

WHITE PAPER

THE CAPACITY QUADRANT: 4 KEYS TO DEMYSTIFYING RESOURCE MANAGEMENT

Background

As organizations in this dynamic economy race to bring innovative products and services to market, they face a common challenge: *How do we make the best use of our limited resources and focus them on work that matters?* Indeed, to many leaders, resource management presents the greatest challenge to achieving superior organizational performance.

One problem is complexity. Organizations are growing ever more complex and taking on an increasing variety of initiatives, often necessitated by market changes, government regulations, and technological advances. All these initiatives create huge demand. On the flip side, with today's economic constraints, resources are more limited than ever. Management simply can't keep up with the shifting priorities, emergent activities, and sheer complexity of trying to manage resource workload across an entire organization.

Hours are then spent in meetings each week—and sometimes daily—reviewing hundreds of projects, in attempts to determine how to staff them, reschedule them, or resolve conflicts.

There are four dynamics at play when managing capacity and demand. Together they make up what we can call *The Capacity Quadrant*, and they include:



Visibility – broadening your view to gain a more holistic picture of demand, a truer picture of capacity, and a better sense of the variables that impact resource productivity and workload



Prioritization – understanding which work is most important, and how it relates to strategies, goals, and value



Optimization – focusing on making the most efficient use of your resources across the right mix of work



Iteration – planning in cycles at multiple levels of the organization, and to varying levels of detail

By maturing in each of these areas, you can make more efficient use of your limited resources, gain a clearer picture of capacity and demand, and overcome the complexities of resource management. This white paper will show you how to put *The Capacity Quadrant* to use in your organization, resulting in better staffing and funding decisions, increased productivity, and, ultimately, higher value.

Table of Contents

Background	1
I. Introduction: The Resource Dilemma	3
II. Visibility: Broadening Your View	4
A. The Demand Lens	4
B. The Capacity Lens	4
III. Prioritization: Understanding What's Important	6
A. Aligning with Goals, Objectives, and the Product Roadmap	6
B. Assessing Benefits and Risks	6
C. Categorizing the Work	7
IV. Optimization: Focusing on Efficiency and Value	7
A. Economy of Force	7
B. Investment Analysis	8
C. Addressing Resource Effectiveness	8
V. Iteration: Planning at Multiple Levels	9
A. Levels of Planning	9
B. Governance Councils	9
C. Managing Change	10
VI. Managing Capacity with Planview Enterprise	10
VII. About the Author	12

I. Introduction: The Resource Dilemma

Organizations often cite resource management as their most overwhelming challenge. Despite the best laid plans, they just can't get a handle on getting the right people available at the right time. The key questions they typically ask are:

- How do we staff all this work we've just approved, and what else will it impact?
- With things changing so frequently and firefights happening daily, how can we commit resources with any level of confidence?
- How do we shift gears when priorities do change?
- What happens when projects run late, tying up our most vital resources?
- Can we really deliver on our product roadmap?

Because of this, organizations sometimes resist taking on new projects for fear of the ability to deliver. Thus they become less aggressive—and less competitive—in the marketplace. Or worse, they do the opposite and, with blinders on, take on unlimited demand, managing as if they have infinite capacity. As an analogy, consider how you treat your checkbook. If you don't know what's in your account at any one time, or when automatic bill payments will hit, you either become timid about writing checks or you write them anyway and hope for the best. Meanwhile, the kids need new shoes.

Similarly, you need a clear picture of resource availability to confidently take on new projects and react to sudden market opportunities. Otherwise, valuable resources are wasted or misused. While there's no silver bullet for capacity planning and resource management, there are four distinct dynamics that can greatly improve success and help an organization become proactive instead of reactive. Together, these dynamics make up *The Capacity Quadrant*.

The four components that make up this framework are:



Visibility – This includes improving visibility across three lenses: the Demand Lens (including strategic projects, regular projects, services, and other planned work), the Capacity lens (i.e., resource calendars minus vacations, holidays, and any unplanned work that can be estimated on a standard percentage basis), and the System lens (i.e., using a systems thinking approach to identify the many variables that can impact resource workload, efficiency, and productivity).



Prioritization – This involves understanding organizational goals and priorities, creating flexible scoring mechanisms that can encompass all discretionary work, and understanding the linkages between projects, programs, and products on the overall roadmap.



Optimization – Here you can maximize your resources by focusing them on the most critical work; limiting the volume of primary demand objectives; tightening the resources on secondary objectives; and addressing efficiency issues identified during the whole system analysis (as part of the Visibility component). During this phase, alternate staffing strategies can be assessed as well.



Iteration – This involves planning capacity and demand at varying levels of detail at different points in the planning horizon. For instance, early on, top-down high level plans are appropriate, with more detailed planning occurring as the work approaches. The two views should be reconciled during each planning iteration. Likewise, different organizational bodies will assess different types of work. Like all planning, demand and capacity planning is not a one-time activity.

Let's examine each of these dynamics in more detail.

II. Visibility: Broadening Your View

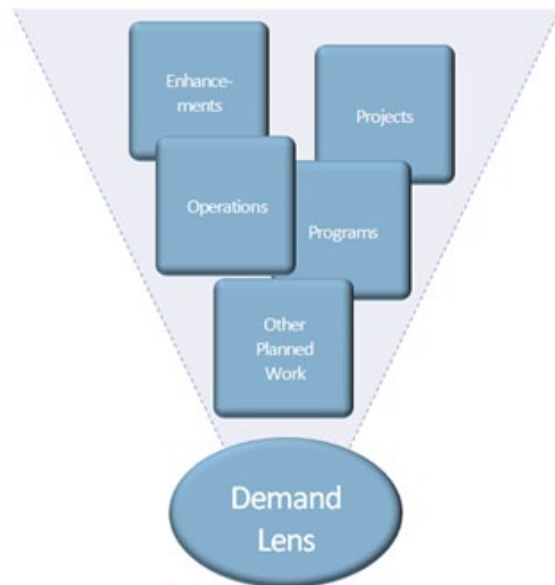


Before attempting to maximize resources or gain accuracy around staffing, it is first important to start with a good foundation—broad visibility into the work that’s consuming your resources and the variables that are making them operate inefficiently. Specifically, there are three lenses to be concerned with:

A. The Demand Lens

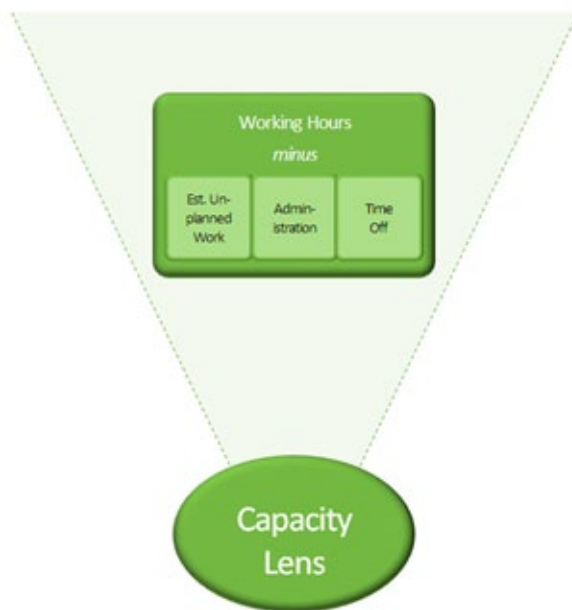
In order to truly assess where your resources are being consumed, the *Demand Lens* must encompass the full suite of planned work. This includes major projects, smaller initiatives, enhancements, planned operations, and any work that may be considered discretionary. This is particularly important for resources that are shared.

Most projects and initiatives, unless it’s a standalone effort with its own resource pool, use resources that are also doing other work, such as other projects or support work. By looking at only projects, as many organizations do, you get a false sense of demand. Likewise, it is vital for the full suite of demand to be captured into one system for effective analysis, even if it must pull from multiple sources of entry.



B. The Capacity Lens

The flip side of demand is capacity—i.e., what is the full capacity of your resource pool to take on all this demand? The *Capacity Lens* should look at the full resource calendar (i.e., working hours), minus non-work time, administration time, and unplanned work time. Examples of non-work time would be vacations and holidays. Administration may include general staff meetings, emails unassociated with a planned work initiative, and similar type work. Unplanned work would include emergency or break-fix work, support work, and other such work whose volume can be estimated, but not planned.



Holidays and vacations can be scheduled for the most part, reducing capacity. Administration and unplanned work can be estimated on a percentage basis in what we can call a *standard activity*. Once this is subtracted from the resources’ working hours, then you have a true picture of your capacity to take on work. And what you’ll find is that there’s surprisingly little left to address demand (which is why projects often end up being delayed due to “unexpected” events). That’s where the remaining parts of the Capacity Quadrant come into play. But before we move on, there is one more lens that must be addressed.

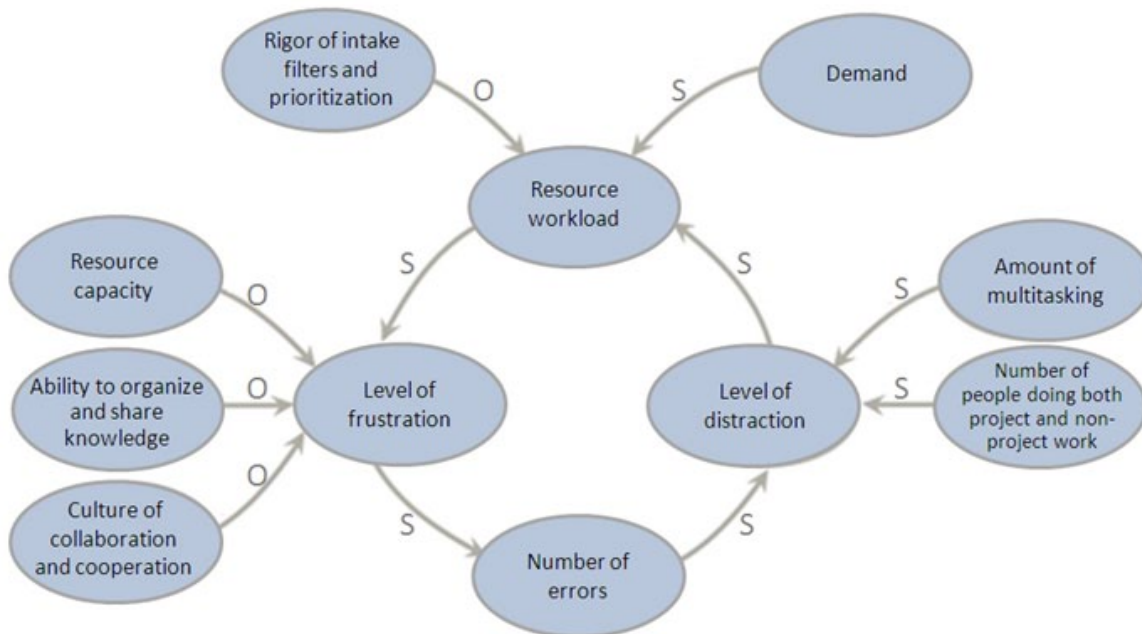
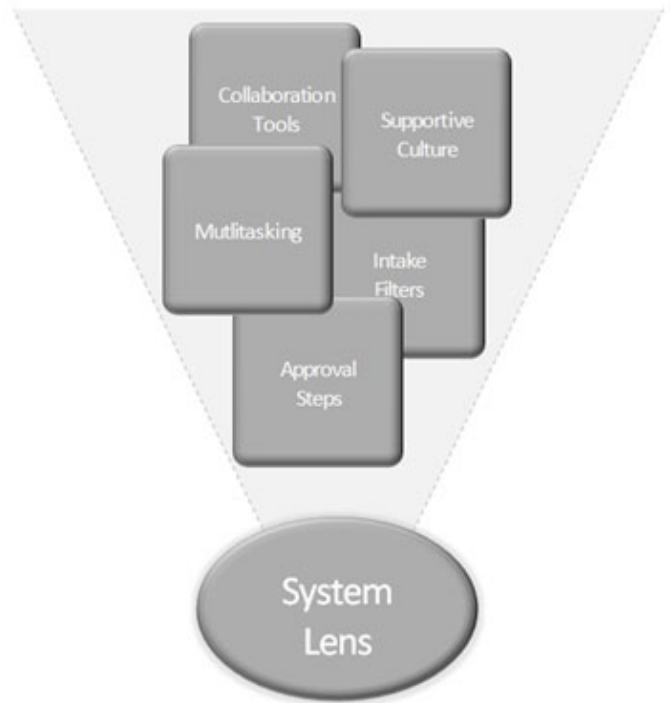
C. The System Lens

A broad view of capacity and demand improves the picture, but it is not the whole picture. There are many variables that impact resource workload and productivity. The best way to examine the relationships between multiple variables is to use a *systems thinking* approach. That is, rather than look at how A effects B (simple cause and effect), examine how A, B, C, and D impact each other. In this way, we can understand the dynamics of a complex system. And organizational resource workload is most certainly a complex system. The *System Lens* does just this. It examines the variables that impact resource workload, and their impact on one another.

A good way to look at it visually is through a *causal loop* diagram. The concept is to lay out the variables, and use an “S” to designate where a variable influences another in the same direction and an “O” where it influences in the opposite direction.

For example, in the figure below, if *demand* goes up, *resource workload* goes up. Simple enough. But if the *ability to organize and share knowledge* goes down, the level of frustration goes up (opposite direction), which raises the number of errors, which increases the level of distraction, which together add to the resource workload.

Other variables that directly or indirectly impact resource workload are the level of multitasking, the number of people doing both project and non-project work, having a culture of collaboration, and more. This is but a brief example. Each of these areas can be expanded tenfold.



In essence, resource workload is not just about capacity and demand. It is about the various elements that lead to distraction, frustration, errors, communication barriers, and other barriers that create *unnecessary demand*, the hidden form of demand nobody likes to talk about—the cogs in the wheel of progress.

With full visibility of these barriers, plus a true picture of demand and capacity, the foundation is set for making more effective use of your resources. A key part of this is understanding which work is most important.

III. Prioritization: Understanding What's Important



Albert Einstein said, "Confusion of goals and perfection of means seems, in my opinion, to characterize our age." He could very well have been talking about most organizations today. Prioritization is a vital piece of the resource management puzzle. Without it, valuable resource time is wasted on efforts that bring little or no value, or are not working toward the proper organizational strategy.

Just as there are multiple lenses for resource workload, there are multiple lenses for work priority. We must understand:

- How the work aligns with goals, objectives, and the product roadmap
- What the benefits and risks are, as compared to other work
- By what other categories the work can be assessed versus other work

Let's examine each in more detail.

A. Aligning with Goals, Objectives, and the Product Roadmap

The first step in effective prioritization is understanding the organization's goals and objectives. A common approach is the MOST model (Missions, Objectives, Strategies, Tactics). The missions are broad goals that the organization is trying to achieve. Objectives support the missions and are specific and measurable (i.e., improve xyz to a yyy level by zzz date). Strategies represent the "how" (the means or solutions for meeting the objectives). And tactics are specific programs, services, product lines and other initiatives that are tied to strategies.

In this way, discretionary demand is aligned with organizational goals and objectives. Even smaller initiatives can somehow be tied to programs, which can serve as groupings of work toward certain objectives and strategies.

Finally, for organizations that create commercial products, projects can be linked to the appropriate end products. As the products are aligned with brand strategy and strategically placed on the product roadmap, so it will impact the priority of the projects that support the product's development.

B. Assessing Benefits and Risks

Once work is aligned, the next step is to identify the benefits and risks of the work. This will allow you to later compare it to other work to determine its priority. Often this is done through a scoring mechanism. For instance, work can be assigned a score based on values such as:

- Regulatory/Contractual
- Strategic Alignment and Importance (*including both the degree of alignment [strong fit vs. weak] and level of impact to business*)
- Financial Return/Profitability
- Competitive Advantage
- Business Operations (*e.g., efficiency, responsiveness, reliability*)
- Probability of Commercial Success
- Strategic Leverage (*e.g., can spawn other products, not easily copied by others, long market life, etc.*)

Typical risk areas to assess are:

- Technical Complexity
- Program Complexity (*e.g., number of stakeholders, use of outside vendors, use of offshore resources, number of intra and inter-program dependencies, organizational or geographic reach, processes impacted, etc.*)
- Existing Skill Base
- Availability of people and facilities

The benefit and risk scores can each be averaged. The work can also be depicted in a quadrant (i.e., a bubble chart or some other mechanism) showing the benefit score on one axis and risk score on the other. In this way, it will be easy to identify work as:

- High value – Low Risk (aim to maximize resources)
- High Value – High Risk (aim to reduce risks)
- Low Value – Low Risk (question the value)
- Low Value – High Risk (avoid unless mandatory)

C. Categorizing the Work

In addition to organizational alignment and benefit/risk score, it is helpful to categorize the work in other ways as well. This provides additional lenses by which it can be assessed. One such category is the *Business Driver*, which can include items such as:

- Growth
- Efficiency
- Enhancements
- Reliability
- Regulatory

Other, more specific, business drivers might be:

- Increased Revenue (has a direct impact on increased revenue)
- Cost Reduction (has a direct impact on cost reduction)
- Technology (updates technology or introduces new technology)

In addition, work can be categorized by *Work Type*, such as:

- Mandatory
- Discretionary
- Base Services/Operations

There are other categories as well, which can vary based on the organization's focus.

Through all these lenses, better decisions can be made to prioritize and rank demand so that resources can be assigned, and shifted as needed, to work that matters. This final ranking, which should be done consciously and not automated, should not be sequential (which is a fruitless cause bound to frustrate anyone who tries), but rather a *rank grouping*, for instance 1 through 5. This, combined with the other lenses, can be used to make informed decisions.

IV. Optimization: Focusing on Efficiency and Value



At this point you have a clear picture of capacity and demand; you understand the variables that are impacting resource workload and productivity; you understand how the demand aligns with strategy; and you have a good feel for the relative value and importance of each demand initiative. Now, with eyes wide open, it's time to take action and make the best possible use of your limited resources.

A. Economy of Force

There is a well-known military strategy, still used today, called Economy of Force. This strategy was most famously applied by Napoleon and later documented by Carl von Clausewitz in his landmark book, *On War*. The concept is threefold:

- Apply the *maximum effective amount of resources* to your primary objectives (too many is no longer effective)

- Apply the *minimum effective amount or resources* to your secondary objectives or base operations (too little will cause problems and render those objectives primary)
- Apply any reserves or remaining resources to augment secondary objectives, or toward some other effort of value (i.e., waste no resources)

There are certain underlying principles behind this strategy, and a vital one is to limit the number of primary objectives. The fastest path away from value is to dilute resources across too many initiatives, which is tantamount to fighting a war on multiple fronts.

Thus, it becomes critical to realistically assess how much demand you can take on, given your limited resources. This is where the visibility and prioritization serve as enablers.

B. Investment Analysis

Using a combination of the scores, rank, basic financial information, and whatever categorizations have been assigned (e.g., business drivers, work type, benefit/risk quadrant, etc.), you can begin to make decisions around which work investments to take on. Alternate scenarios can be created in line with different portfolio approaches. This is similar to investing in retirement funds, in which different mixes of investments can be considered based on your risk tolerance, personal preferences, age of retirement, and so on.

Through it all, the goal should be to apply the Economy of Force principles. Don't undermine your secondary objectives, and don't take on more than you have the capacity to do effectively. Tradeoffs may be required. Alternate staffing strategies may need to be considered as well, especially in areas where resources are most constrained. Areas to consider are:

- Direct Staff
- Offshore
- Outsourced
- Supplemental Consulting

With a variety of staffing strategies, an analysis of investment scenarios, and the principles of Economy of Force at play, resources can be strategically leveraged. The next step is to make sure there are no barriers to productivity.

C. Addressing Resource Effectiveness

Going back to the Economy of Force strategy, a key assumption is that any barriers to resource effectiveness are removed. In the military, this may mean training, proper supplies and uniforms, and any number of things. In an organization, there are other variables as well. Recall the Systems Lens discussed earlier, and the associated causal loop diagram. If properly built out and analyzed, this will reveal the variables that can impact resource workload, and a decision can be made as to which ones to address. This should lead to a number of improvement efforts toward resource effectiveness. For instance, there may be issues around:

- Inefficient or counterproductive organizational structure
- Knowledge-sharing capability
- Collaboration technology
- Cultural issues that inhibit teamwork
- An overly complex approval process where checklists might be sufficient
- Redundant process steps
- Morale/leadership issues
- High levels of multitasking
- Little or no demand/intake filters to validate incoming demand

This is just a sampling of the many issues that can inhibit resource effectiveness.

V. Iteration: Planning at Multiple Levels



The final dynamic in the Capacity Quadrant deals with the everyday realities of resource management. This is where organizations tend to struggle the most—finding an effective and efficient system of resource planning in a complex environment.

There are three dynamics at play here: understanding the various levels of planning, setting up practical governance councils, and managing change. Let's look at all three.

A. Levels of Planning

Planning is not a one-time activity, nor is it done by one group. It is a collective effort, conducted at multiple levels. For instance, *Top-down Capacity Planning* involves estimating high level capacity (using resource hours times rate, minus a certain percentage for time-off, administration, and unplanned work), and comparing it to the current and expected demand. The goal is to get a general sense of how many resources are available to take on new work. Generally this approach is for long-term high level capacity planning.

Operational Capacity Planning is similar, except it is done at a cost-center level, and rolled up to the higher levels to compare with demand. This should then be compared with the Top-Down plan and any discrepancies reconciled.

In addition to these capacity plans, there are lower-level resource plans as well, which again should be used to update higher-level plans. These lower-level plans are typically done at the project level and operate along the planning horizon.

For instance, early in a project, resource *requirements* are submitted, which call for certain skills or roles. It serves as a “heads-up” to resource or functional managers to think about whom to provide for upcoming work. As time approaches, named resources can be *reserved* or soft-booked. Since things can change so frequently, this enables resources to be easily shifted as needed. Once the work approaches, however (for example three to six weeks out), a named resource can be *allocated* or hard-booked, which makes them unavailable for other work.

This flexible and pragmatic approach allows for more granular resource planning as the actual work approaches and more is known. Again, higher-level plans should be updated accordingly.

B. Governance Councils

The goal of governance is to oversee active initiatives and to evaluate ongoing progress versus current organizational priorities and capacity constraints. This is the glue that holds capacity planning together. Yet, one governance council cannot practically govern the entire scope of demand, which is why most organizations have different levels of governance councils and committees to address multiple tiers of work.

For instance, senior executives will not want to assess large volumes of small projects, but may want to weigh in only on major programs or projects over a certain size. Even here, each organization is different. In one organization, executives may only want to see projects over \$500,000, while another organization might view a \$20,000 project as a major initiative.

In general, the following levels of governance should be considered:

Level 1: Executive Council

- This council, made up of senior management, shapes the strategy for the entire organizational investment portfolio, approves large-scale initiatives, and resolves enterprise conflicts.

Level 2: Governance Council

- Made up of a cross functional group of investment owners, this council manages the organizational investment portfolio, approves the right mix of work that drives value, and monitors how well the benefits are being achieved. In a large organization, there may be multiple governance councils for different categories of work.

Level 3: Steering Teams and Program Boards

- Steering teams and program boards, usually made up of managers and directors, establish priorities, attend gate reviews, provide guidance, and assess the performance of the program or project they are responsible for. They can also recommend changes, such as moving, reprioritizing, or terminating the investment, any of which may require re-analyzing the whole portfolio.

To avoid senior managers having to serve on multiple teams, the governance council may also serve as the steering team or program board for large initiatives. Also, in addition to program and project-specific steering teams or boards, some organizations have one or more separate councils to govern enhancements and small projects for their given functional area.

Advisory Councils and/or SIGs (Special Interest Groups) can also be set up by functional area to serve as the voice of the business and/or make recommendations regarding priorities and needs for their particular area.

All of these councils and committees can serve to assist with capacity planning and help resolve resource conflicts. Resource management is not the job of one person or one group. It is a collaborative effort, and will involve discussions and tradeoffs.

C. Managing Change

Despite the best planning, change is inevitable. Some emergency, market shift, or management decision will ultimately happen, requiring last-minute shifts in resources. Projects may need to be rescheduled or even terminated. Staffing strategies may need to be discussed. Even hard-booked resources may be required to drop what they are doing to address an emergency. This is the way business works, so organizations need to be agile and adaptive.

Certainly, governance councils and committees can help make the necessary crucial decisions when change happens. But even here, it is vital to have clear visibility of capacity and demand; understand the organization's goals and priorities; optimize your resources toward high value work; and appreciate that planning must happen in cycles and at multiple levels. With all four dynamics in play, you can manage capacity in a way that is organized, pragmatic, and adaptive to change. This is the power of the Capacity Quadrant.

VI. Managing Capacity with Planview Enterprise

Portfolio management solutions can help you shed light on the four key dynamics that make up The Capacity Quadrant—*visibility*, *prioritization*, *optimization*, and *iteration*—enabling you to demystify resource management, make more informed decisions, and maximize your resources toward high value activities.

Planview Enterprise® portfolio management offers an integrated, closed-loop approach to resource capacity planning. It combines top-down planning with bottom-up execution, leveraging automated lifecycles to manage the entire process from start to finish. The result is a clearly defined path to organizational efficiency that balances and assigns work based on project priority, required skills, and resource availability. You can efficiently measure and monitor capacities on an FTE level and respond quickly to internal and external changes using dashboards and real-time trend analysis. This robust planning tool allows you to receive automatic notifications on work slippage, capacity issues, and other concerns while extending your planning horizon, allowing you to engage in capacity planning months in advance.

Planview® solutions are integrated with proven best practices to help you build process maturity and maximize your return on investment. These adaptive best practices deliver a roadmap to success, providing an automated, step-by-step guide to process improvement that is built into your Planview solution. Mature your resource management and capacity planning processes with the most comprehensive best practices library available.

Planview offers portfolio management solutions that help organizations embrace change by bridging the gaps between strategy, Finance, and operations. Our portfolio-driven approach integrates ideation, strategy, operational planning, execution management, and Finance in order to provide a crystal-clear picture of value delivery at all levels of the organization.

This helps organizations align their most critical resources—people and money—with strategy; create a competitive advantage through the ability to rapidly adapt to change; drive efficiency through a unified view of all business components; and measure true value through a holistic set of metrics.

With this holistic, integrated, and portfolio-driven approach, Planview can help you and your organization embrace change, create unity, and thrive in an environment that's defined by change.

To learn more about the comprehensive solutions Planview offers, please contact Planview at:

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VII. About the Author

Jerry Manas, Senior Editor at Planview, is frequently cited by leading voices in the world of business, which often reference his best-selling book, *Napoleon on Project Management*, particularly its core themes of simplicity and focus.

Throughout his career as an author, speaker, and consultant, Jerry has built a reputation for taking complex information and processes and making them clear and accessible.

His work has been highlighted in a variety of publications, including *Leadership Excellence*, *The National Post*, *The Globe and Mail*, *The Chicago Sun Times*, and *The Houston Chronicle*. He has written numerous articles and appeared on radio programs nationwide.

In *Napoleon on Project Management*, Jerry drew insightful parallels between Napoleon's strategic brilliance and success in today's organizational and business worlds. The prestigious Kirkus Reviews called it "the ultimate case study in effective project management." The book has been published in eight languages.

His book *Managing the Gray Areas*, which brought new perspectives on resolving the most common leadership dilemmas, was hailed by Pat Williams, Senior VP of the Orlando Magic basketball team, as "a new path for leaders."

Jerry collaborated with the Creating WE Institute on the bestselling book *42 Rules for Creating WE*, which reached #1 on Amazon in Leadership, Management, Motivation, and Organizational Behavior. His latest book, *Project Lessons from the Roman Empire* examines lessons in leadership and communication from the rise and fall of Rome.

Jerry is a founding member of The Creating We Institute, an international thought leadership community dedicated to fostering WE-centric practices through collaboration, research, and publishing. A prominent voice in the blogosphere, he is co-founder of the popular blog PMThink! and a founding member of the Project Management Institute's New Media Council, which keeps abreast of trending topics.

At Planview, Jerry applies his passion and expertise to developing best practices that help organizations achieve breakthrough performance across a framework of business processes and roles. He also is focused on creating communities of practice around topics such as innovation, capacity planning, portfolio management, project management, and more.

Jerry welcomes your comments and feedback. Contact him at jmanas@planview.com.



For more than 20 years, Planview has been advancing the discipline of portfolio management, helping our customers change the way they manage people and money to make better business decisions. With a singular focus on portfolio management, Planview is the only company that combines customer-driven software, unmatched domain expertise, and proven best practices to solve each customer's unique business problems. For more information, visit www.planview.com.

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