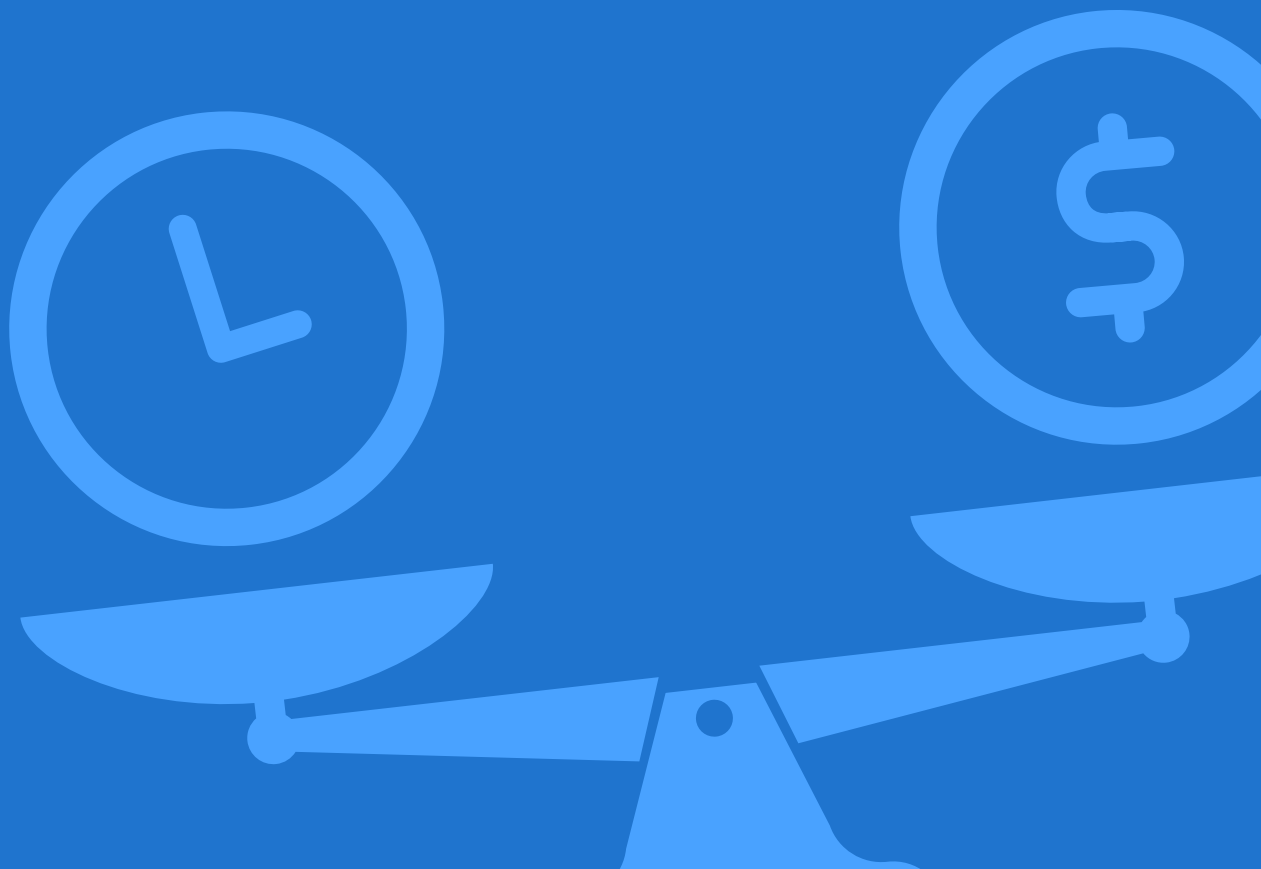




Unpacking Billing Rate Distribution

Introducing Leverage Ratio: a Simple
Explanation to a Complex KPI



INTRODUCTION

Professional services firms are not all alike.

Many industry analysts, many professional services managers, and many software vendors who profess to understand the industry take a vanilla, generic approach to optimizing the operations of the professional services firm. Or, worse yet, they focus on a single metric such as increased project collaboration, and claim that to be the holy grail of professional services success.

This white paper seeks to break that model. It builds upon the work of management experts, researchers, professors, and operators to provide a little more nuance to that simplistic worldview. It promotes the idea that the key to a successful professional services firm is the thoughtful, intentional balancing of a handful of key performance metrics and the alignment of those metrics with the strategy unique to that organization.

In this paper, we also dive deeper into the one metric that is essential to incorporate into this delicate balance, yet is rarely talked about and almost never actually measured. To remedy this situation, we propose a standardized, easily understood, and quantifiable metric called leverage ratio that organizations with the right systems and processes can easily adopt.

Finally, we explore how this leverage ratio metric behaves in the real world and some of the implications of intentionally pulling the key levers that affect it.

BALANCE + ALIGNMENT

The key to the successful professional services firm is the thoughtful, intentional balancing of a handful of key performance metrics and the alignment of those metrics with the strategy unique to that organization.

We hope you find the concepts in this white paper educational, thought-provoking, or at least faintly illuminating. If you would like to find out more about balancing the unbalanced, aligning the misaligned, or measuring the unmeasurable, get in touch with a member of our team here.

We thrive on this stuff.

Steve Chong

Head of Strategy | BigTime Software

ALIGNING STRATEGY WITH OPERATIONS

David H. Maister is arguably one of the world's leading authorities on the art and science of managing professional services organizations.

While a professor at Harvard Business School, he published the seminal book on the topic, *Managing the Professional Service Firm*. In this book, Maister introduces the notion that not all services firms are alike. Some base their entire business strategy upon being the only people on the planet smart enough to solve a heretofore intractable problem. Others stake their reputation on delivering solutions to very common problems, just more reliably and more efficiently than could be accomplished by their clients or their competition. The important thing is to understand the firm's strategy and align its operations, its staffing mix, and its metrics in support of that strategy.²

A more recent article by Ashish Nanda and Das Narayandas published in *Harvard Business Review*, called *The Professional Services Spectrum*, to lay out a continuum of strategies most often employed to deliver services.

Four Main Types of Services Firms and the Key Profit Drivers



COMMODITY

A firm that provides a commodity service is less concerned with ground-breaking innovation and is more intent on solving relatively simple problems efficiently, cheaply, and reliably. These organizations specialize in high-volume hiring and ramping of dependable, reliable talent, often located in regions with lower labor costs.



PROCEDURE

The procedure practice focuses on problems that are more complex than the commodity practice but can still be solved through pre-defined methodologies and systematic approaches. These firms gain a competitive advantage by relying on well-thought-out playbooks built by more seasoned employees that less experienced but motivated consultants can use to ramp quickly and deliver efficiently.



GRAY HAIR

An organization that relies on the gray hair approach specializes in helping clients solve problems that may not be identical to previously encountered challenges, but do require years of accumulated experience to inform and influence solutions to those problems. Gray hair practices place a larger emphasis on hiring, professional development, and consciously managed attrition, often employing an intentional “up or out” policy.



ROCKET SCIENCE

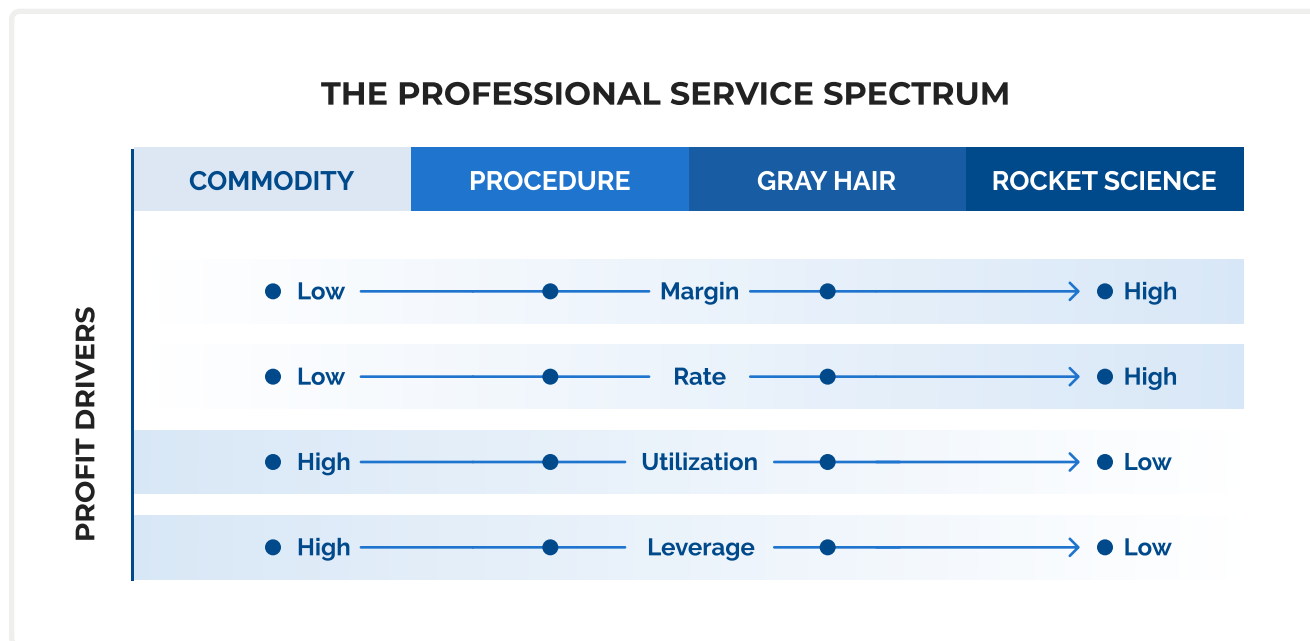
Rocket science strategies are fairly rare and are employed by firms that seek to solve unique, high-risk problems that may form the basis of the fundamental, existential questions of a company. These organizations by necessity employ a relatively small number of extraordinarily talented, innovative people with niche skills or unique problem-solving capabilities.²

¹ Maister, D. H. (June 1997). *Managing the Professional Service Firm*. Simon & Schuster, p. 6.

² Nanda, A. and Narayandas, D. (February 2021). *What Professional Service Firms Must Do to Thrive*. Harvard Business Review.

While Maister's earlier model describes three core strategies versus Nanda and Narayandas' four, they all agree that the important concept here is less about the specific definitions and more about the importance of aligning the firm's operations with its intended strategy.

To drive this point home, the more recent article describes the profit drivers of a services organization and how they differ based on where the firm intentionally places itself along the professional services spectrum:



Here, it's evident that to run a successful firm based on a commodity strategy, the organization needs to focus on metrics like maximizing utilization as opposed to solving for high bill rates. To run a successful gray hair strategy requires largely the opposite.

The other key takeaway here is that, while it may be appealing to think of your firm as closer to the rocket science edge of the spectrum, it's important to be realistic about what your organization's capabilities and goals actually are. Further, while rocket science may sound sexy, it's hard to achieve at scale. As Nanda and Narayandas point out about commodity practices, "the Big Three Indian outsourcing giants, Wipro, TCS, and Infosys, have gained scale and recognition while operating at this end of the spectrum."³

³ Ibid.

MARGIN, RATE, UTILIZATION, AND..LEVERAGE?

Keeping talented consultants sufficiently utilized and billing at a high enough rate to achieve reasonable margins is the heart of any professional services business model. To that set of metrics, we generally add measures of delivery success.

Because the professional services business is so reputation- and relationship-centric, an organization may get by with unhappy clients in the short term, but won't survive over the long run. We've written a more intensive exploration of what we see as the key professional services metrics, along with benchmarks helping organizations understand what "good" looks like, in a companion white paper called [Metrics that Matter](#) in this same insight series.

Taking a closer look at Maister's and Nanda and Narayandas' work, however, reveals a concept that is rarely discussed and almost never quantified, which is the idea of leverage. Leverage isn't a hard concept to grasp as it's related to how dependent the organization's delivery capabilities are on more entry-level, junior people versus more seasoned, experienced, or specialized talent. Based on this understanding, it's not hard to intuit that the procedure-based practice thrives by relying on more senior staff to codify their knowledge into reusable assets and frameworks that can be used by less experienced staff to actually deliver the work.

On the other hand, business models based on the rocket science strategy cannot, by definition, rely heavily on commoditized, readily available talent, and so is heavily dependent on people who are more experienced and who possess harder-to-find, specialized, or niche skills.

HOW TO MEASURE LEVERAGE

Part of the challenge of measuring leverage is having the right raw data to work with and figuring out the right statistical methods to use to make sense of it in a consistent, repeatable, and understandable manner. Services organizations that run their businesses with informal processes like email and ad-hoc systems like Excel may lack sufficient detail, consistency, and cleanliness in their data to support this sort of analysis. Fortunately, the popularity of Professional Services Automation (PSA) software enables the efficient collection, aggregation, and analysis of exactly the type of operational and financial data needed for this analysis.

The type of data that we'll use here consists of the hours that are invested to deliver all of an organization's billable work and the realized bill rates each individual hour is valued at. That may seem simple, but a surprising number of services organizations don't have the systems and processes in place to measure this with a sufficient level of detail and accuracy. Doing so entails having the discipline to capture all hours invested in delivering billable work, even if not directly billed to a client. It involves assessing the value of each hour, even if delivered within the context of a fixed-price contract or a retainer agreement where the revenue generated is not directly dependent on the labor invested. It involves being able to differentiate between hours invested by more junior staff from those delivered by more senior people, which means an accurate bill rate or labor cost rate management mechanism. Finally, understanding how this concept changes over time involves being able to accurately track the related inputs over time.

With this information in place, we can start understanding how much of the firm's billable work is delivered at higher bill rates by more senior people versus at lower bill rates by more junior people.

To do so in any disciplined manner requires some level of statistical analysis since using vague qualifiers of "lots" of hours delivered at "low" rates and "fewer" hours delivered at "higher" rates tends to lead to unconvincing arguments. How do we define "lots" or "high" in a repeatable manner?

LEVERAGE RATIO

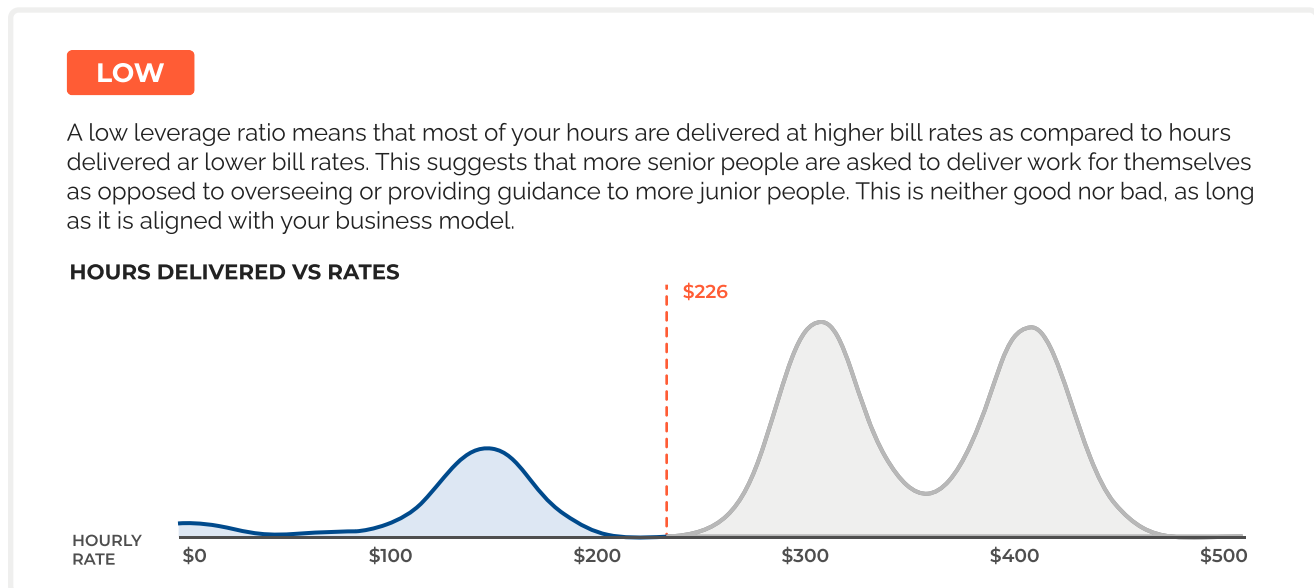
Leverage ratio is the percentage of total billable hours delivered by more junior staff.

We'll introduce two simple concepts: a cutoff rate and a leverage ratio. The cutoff rate will be defined as the rate that separates junior resources from senior resources.

We won't get into the whole process of calculating the cutoff rate here as it involves some mechanisms to control for noise and aberrations, normalize for organizations that operate in multiple currencies, and account for business models involving a high degree of non-labor revenue. But, in general, it represents the rough midpoint of the rates that are typically used by the organization to deliver billable work.

The leverage ratio will be defined as the percentage of total billable hours delivered at a rate less than the cutoff rate. Thus, organizations with a low leverage ratio tend to use their more senior resources to deliver much of the work themselves. On the other hand, firms with high leverage ratios shift the focus of senior members of staff towards activities that help promote scalability: knowledge transfer and mentoring, governance over the delivery process, and the establishment and promotion of organizational identity.⁴

Some representative examples of organizations with low, medium, and high leverage ratios look like this:

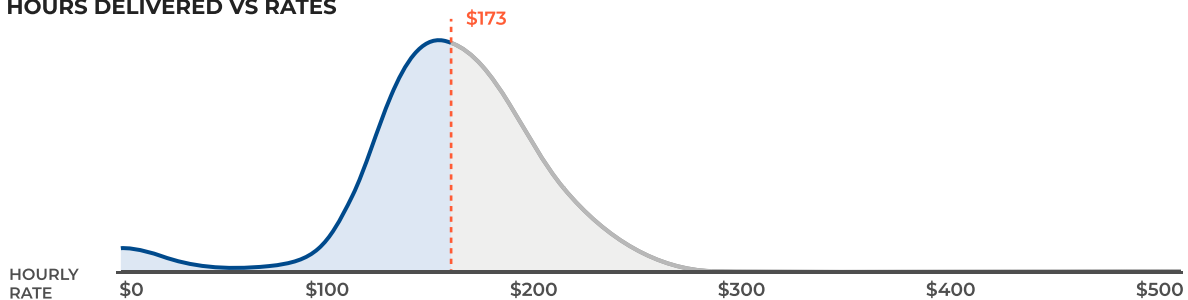


⁴ Empson, Laura. (July 2021). *Researching the Post-Pandemic Professional Service Firm: Challenging our Assumptions*. Journal of Management Studies..

MEDIUM

A medium leverage ratio means that about the same number of hours are delivered with high and low bill rates. This suggests a balance between more senior people being asked to provide oversight and guidance to more junior people versus delivering work themselves. This is neither good or bad, as long as it is aligned with your business model.

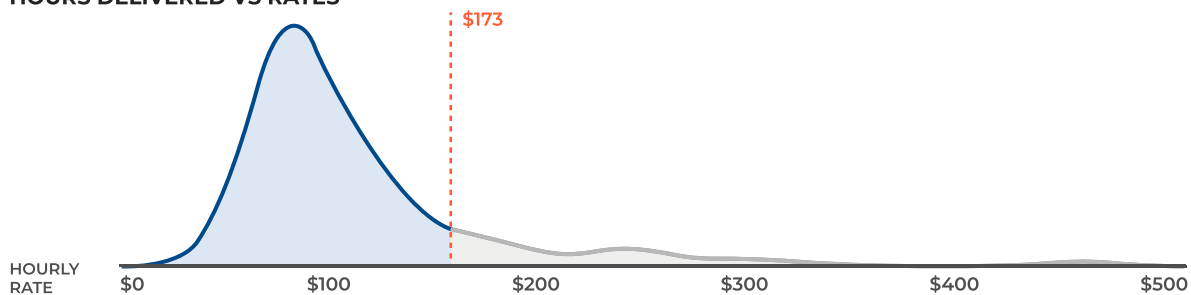
HOURS DELIVERED VS RATES



HIGH

A high leverage ratio means that most of your hours are delivered with low bill rates as compared to hours delivered at high bill rates. This suggests that more senior people are used to provide oversight and guidance over more junior people rather than being asked to deliver work for themselves. This is neither good or bad, as long as it is aligned with your business model.

HOURS DELIVERED VS RATES



It's important to note that leverage ratio and average bill rate don't necessarily coincide since the cutoff rate is derived from the rates commonly used by the organization historically. That is, an organization could have a high leverage ratio with a lower cutoff rate than a different firm that has a low leverage ratio with a higher cutoff rate, as the examples above illustrate.

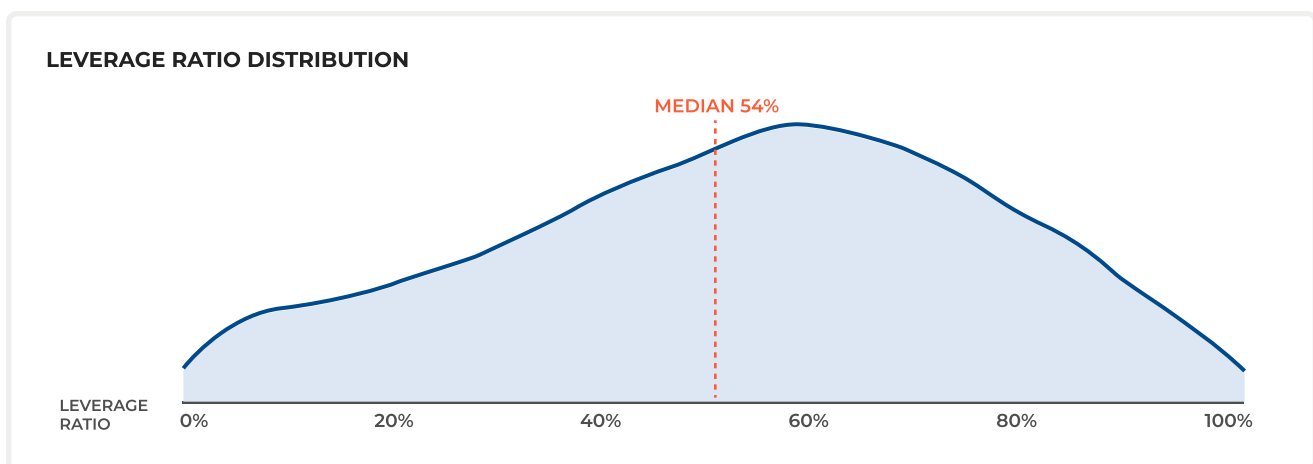
OK, so that's most of the geeky stuff out of the way (although, if you're interested in diving in even deeper, let us know...we tend to obsess over this stuff). In the following sections, we'll start to explore what the point of measuring leverage ratio is and what the implications of making conscious decisions around making changes to it could be.

LEVERAGE RATIO IN REAL LIFE

With the academic stuff out of the way, we can finally get to talking about what this idea of leverage ratio means in the real world and what an understanding of it can do. In order to get a better understanding, we used the methodology described above to calculate the leverage ratio of thousands of professional services organizations that use BigTime Software and Projector by BigTime as the system they use to manage the operations of their business.

These companies are a reasonable representative sample of services firms worldwide as they range from small specialty boutiques with a staff that could all fit into a Ferrari at once to large enterprises with tens of thousands of employees that design Ferrari interiors for a living. They cover a wide range of industries from niche specialists that work exclusively with local craft breweries to management consultants that advise the Fortune 500. They range from firms that operate exclusively in a local geography to global conglomerates with offices in dozens of countries around the world. Most importantly, because we are able to analyze data directly from the systems used to manage the businesses themselves, the analysis is not subject to the unconscious bias or lack of resolution that often plagues survey data.

What this analysis provided was a fascinating picture of how real companies deliver billable work. Generally, leverage ratios ranged from a low of about 16% to a high of 92%, with a median of 54% and a roughly normal distribution.



DIGGING DEEPER

The overall medians and distributions of leverage ratio are fine taken in aggregate, but because of the vast diversity in professional services business models, it's not until we dig a little deeper that the data starts to become more interesting.

INDUSTRY

When we break down the leverage ratio by industry, we start to see verticals like Marketing and Architecture firms near the top with leverage ratios close to 60%. Presumably, this is because while these sorts of businesses certainly have their share of high-value innovative services such as conceptual designs and brand strategies, they couple those services with more commoditized offerings such as copywriting and construction drawings.

At the lower end of the spectrum with leverage ratios in the mid 40% are Legal and IT Services. The fact that law firms would have relatively low leverage ratios is not a shock given that clients are generally paying for the expertise of and advice from seasoned, experienced professionals.

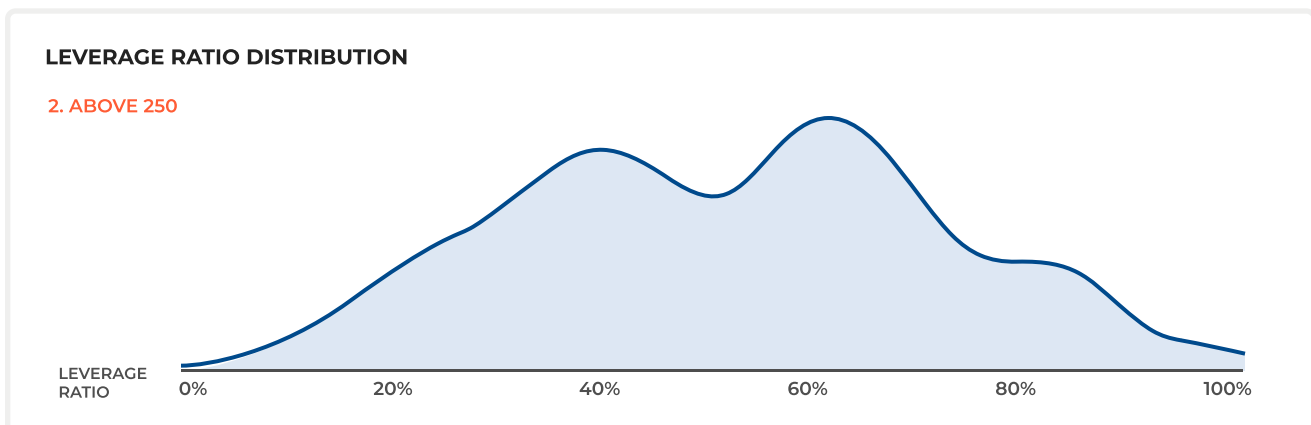
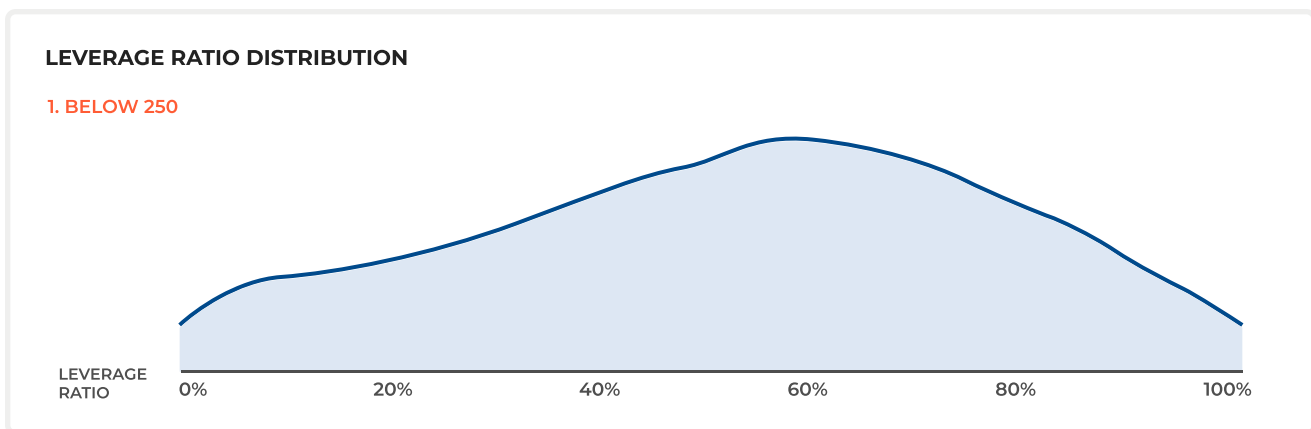
The fact that IT Services showed leverage ratios averaging 45% was at first puzzling given Nanda and Narayandas' examples of the big 3 Indian outsourcing firms relying on a high leverage, low labor cost strategy. It's not until we look at this vertical and further segment by headcount that the data starts to make sense. The largest IT Services firms with employee counts in the thousands do indeed show leverage ratios in the 80% range (a fact that we will return to in the next section). It's just that there are relatively fewer of these larger enterprises and are, in the statistics, overshadowed by the larger numbers of smaller companies that employ more balanced staffing practices.

HEADCOUNT

Speaking of headcount, the distribution follows the expected increase of leverage ratio from the high 40% range for small startups to the high 50% range for mid-sized organizations up to around 250 employees. This tracks to what one might guess where a 10-person firm is likely led by owners/operators who are very much involved in the day-to-day delivery of the company's work, whereas larger organizations scale via specialization and leverage.

Curiously, there's a breakpoint right around the 250-person range where the leverage ratio begins to drop again, leveling out in the mid 40% for enterprises with multiple thousands of employees. This again was at first puzzling until we dug a little deeper by looking at the distributions of leverage ratios and compared them to those organizations' business models.

Below 250 resources, organizations were arrayed like the typical normal distribution with a single hump in the middle, tailing off to both ends. Above 250 resources, however, the distribution took on a distinct multi-modal distribution with multiple humps. Looking at the individual organizations and how they clustered in those humps revealed the fallacy of thinking about organizations of this size as being alike. In fact, once an organization reaches multiple hundreds to multiple thousands of employees, revenue-generating models get more complex and varied, even within a single organization.

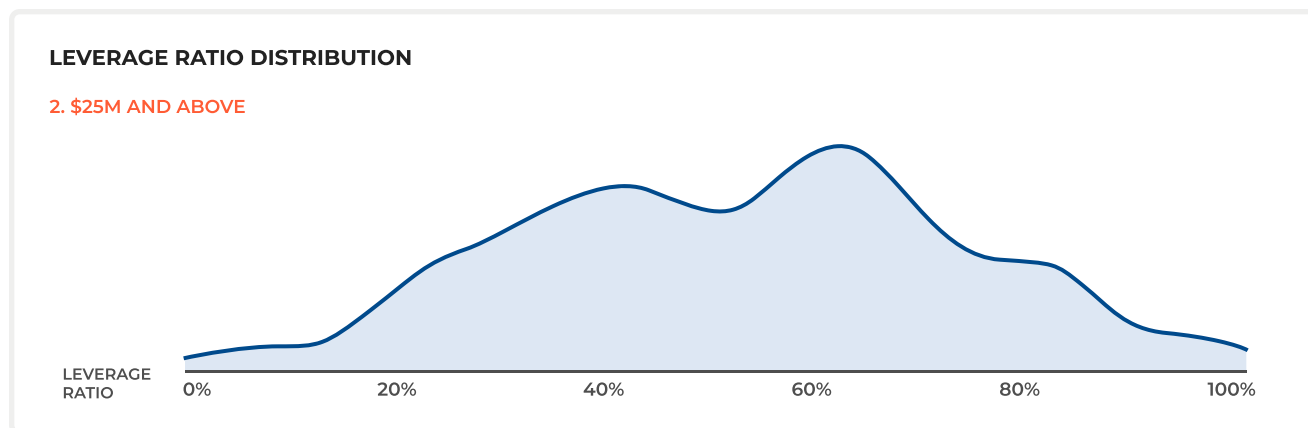
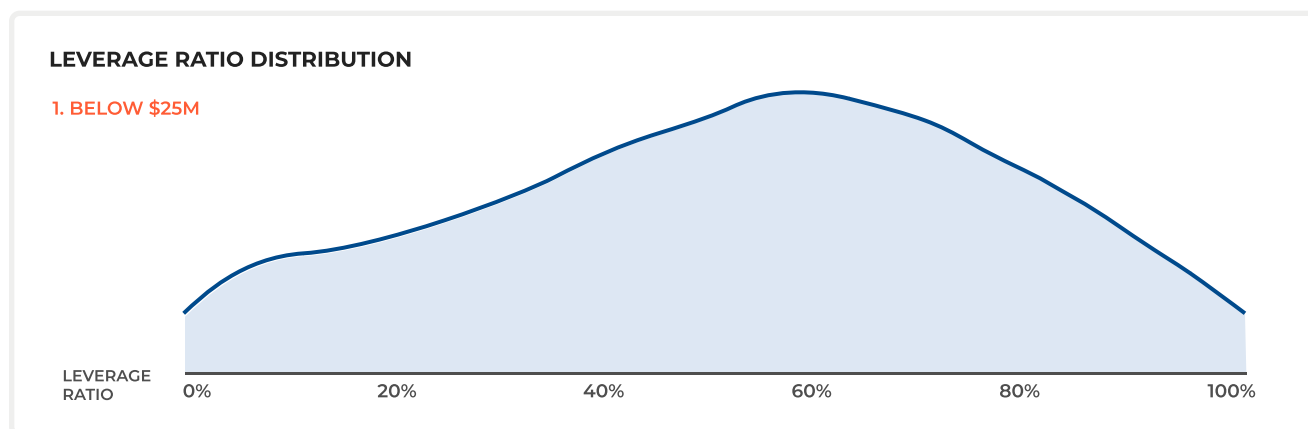


Like the big 3 Indian outsourcing firms, many large IT Services firms achieved 80% or more leverage ratios by adopting a scale-first strategy fueled by low cost, often near- or off-shore labor.

Many of the very large firms split their business models into hybrid product and service offerings, with product development teams that were completely non-billable and highly trained, and niche implementation teams that specialized in the implementation and integration of those products. This led to low leverage ratios as only the implementation teams working on billable projects were considered in this analysis. Finally, the remaining organizations added even more complexity by developing multiple business lines, each of which had unique staffing profiles. This tended to lead to middle-of-the-road leverage ratios due to the phenomenon of regression to the mean.

REVENUE

Given the discussion above, it's no surprise that the same phenomenon tends to appear when looking at leverage ratio and revenue. The ratio tended to increase as revenue increased up until a breakpoint of about \$25 million (roughly equivalent to a headcount of 125-150 people). Above that, it tended to flatten out and decline in the aggregate, showing the same multi-modal distribution as described previously.



HOW LEVERAGE RATIO RELATES TO KEY PERFORMANCE INDICATORS

As mentioned previously, increasing leverage isn't necessarily the right strategy for all professional services organizations as it (along with all the other operational levers) needs to be aligned with the mission of the business and its overall goals.

What Maister and Nanda and Narayandas agree upon and what the data above continues to support is that if growth is one of your goals, at some point, it's really hard to grow without improving leverage.

So, the natural next question is, "if I make a conscious decision to improve my leverage, how do I do that, and will that affect my other performance metrics?" The first part of that question is a topic for another white paper altogether. Given that we've got data sets loaded, pencils sharpened, and the abacus dusted off, the second part of that question is what we're going to explore in this section.

We used the data set mentioned above to try to answer the hypothetical question of "if I decided to shift 10% of my work from low to high-leverage resources, what would be the impact on my other performance metrics?"

To answer that, we ran some correlation analyses to try to understand the relationships between leverage ratio and other aspects of performance. Please note that professional services organizations are extremely complex systems, so it's often impossible to establish exact one-to-one cause and effect relationships. However, given the size and consistency of the raw data available here, these correlations are included to provide a directional perspective on how organizations with high leverage compare with those with lower leverage.

UTILIZATION

The first correlation we looked at is utilization. What we found is that shifting 10% of work from low to high-leverage resources corresponded to a 1.1% improvement in utilization.

On the surface, that seems like a minuscule amount, and that may be true for very small start-ups. However, larger organizations at scale fight hard to improve their utilization by even fractions of a percent as even seemingly small, incremental gains can result in millions of dollars in improved revenue and profitability.

1.1%

Shifting 10% of work from low to high leverage resources correlates to a 1.1% improvement in utilization.

AVERAGE RATES

One of the impacts that organizations often fear with trying to achieve better leverage is a material erosion in average bill rates. This is a reasonable concern given that we are, after all, talking about shifting work from higher-rate resources to lower-rate ones. While we did see a drop in average bill rates, what was surprising was how small that effect really was. Given that average rates in our sample tended to run between \$120 and \$250 per hour, this represents a drop in the very low single-digit percentages.

\$3.56

Shifting 10% of work from low to high leverage resources correlates to a drop of only \$3.56 per hour average rates.

GROSS MARGINS

The second major concern often raised about leverage shift is the potential of negatively impacting gross margins, the reason being similar to the objection around the erosion of bill rates. Bearing in mind that not only are we shifting work to consultants that are billing out at a lower rate, those same resources are being paid far less than their more senior counterparts. With that, we actually found no correlation at all between leverage ratio and margin.

**NO
IMPACT**

Shifting 10% of work from low to high leverage resources correlates to no impact on gross margins.

DELIVERY SUCCESS

The final major objection often raised is that delivering work by more junior resources will necessarily result in lower quality projects delivered less reliably.

This one is a bit tricky as the best signal we have to measure this is the percentage of projects delivered on or under budget. In fact, we found no correlation at all between this measure of delivery success and leverage ratio. Of course, that is not to say that more experienced resources don't have an important role to play in successful delivery in a high-leverage organization. It's just that their focus shifts from being a primary vehicle for direct delivery to one of transferring knowledge, mentoring, building methodology, developing tools, and overseeing projects.

**NO
IMPACT**

Shifting 10% of work from low to high leverage resources correlates to no impact on on-budget delivery success.

REVENUE GROWTH

Revenue growth is where high-leverage strategies really start to pay off. Not only are larger organizations generally correlated with higher leverage, but the rate at which a firm is able to grow the top line is also positively correlated. In fact, shifting 10% of work to higher leverage resources was correlated with a 4.2% higher revenue growth rate. This, like utilization percentages, can have an outsized impact on organizations looking to secure funding or achieve a successful exit.

In the professional services industry, enterprise value is often derived based on a multiple of revenue, with higher multiples granted to businesses with a track record of consistent growth. As such, improving the organization's revenue growth rate has a multiplicative effect in that it improves both the revenue basis as well as the revenue multiple when calculating enterprise value.

4.2%

Shifting 10% of work from low to high leverage resources correlates to a 4.2% improvement in revenue growth rate.

HEADCOUNT GROWTH

Finally, we took a look at the impact of leverage ratio on headcount growth.⁵ Given that higher leverage was correlated with higher revenue growth, it shouldn't be a surprise that it's also related to higher headcount growth.

In addition, since higher leverage strategies necessarily employ a larger junior-to-senior ratio in the staffing model, it was also not a shock that the headcount growth at an incremental 7.5% was higher than the revenue growth effect.

7.5%

Shifting 10% of work from low to high leverage resources correlates 7.5% increase in headcount growth rate.

⁵ Alexander, Greg. (October 2020). *The Boutique: How to Start, Scale, and Sell a Professional Services Firm*. Advantage Media Group, p. 143.

CONCLUSION

We hope this discussion about aligning strategy and operations, balancing metrics, and measuring leverage ratio has been helpful. If you take away nothing from this white paper except the following, it will have been worth the read:

- ✓ Not all professional services firms are alike, but they almost always fit into an archetype characterized by one or more predominant strategies.
- ✓ The operations of the business and the metrics that are measured need to be thoughtfully and intentionally balanced and aligned with the organization's strategy.
- ✓ Most of the metrics used to measure the performance of a services business are well known with the notable exception of measuring leverage.
- ✓ Leverage ratio is a standardized, quantitative measure of how junior versus senior resources are employed to deliver work.
- ✓ Increasing your leverage ratio is not necessarily a good or bad move, but is often a dependency for achieving scalable growth.

If you'd like to explore how to actually measure leverage ratio in your organization, benchmark your leverage against those organizations you likely compete directly against, or just want to understand what changing your leverage might do to your other metrics, give us a call.



About BigTime

BigTime takes the guesswork out of utilization, capacity planning, and project profitability. Our award-winning PSA software provides project planning, budgeting, time- and expense-tracking, and invoicing, all backed by uber-cool reporting and analytics. We help accountants, architects, engineers, IT-services firms, and scientific and management consultants budget, track, and bill their most important asset: time.

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