Calculating and Budgeting Contact Center FTE Requirements

From the ICMI Archives: A Classic Collection of Articles

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Three timeless articles from the ICMI Archives:

- **Why Staff Shrinkage Perplexes Your CFO – and Shrinks Your Budget**
- **The Science and Judgement behind FTE Budgets**
- **Troubleshooting FTE Requirements**

About the Author

Brad Cleveland is often cited as one of the world's foremost leaders and thinkers in customer service and contact centers. He has worked in over 60 countries, has advised numerous governments, and counts many of today's service leaders – Apple, HP, American Express, and others – among his clients. Brad is author/editor of eight books, including *Call Center Management on Fast Forward*, which won an Amazon.com best-selling award and is used in universities and corporate training programs around the world. One of the initial partners in and former President and CEO of ICMI, Brad grew the firm into a global industry leader that is now part of UBM (London: UBM.L). He now serves as a Senior Advisor to ICMI, and is an in-demand author, speaker, and consultant. His current research is focused on the future of customer service.

Why Staff Shrinkage Perplexes Your CFO – and Shrinks Your Budget

By Brad Cleveland

If you're like most other call center managers on the planet, there's been a day or two when you've drifted across the floor, watching service level plummet, and wondered aloud, "Where is everybody?" It's not a comfortable feeling.

It's even less comfortable to be inadequately prepared to answer when your Chief Financial Officer (CFO.) asks YOU some variation of the above question. Where are they, anyway? Just how are you call center folks spending your time?

Getting "the right number of properly skilled people and supporting resources in place at the right times to handle an accurately forecasted workload at service level and with quality" is at the heart of effective call center management. Accomplishing this objective requires accurate analysis and management at many levels, from long-term planning to intraday staffing adjustments.

But the foundation upon which your call center capacity is built is the budget. The budget process will put you squarely in front of your CFO. And he or she has a few questions...

Call Load vs. Paid Hours

If this issue hasn't come up yet, it will. Why is the annual call load so low vis-a-vis the call center's total annual paid hours? (These kinds of tough questions help explain why CFOs get the big bucks...) Some quick pencil work proves the point:

1. 790,000 annual calls x 3.5 minutes average handle time = 2,765,000 minutes
2. 2,765,000 / 60 = 46,083 hours, annual call load
3. 55 Full Time Equivalents (FTEs)=114,400 annual paid hours (55 x 2,080 hours)*
4. 46,083 / 114,400 = 40 percent

* Assumptions: one year = 260 work days or 2,080 hours, based on eight-hour days. The call load and FTE figures are examples only.

Hmm... Why are you call center people spending so little time – 40 percent of aggregate paid hours – actually handling calls? Isn't that what you're here to do?

Of course, the first thing to ensure is that all of the responsibilities that fall under the call center's umbrella are included in the calculation. Are the loads associated with handling e-mail transactions, postal mail, outbound calls and other types of work sufficiently accounted for? Fair enough. Even so, the number is still likely to appear low, usually well under 50 percent Why? This discussion often leads to a more specific look at how individuals spend their time.

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Overall Shrinkage

If you break down an individual's paid hours across a year, it might look something like the example in the table to the right.

Vacation/sickness	20 days	7.69%
Breaks	two 15 minute breaks	6.25%
Training	15 days	5.77%
Meetings	30 minutes per week	1.25%
Holidays	7 days/year	2.69%
Miscellaneous	20 minutes/day	4.17%
Total		**27.82%**

Now that looks much better. If the time agents spend away from the workload amounts to around 28 percent, then they ought to be available to handle transactions 72 percent of the time. But why the dichotomy between this perspective and the 40 percent derived from the previous example? It is, in short, an "apples to oranges" comparison.

For one thing, those with supporting roles, who generally spend little of their time handling transactions, are omitted from the calculation. It takes a proverbial small army of trainers, technicians, analysts and supervisors to keep a call center humming along.

Another critical factor being ignored is the impact of occupancy. Occupancy is the percent of time that agents who are handling transactions are either in talk time or after-call work (wrap-up). The inverse of occupancy is the time agents spend waiting for calls, plugged in and available. Occupancy is inversely related to service level; when service level improves, agents will spend more of their time waiting for calls to arrive. This is an immutable law stemming from the phenomenon of random call arrival. Want to provide a good service level? Your "efficiency" will inherently be lower. The size of agent groups also affects occupancy; small groups are inherently less efficient than larger groups.

There may also be questions around schedule adherence and whether the factors included realistically reflect the activities that keep agents from the phones. The time spent on training, offline research and miscellaneous projects has a tendency to expand over time. However, don't draw quick conclusions without a closer look; some or most of this time may necessarily reflect the growing responsibilities of today's call centers. There is also a danger in utilizing aggregate shrinkage in budget calculations, given that the things that keep agents off the phone vary by time of day, day of week and season of the year. The analysis will have to be more specific.

But perhaps the toughest issue to come to grips with revolves around scheduling accuracy and flexibility. Inbound call centers inherently operate in a "demand-chasing" mode. Much of the time, there are either more calls to be answered than resources available, or more resources than calls. Because supply and demand are rarely equal, demand must be "chased" with the supply of answering capabilities. The tough question is, what level of "insurance" do you want to build into your staffing

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calculations for those times when your forecasts and plans are off the mark or when schedules are not flexible enough to sufficiently respond to peaks and valleys in the workload?

When considering this issue, remember two caveats: 1) Budget projections usually assume ideal schedules with just the right number of base staff to handle the anticipated workload, plus expected shrinkage; although it's tough to admit that your projections may not always be on the mark, you will need to build some worst-case scenarios to draw adequate attention to this question. 2) Unlike most other work environments, inbound call centers can't stockpile finished calls (work ahead) or handle unfinished calls in batch at a later time (catch up); the resources have to be in place when the work arrives, or we risk the consequences of angry callers, stressed agents and the high costs associated with long queues.

Educate at the Executive Level

The bottom line... er, crux of the matter is that we need to be able to dialog intelligently and thoroughly on these issues. The CFO has a right to ask tough questions and to assess how wisely we're using the budget they are entrusting to our stewardship. But they are going to need at least a basic understanding of call center dynamics in order to understand the numbers. We have the responsibility of educating them on this unique environment and providing analysis that accurately reflects call center activities. If we don't, we're likely to end up with an inadequate budget.

The budget process also invariably leads to questions of strategy. For example, what is the call center's mission? How committed are we to providing good service even when the forecasts may be uncertain? What are our priorities, and how can we improve efficiency? What role will new technologies or processes serve and how will they impact the budget? Be ready for these discussions; they are opportunities for you to present thoughtful insight. This process is a healthy part of ongoing call center development.

We'll pick up with the issue of projecting required FTEs next month. In the meantime, take a few minutes to run through the call load versus paid hours and overall shrinkage exercises. How do your numbers come out? Any surprises?

This article was originally published in the February 1999 issue of *Call Center Management Review.*

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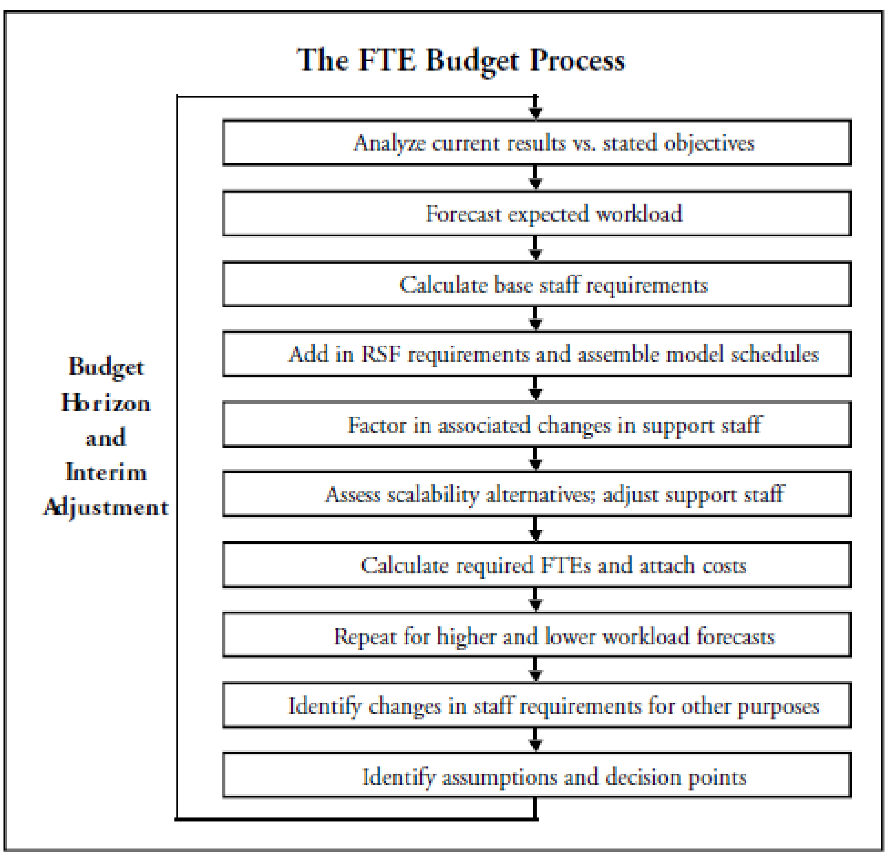
The Science and Judgement behind FTE Budgets

By Brad Cleveland

Few call center management responsibilities require as much insight, knowhow and collaboration as does budgeting for FTEs (full-time equivalents). It is a multi-faceted process laden with both "science" and "judgement." The steps based firmly on science (formulas, principles or immutable laws that yield predictable results) tend to be the most straightforward. Those that require decisions around tradeoffs and unknowns tend to be more difficult and time-consuming.

Knowing where judgement comes in versus the analysis best left to science is a challenge, but it's an important prerequisite to developing an appropriate budget. The following summarizes this process.



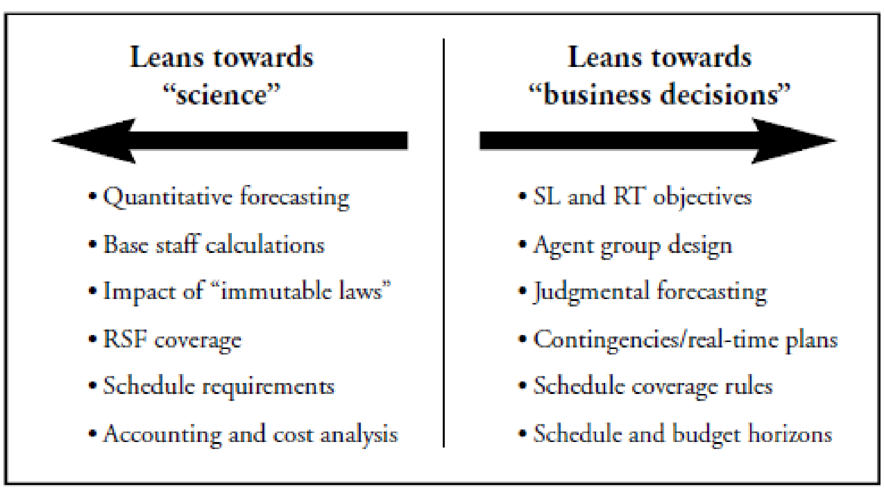
1. Analyze current results vs. stated objectives. What is the call center's mission? What are the supporting objectives? Are we meeting them? Why or why not? Was the budget from the last cycle appropriate? Did we forecast requirements accurately? What adjustments to the budget would we have made? Could we have better predicted outcomes? What can we learn this time around? This important first step includes some scientific analysis, but is largely based on business decisions.

2. Forecast expected workload. The principles of time-series forecasting (based on historical data), regression analysis (e.g., calls versus new customers) and other types of quantitative forecasts are grounded in science. However, virtually all forecasts also require some judgement. E.g., how will the call mix change as Web traffic grows? How should we structure agent groups (one cross-trained group requires one forecast, while many specialized groups require many specific forecasts)? What impact will changes in marketing, competitor activities, laws, consumer behavior and other developments have on the workload?

3. Calculate base staff and trunk requirements. Staff calculations are relatively straight-forward and firmly based on science. Granted, all mathematical formulas or simulation models contain assumptions (e.g., what should we assume about busy signals and abandoned calls?). But the resources it will take to consistently achieve service level and response time objectives is a matter of mathematics.

4. Add in RSF requirements and assemble model schedules. Rostered staff factor (also called an “overlay” or “shrink factor”) leads to the minimum staff needed on schedule over and above base staff required. Although planning around issues such as schedule adherence and non-phone activities requires judgement, the RSF calculations themselves are straightforward and reliable. Defining schedule alternatives and coverage rules, on the other hand, tends to be more of an iterative, creative process.

5. Factor in associated changes in support staff. What should your staff-to supervisor ratio be? How should the call center be organized? What analyst roles are necessary? This step depends more on observation, experience and good business sense than on science.



6. Assess scalability alternatives; adjust support staff. Scalability refers to the call center’s ability to expand or contract without making changes in FTEs. E.g., can other departments help handle the load when the call center is busy? What other staffing contingencies are available? How committed is the organization to consistently meeting service level and quality objectives? These are business decisions.

7. Calculate required FTEs and attach costs. At this point, FTE and cost calculations are relatively straightforward. They are, of course, built on all of the assumptions that have come before.

8. Repeat for higher and lower workload forecasts. This step acknowledges any uncertainties in forecasts and is geared around different assumptions for workload.

9. Identify changes in staff requirements for other purposes. As in step five, identifying the needs for staff not directly associated with handling the workload is largely a matter of experience and observation.

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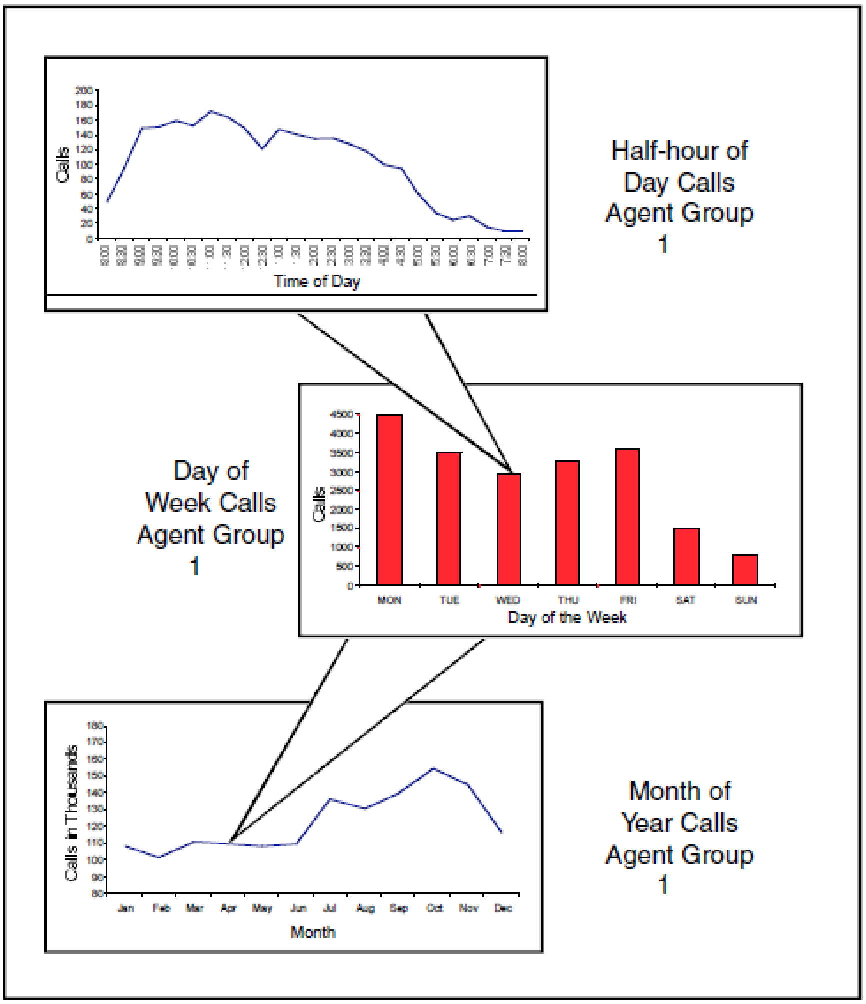

10. Identify assumptions and decision points. In this final, critical step, you do an inventory of the assumptions made along the way. Not only will this impress the financial folks, it will create an efficient basis for discussing key issues and coming to agreements. Most importantly, it will increase everybody's understanding of key tradeoffs and improve the overall quality of the final budget.

No Magic Formula

New managers often ask for "the formula" to calculate future FTE requirements. Sorry, there's no such thing. Instead, this is a process built on a combination of scientific calculations, business decisions and sound judgement. It depends on good communication and a solid understanding of the tradeoffs. And it requires that every decision-maker have a good understanding of what makes call centers tick.

We will continue this topic in the third and final installment of this series next month.

This article was originally published in the March 1999 issue of *Call Center Management Review*

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Troubleshooting FTE Requirements

By Brad Cleveland

Predicting and budgeting for required staff — typically represented as full-time equivalents (FTEs.) — is a management responsibility that is fundamental to an effective call center. The process involves establishing the call center's mission, predicting the workload, defining agent groups, identifying required skills, determining staff and schedule requirements, and anticipating costs — in short, it spans virtually every aspect of operating a call center.

The first installment in this series highlighted typical misconceptions around the principles of total paid hours and shrinkage, and emphasized the need to educate senior management on these issues. The second article summarized the 10-step FTE budget process and differentiated between the steps based on science and those that require judgement (business decisions).

This final installment focuses on troubleshooting. The following guide is designed to help you think through common problematic areas and isolate the issues that need additional attention.

Respect the Process

The key theme that runs throughout this series is that predicting and budgeting for FTEs is a process, and must be respected and treated as such. There is no one formula and no shortcut to calculating FTEs. But the payoff of going through the necessary steps is compelling: you will not only identify FTE requirements more accurately, you will generate the solid buy-in and support from senior management and others involved in the process.

This article was originally published in the May 1999 issue of *Call Center Management Review*

Problem	Possible Causes and Solutions
You do not know how many FTEs you need.	You have not established specific service level and response time objectives for all types of transactions that make up the workload. Agree on appropriate targets; this is a necessary prerequisite.
	Staff predictions are based on ratios, e.g., number of customers per agent or number of calls per agent. You do not have a concrete connection between workload and required agents; switch to the 10-step FTE process.
	Funding is based on the last cycle's budget, plus or minus "x" percent. Build FTE requirements and budgets around future workload, not precedent based on past requirements
	You do not have the systems necessary to track all types of transactions that the call center is handling (e.g., e-mail). Make the necessary investments to put routing and tracking capabilities in place.

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Problem	Possible Causes and Solutions
	You do not have an accurate workload forecast. Accurate forecasting should be a high priority; to the degree your forecasts are inaccurate, build several different schedule models that demonstrate the impact on FTE requirements. Decide with senior management what levels of staff you are willing to fund if the call load is greater than expected.
	The call load is highly variable; you aren't sure how to staff for peaks and valleys. Build model schedules (and corresponding FTE requirements.) that illustrate schedule possibilities given scheduling alternatives, union requirements, scalability, outsource options and your organization's commitment to maintain service levels; the models will highlight tradeoffs and identify decision points.
	Some steps in the FTE budgeting process are not in place. Review each of the 10 steps; add and strengthen as necessary.
You do not get sufficient budget for FTEs.	The call center is undervalued by senior management. You are getting no more than they believe the call center is worth; explore valuation approaches, including customer satisfaction and retention, competitive differentiation, improvements and innovations the call center has contributed to, and customer and market information captured.
	Senior management believes the call center could be operated more efficiently. Illustrate, step by step, how you arrived at FTE requirements; identify ongoing process improvements.
	You have not identified and quantified the high costs of not getting the required FTEs. E.g., what are the costs of poor service levels, high occupancy, high trunk load and associated network costs.
	You have overestimated the reduction in workload that IVR, Web and other self-service alternatives were expected to deliver. New and improved services often grow new traffic without an equivalent reduction in the need for live answer; track the changing call mix carefully and be conservative.
	Off-line activities are not adequately anticipated or managed. Most call centers are spending more time on increasingly diverse workloads and associated training and research; these activities must be tracked and factored in.
You do not reach the FTEs provisioned for in the budget.	High turnover is hampering your ability to reach the full complement of staff. Quantify the costs of turnover; identify the root causes and work on the sources. Establish a new perspective within the organization: the call center is an increasingly complex and critical environment and cannot afford to lose tenured staff.
	The benefits you are providing are not sufficient to attract the staff you need. Quantify the costs of not having the required staff; explore options for providing more attractive career paths within the contact center and the organization.
	Recruiting, hiring and training times significantly trail budget cycles. Produce a graph showing these relationships and the costs.
	You are not getting the right kind of FTEs (the necessary skill sets). The FTE budget process is misinterpreted; the purpose of the process is not just to count people, but to identify required skills and supporting costs; revisit the 10 steps.

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Problem	Possible Causes and Solutions
You have volatile service levels, even with requested FTEs.	FTE requirements are built around the wrong timeframes. Workload forecasts, base-staff calculations and rostered staff factors should be geared around detailed time frames (usually half hours.) while schedules and budgets should piece the half hours together into overall requirements.
	Your group structure is overly specialized or complicated. Keep group design as simple as possible, within the context of getting the right calls to the right agents at the right times.
	Your ongoing planning is insufficient. The FTE process is not a substitute for planning for scheduling purposes.
	The budget cycle is too long. You have to anticipate specific requirements too far in advance, and changing circumstances create inaccuracies midway through the cycle; adjust the budgeting timeframes as necessary.

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