well it can supply what clients are demanding.

It's easy to see the immediate effects of capacity and demand being mismatched in an organization. But the effects grow over time, with the disparity slowly increasing until it's difficult to maintain profitability, as can be seen in this forecasting graph.



There are a wide variety of benefits that come from accurately forecasting capacity. These include:

1. Understanding your current demand
2. Detailed insights into maximum capacity
3. Reliable forecasting of future demand
4. Effective resource management and staffing
5. Fast scaling for demand fluctuations



Conquering the Hierarchy of Capacity Planning Needs

Psychologist Abraham Maslow's hierarchy of needs is a theory that outlines how people move through human motivations, requiring basic societal needs before they can move on to more specific, higher functioning needs. In Maslow's theory, this begins with physiological needs, then progresses to safety, belonging, esteem, and finally self-actualization. This hierarchy of needs can be applied to how a company understands its capacity and begins to take steps to optimize it, moving from basic data collecting to optimization made possible through the use of Business Intelligence. In this ebook, we will walk through the five levels of the capacity planning hierarchy of needs, what you will need to do in order to reach each level, and the benefits that are found at each level. In addition, each of these levels will be paired with definitions from Service Performance Insight (SPI) Research regarding the 5 levels of Professional Services (PS) Maturity. As an organization matures and moves up its hierarchy of needs, the better it will be able to forecast and optimize its capacity.

Level 1: Initiated

A Better Understanding of Capacity

INITIATED: SPI PS MATURITY DEFINITION

“At this level, business processes are ad hoc and fluid. The business environment is chaotic and opportunistic, and the focus for a professional services organization is primarily on new client acquisition and reference building. Success depends on the competence and heroics of people in the organization, and not on the use of proven processes, methods or tools.”

Every path toward optimized capacity planning has to start somewhere. This initial level is focused on collecting and vetting the data that is already being generated by your organization. This data will provide you with basic knowledge of your current capacity and demand, but improvements detailed in future levels are not possible without this first step. Much of what you need to understand your current capacity and demand should already be within reach, but the

following steps will help you begin using and better understanding your data if you have not already begun doing so.

How to Reach the Initiated Level

Collecting and Analyzing Needed Data

It's more than likely that your business is already generating a massive amount of data on projects, resources, and client demand, but not all of this is necessary for capacity planning. To reach the Initiated Level, a business must first identify the data it needs for resource capacity and client demand insights.

This data includes:

Demand Data

Sales Opportunity Pipeline

Knowing potential sales at all levels will give you insight into increases or decreases in demand for the foreseeable future.

Engagement Delivery Metrics

How well is your company communicating with potential and existing clients? These metrics will help determine changes in demand.

Historical Data and Trends

What past data shows the ups and downs in demand that your company has experienced? History and trends can help you predict the future.

Delivery Backlog

What projects have been delayed and which are about to begin? Understanding your backlog shows where resources will soon be assigned.



Supply Data

Resource Schedules

Having complete recordings of your resources' tasks and project commitments for the foreseeable future will help determine the amount of availability for new projects and clients.

Hiring Timelines

How long will it take for your team to hire a new member? Having a timeline based on past experiences shows when your capacity for more projects will increase.

Ramp Time

What is the average time between hiring a resource and when he or she can be fully utilized? Ramp time is critical for your strategy.

Attrition Details

The rate at which your team members leave the company is critical in knowing capacity. Use actual attrition and forecasted attrition to know when decreases are likely to occur.

- Remember that correctly identifying any and all necessary data here is critical, as all future levels will be built on this foundation.
- With this in place and used by all applicable parties in your company, you can be assured that the data being used for critical decisions is trustworthy.

Correctly Preparing Data

Once your organization has identified the systems that are producing these data subsets, you will need to prepare this data in effective, replicable ways. Make sure your data collection process adheres to the following structure:

Data Governance

Create roles and guidelines that ensure all data being entered is of good quality, consistently inputted, and assessed by the correct parties.

Data Architecture

Create models, policies, and standards through which data must be

collected, stored, arranged, and used in your data systems.

Data Modeling

Organize your data into tables and accounts that determine access, performance, and storage details, which will define data elements, structures, and relationships.

Database Storage

Ensure that the system used to store your data, and the administration in charge of it is secure and working in the way your business needs.

Reference and Master Data

Create an authoritative source of master data to provide a single point of reference that removes duplicates, prepares data, and eliminates incorrect information.

Abilities Granted by This Level

Measure Your Current Demand

Correctly preparing your data will provide the following insights:

1. Past Sales Records

The total units sold over the past year for a measurement of the marketplace and the effectiveness of your current strategy.

2. Project Backlog

See how many projects have not been started yet, but are

scheduled to begin in the near future.

3. Sales Pipeline

View all potential clients ranging from prospects to qualified leads to clients who have officially closed for current and incoming demand.

4. Competition

Review the data on your competitors if you are releasing a similar product for help in rolling out a competitive pricing strategy.

Identifying Fluctuations

When reviewing your product or service performance, pay attention to any seasonal trends that may be displayed by spikes or dips in the amount sold. Identifying and preparing for these demand anomalies and seasonal fluctuations will help you prepare for upcoming fluctuations and also help establish a baseline for your average demand.

The insights gained regarding your incoming demands means you can hire right.

Level 2: Piloted

The Establishment of Trustworthy Insights

PILOTED: SPI PS MATURITY DEFINITION

“A company’s processes have started to become repeatable. Best practices may be demonstrated in discrete functional areas or geographies, but they are not yet documented and codified for the entire organization. Basic processes have been established, but they are not yet universally embraced.”

After the basic knowledge granted by Level 1’s data collection, businesses are able to advance to trustworthy, actionable insights granted by integration. It’s likely that your organization’s data is still siloed before reaching this level, but by integrating your different solutions, the data they produce can be combined and either confirm the insights being generated, or highlight incongruities or flaws. Make sure to include leaders from different departments during strategy planning to ensure they will understand the thought process behind integration and support the efforts to make this process a success.

How to Reach the Piloted Level

Creating Robust Integration

Project management, resource management, finances, time entry, and all systems of record used for business processes are the main data sources for services organizations, but they need integration to support continued advancements through the Capacity Planning Hierarchy. An effective integration strategy will need to catalog all of the data being generated by a company's systems and ensure that these are all properly flowing into a system of record that orchestrates them all, or are effectively replaced by a new system that does not lose valuable data. When done correctly, integration will validate a business' data to better understand current capacity and begin creating insights that forecast future capacity.

With these capabilities, your organization can better trust the technology they are using to interconnect their systems and the data being generated based on their strategies.

Building on Flexible, Trustworthy Tech

Insightful data and strong integration strategies rely on trustworthy technology. The following are must-haves for tech integration:

Scalability

Growing businesses mean more complex data. Make sure your technology can grow to accommodate expanding data.

New Data Sources and Throughput

A new integration solution is more than just storage, it will need to be able to connect with both your existing data sources and any new sources that you are currently implementing or will be using in the future. Also, consider if you will be using streaming data sources and if the potential integration solution can handle these.

Suitability for Your Unique Use Case

What is the right integration strategy for your business? Some organizations will need a completely on-premise solution while others will need a full-scale data move to the cloud. Make sure that your solution, data, and resources are aligned during your choice.

Security and Compliance

Your solution should have a high degree of security and privacy safeguards in place, as well as formatting that complies with your country's security laws, as there will be large amounts of sensitive data flowing through it.



Abilities Granted by This Level

Forecasting Future Demand Defining Your Capacity

Predicting demand is critical because a business can't plan capacity without insight into their future demand. If you aren't predicting either demand or capacity, you should probably start with demand, as you will be able to use this to inform your capacity planning decisions.

Define your market and forecast the drivers of demand in each of its segments to understand how the market is likely to change in the future. In addition, review past trends regarding your demand to determine whether there are patterns, increases or decreases, that are likely to impact your business in the coming months. In addition, determine systemic patterns, which repeat over time, versus trends, which are demand behaviors that do not repeat. An analysis tool that combines these data points for more actionable information can help you create a forecast that you can trust.

With your understanding of capacity, future levels will help you make informed decisions and have the basis for process improvements.

Defining Your Capacity

Every business must know its own current capacity to better understand the limitations and potential of the organization. Doing so means that managers can prevent overcommitment to support healthy employee utilization, hit deadlines, and keep clients happy.

In order to accurately determine your current capacity, follow these steps to gauge resource availability:

1. Find the Bottleneck

You must understand the services that the slowest point in your process can deliver. This is also known as the process bottleneck and is what will consistently throttle your output, no matter how quickly the rest of your business processes can complete their parts of a project.

2. Measure Time & Skills

Review the average amount of non-project work time and needed skills for a given timeframe and the standard available working time for that role to see how much work each resource can take on.

3. Determine Work Per Project

All the projects currently in your portfolio and the forecasted utilization for each role for each project in the portfolio for a given timeframe.

4. Combine Time and Projects

Divide the total amount of working time by the total amount of time required for your projects to discover your total capacity. With this information, ask yourself if you have the capacity to commit to additional work and if there are resources available to complete your committed work.

Level 3: Deployed

The Art and Science of Demand and Capacity

DEPLOYED: SPI PS MATURITY DEFINITION

“The organization has created a set of standard processes and operating principles for all major service performance pillars. Project delivery methodologies and quality measurements are enforced across the organization. Management has started to enforce financial and quality objectives and processes have been established for effective execution and alignment.”

Now that your business has data that it can rely on after being refined through the previous level, it can begin to take action through informed capacity planning. By placing these capabilities in the hands of informed, effective leaders throughout the organization, capacity planning and successful decision making can begin to make a positive difference that slowly eliminates unexpected complications that negatively affect the organization. While future levels will support capacity planning through more advanced solutions, the use of your best team members is critical in making this level a success.

How to Reach the Deployed Level

Employ Dedicated, Informed Resource Managers

At this level, capacity planning should be working well, with an effective resource request process that helps team leaders manage and access the full-time, part-time, and contract employees they need for their projects.

Having a resource manager who understands the company's capacity and can match resources with that capacity is critical for executing and improving capacity planning. In future levels, technology solutions will aid in making these decisions, but at this level, execution of capacity planning and implementation in resource strategy will rely almost exclusively on managerial decisions. These decisions will enact your capacity planning across the many different team members and project plans that rely on it, so that your processes will be executed on time and under predictable circumstances.

Capacity and demand need to be effectively interlinked within your systems instead of being in separate solutions.

Utilize the Art and Science of Demand and Capacity

In previous levels, capacity and demand have coexisted within your organization in relation to one another, but with little connecting them beyond understanding each within the larger context. But in order to grow your business, capacity and demand need to be effectively interlinked within your systems instead of being in separate solutions. It is



critical that your team adopts a purpose-built professional services SaaS solution that will measure your current capacity based on past and current resource availability, project timelines, and utilization while also forecasting upcoming projects and client requests based on past trends and data. These solutions will allow your team to compare and contrast forecasted demand and capacity in your organization, interlinking these two predictions to make necessary resource adjustments to maximize your ability to meet demand and prevent excess resources. The result is that “just in time” resource planning can be made possible for you through forecasting insights regarding changes in demand and capacity before they occur.

Abilities Granted by This Level

Reliable Forecasting

The data analysis present at this level should allow for more effective forecasting of both demand and capacity by not only understanding what these two factors currently are, but what they will be in the near future through communications, pipeline, and resource availability. Seeing the future availability of your resources in comparison to upcoming changes in demand can help the business take more effective steps in bringing on more or cutting back on resources, as is appropriate

Visualizing Demand-Capacity Curve

Being able to create a Demand-Capacity Curve will help your organization understand its maximum current capacity limited by current bottlenecks over a long-term forecast. This can then be compared against predicted demand, which shifts from month to month or week to week to better understand where your capacity and demand are not synchronized. Failure to do so may lead to overutilized resources or the inability to meet increased client needs. This knowledge will be crucial in refining your resources and business processes.

Which Forecasting Model is Right for You?

There are three potential forecasting models that your business can adopt, each with their own approach, benefits, and drawbacks.

Top Down

In this model, a business' raw headcount number is derived from a financial forecast that computes headcount based on revenue or revenue growth, factoring in average daily rate (ADR), billable utilization, and estimates related to the delivery backlog.

Bottom Up

This model typically originates from resource staffing calendars. As a result, data regarding resource allocation and calendar data is fairly accurate for four to eight weeks into the future, but loses quality and accuracy beyond the eight-week window.

Middle Out

Today, data scientists can model key areas in the overall professional services workflow to address data gaps and/or quality issues. Many professional services automation (PSA) tools are incorporating advanced data modeling with dashboards in support of business demands for better visibility into resource supply and demand. This Middle Out model can effectively be used to validate the Top Down and Bottom Up models, strengthening your forecasting approach.

Being able to create a demand-capacity curve will help your organization understand its maximum current capacity limited by current bottlenecks over a long-term forecast.

Level 4: Institutionalized

Equipping the Entire Company

INSTITUTIONALIZED: SPI PS MATURITY DEFINITION

“Management is using precise measurements, metrics, and controls. Each service performance pillar contains a detailed set of operating principles, tools, and measurements. Organizations have set quantitative and qualitative goals for customer acquisition, retention, and penetration, in addition to a complete set of financial and quality operating controls.”

This level is all about pulling the most value possible from your data insights and applying them to the largest number of applicable parties. Today, data can inform and strengthen everything from project management to hiring decisions to solution adoption by providing proven metrics that shape better decisions. Here, we can see how organizations can make a positive impact on their capacity at a person-by-person level, which, when deployed well across the company, can quickly improve capacity.

How to Reach the Institutionalized Level

Company-Wide Adoption

Your business, and the effectiveness of your capacity planning strategy, cannot progress to a greater level of success until a standardized approach to capacity planning and data entry has been adopted across the entire organization. Company-wide adoption has several different benefits on forecasting, including being able to pull data from many different sources and providing visibility into the many different teams that comprise your business. As a result, your resource and project managers will gain insights for advanced capacity planning and your entire company can gain visibility into data.

Skills Assessment

Effective capacity planning must go beyond simple availability and roles. It must reach into each individual resource's skills. A database and ranking of resource skills must be compiled, preferably with a detailed assessment for each team member, in order to understand individual and company-wide strengths and abilities. Every organization needs to understand what abilities are provided by their current resources, as well as what resources need to be brought in to provide a greater depth of skills, where current team members need to improve their skills, and what resource pools the company can use. This will help an organization effectively improve by understanding what resources, training and solutions to invest in.

Your business, and the effectiveness of your capacity planning strategy, cannot progress to a greater level of success until a standardized approach to capacity planning and data entry has been adopted across the entire organization.

Project Metrics

In coordination with a better understanding of team member abilities, a business must be able to gauge the success of a project, both after its completion and while in progress. Understanding what is both positively and negatively affecting the project, how the budget is being used, and if it is not on track to be completed by the deadline will help the company make needed changes while in progress and refine workflows for improved capacity.

Consider a solution purpose-built for professional services that provides detailed insights regarding budget burn rates and timelines managed through Gantt charts to understand how a project is progressing in real time in relation to its costs and interdependent tasks. This will provide your project managers with metrics that help them understand if they are progressing well and give them the ability to make informed changes, should fast adjustments be needed for in-progress projects. Once a project has been completed, these insights can be further examined to see what held back a project or led to its success so that future tasks can either replicate or avoid these elements.



Abilities Granted by This Level

Skill Insights

Having a skill database means that your managers can more fully understand the skills of each team member. These insights help them match their people to the best potential projects based on skill and interest for a more predictable project outcome. In addition, it can highlight which skills are not being fully utilized, as well as what areas the company is weak in, leading to informed hiring decisions and contract work. These insights will be capitalized on to an even further degree in the next, final level.

Having a skill database means that your managers can more fully understand the skills of each team member.

Effectively Acting on Your Forecast

While you may have been able to forecast your demand in previous levels, the Institutionalized Level allows you to act on it. Use your forecast and capacity insights to pull specialized skills from global

resources, using distributed contract work to gain skills as needed. In addition, you will be able to see capacity around the clock, using resources in different timezones to get work done when it needs to get done, keeping pace with shifting demand for success.

Addressing the Process Bottleneck

As discussed earlier, your business' capacity is dictated by your process bottleneck. However, this limitation can be hard to find and correct without proper insights. This is the level in which your company is finally able to understand what needs to be improved through utilization rates, time to value for projects, and complications within projects. The result is the end of your bottleneck.

Addressing Demand-Generation Obstacles

In coordination with your efforts to improve capacity, better demand insights allow you to understand what may be limiting your ability to generate demand. Win/ loss data can also help highlight where your sales team can improve their processes to capitalize on demand in quantifiable ways.

Limitless Capacity

The flexibility and speed now possible for both recruiting new resources and utilizing them well at this level means that your organization has now achieved limitless capacity. Time, resource skills, trust, and collaboration have all improved to the point where you are not limited in what you can do, only by what is available for you to do.

Level 05: Optimized

Preparation for the Future

OPTIMIZED: SPI PS MATURITY DEFINITION

“Executives focus on continual improvement and a disciplined, controlled process is in place to measure and optimize performance through incremental and innovative technological improvements. Quantitative process improvement objectives for the organization are established and continually revised to reflect changing business objectives. Initiatives ensure quality, cost control, and client acquisition.”

After gaining the ability to improve capacity in Level 4, organizations must move beyond the limitations of human analysis and embrace Business Intelligence solutions to leverage data to its greatest degree and create capacity planning that can adjust and improve in specific yet significant ways. As demand fluctuates and team structure evolves, Business Intelligence solutions can help you react faster and more effectively for long-term success, no matter what changes affect the industry.

How to Reach the Optimized Level

Implement A.I.

This final level is only reachable through the use of Business Intelligence (BI) solutions that can provide insights and create small but significant adjustments to capacity not possible through human management alone. BI solutions should be implemented within your company's larger integration strategy that has been used to interconnect their various systems in previous levels.

With the right implementation process, your BI solution will make the most of the data that you have already been collecting and remove a large amount of time-consuming analysis work for your team. In addition, your BI solution will provide insights that are either not possible to reach or too time consuming to do given your team's schedule.

Understanding Optimized Capacity

Beyond having a strong and consistent capacity, a business must understand what its actual optimized capacity is to become as efficient as possible at all levels of demand without over-burdening their workforce.

The data concerning optimized capacity will look different at each organization, but will always include the right resources working on the right projects for their skills, no major bottlenecks slowing down your capacity, and having the right team size for your ongoing



demand. As a result, optimized capacity will be consistently correct for its current demand, shifting concurrently with demand changes, preventing excessive amounts of benchtime, and quickly adding more resources to take on a new project at the right time. This optimized capacity fluctuates with consistently shifting demand.

Continual Refinement and Long Term Planning

Reaching this level of truly dynamic resource optimization takes continual refinement, which is a necessity due to the fact that demand and capacity are both in states of constant, often mismatching, flux. In addition, this level requires continual refinement and long-term planning to keep your company as effective as possible.

Capacity planning at this level moves past “just in time” resource planning and moves toward long-term success. In addition, managers can become aware of upcoming projects that resources are better

suiting for instead of their current assignments, which could overlap and prevent them from doing more effective work. The result is that your team can better plan for reassignments and use each member in his or her most effective manner. Machine learning and more effective resource management can be used at this level to create a cycle of refinement at your organization.

Abilities Granted by This Level

1. AI and Machine Learning Create Continual Refinement

The result of effective implementation is that your AI solution can provide insights into capacity and help your managers more effectively plan for upcoming demand by knowing what will be necessary before it becomes an immediate action item. In addition, your resources can be continually matched for more effective and predictive capacity planning that makes the best use of their skills and experience in regards to each topic.

2. Scaling Capacity for a Growing Business

Optimal capacity is not something that is simply reached and then maintained by itself. Staying optimal means that your capacity will need to scale with the growth of teams, clients, and projects but scaled through capacity planning aided by AI, helping businesses hit capacity in more efficient ways. In addition, the resource recommendations created by AI can help continually adjust capacity planning to small shifts in demand.

3. Team Dynamics Insights

In addition to understanding the strength of each individual resource, team dynamics insights are possible at this final level, which creates a greater understanding of your workforce beyond availability and skills. This will help your organization understand capacity based on skills, performance, and team dynamics, seeing who works well together through performance feedback and resource recommendations. These are the intangibles that create new levels of success suddenly made tangible at your business.

Your resources can be continually matched for more effective and predictive capacity planning.

Taking Control of Your Capacity

Each organization will find itself at a different level within this hierarchy of needs, but by examining your current abilities regarding data collection and analysis, as well as your general ability to understand and affect capacity at your organization, you should be able to quickly begin improvements.

Remember the following requirements needed to reach each of the five levels of The Hierarchy of Capacity Planning, as well as their benefits to better determine where your business is currently at and what improvements you can make to your current capacity forecasting and planning capabilities.

Through the use of resource management and Business Intelligence insights in the Kantata Industry Cloud for Professional Services™, you can better understand your current capacity, what is holding you back, and what steps you can take to effectively improve your capacity planning.

The result is that your business will be ready for the future, no matter how the market and demand changes.

1. Initiated

Requirements

Collecting data in effective, replicable ways

Benefits

- The ability to determine current demand
- Initial forecasting of future demand
- The ability to identify fluctuations in demand

2. Piloted

Requirements

Robust solution integrations and use of strong, trustworthy tech

Benefits

- Detailed definition of current demand
- Detailed definition of current capacity

3. Deployed

Requirements

Dedicated, informed resource managers who balance demand and capacity

Benefits

- Forecasting capabilities comparing availability and demand
- Visualization of the demand-capacity curve
- Selecting the right forecasting model for you

4. Institutionalized

Requirements

Company-wide adoption, team member skills database, and project metrics

Benefits

- Team member skill insights
- Actionable forecasting data
- Process bottleneck and demand generation improvements
- Reaching limitless capacity

5. Optimized

Requirements

BI capacity analysis for consistent optimization and refinement

Benefits

- Machine learning for continual refinement
- Scalable capacity for business growth
- Insights into team dynamics

Are you ready to understand your resource capacity in detail and start making critical improvements? The Kantata Industry Cloud for Professional Services provides you with the ability to understand, allocate, and optimize your resources in detail, which is critical for long-term success in capacity planning.

[Learn More at Kantata.com](https://www.kantata.com)