Finding Costs Hidden in Your Contact Center Plans

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The Core Contact Center Management Problem:

Contact centers are obviously human-powered operations, and no process is more core to the proper function of the operation than:

1. Determining the number of agents required to handle the volume of contacts.

2. Developing a practical operational plan to deliver, as close as possible, the required number of agents.

If done well, the operation runs smoothly, with the exact number of people available to respond to the expected workload. If done poorly, the organization is saddled with significant costs, both in customer dissatisfaction and in payroll dollars wasted.

Through the process of solving this core contact center management problem, an entire industry has been developed: the workforce management industry (WFM). WFM solves very critical business problems; it determines efficient contact center agent schedules, it aids in the management and enforcement of agent schedules, and it performs these functions across many contact types and channels.

However, this fact may be surprising to center executives: *workforce management software does not solve this most basic and core contact center business problem; most workforce management software systems do not determine how many agents are required to show up to work each week, nor do they develop an operational plan to ensure that the company delivers the required number of agents to the operation.*

To those in the contact center industry and particularly those in the workforce management field, this may not sound true. However, workforce management software does not manage the long-term aspects of the resource management process, and it fails to consider the seasonality associated with contact center operations. Workforce management system's focus is tactical and is really only confined to a one or two week view. Almost every workforce management software suite neglects to consider the seasonality of important planning behaviors, like agent attrition, seasonal handle times, seasonal sick leave, or seasonal contact volumes. And this is by design.

Workforce management systems serve best when used to manage the number of agents *that you already have*. It does not determine how many agents you should have; this is determined by a different process with different analytic steps. This other process is most often called either the long-term staff planning, or budget planning, or the capacity planning process. We like to call this process *contact center operational planning*.

Staff plans, budgets, and, hence, overall costs, are determined long before the workforce management software works its tactical magic. In today's most common infrastructure, the operational planners develop the staff budget and operational plan, and then workforce management software optimizes schedules while constrained to work within that budget. The long term operational plan determines the number of agents available. For most companies, the operational planning process is driven by large, error-prone, and cumbersome spreadsheet systems. Because of this, today, any real improvement to staffing efficiency is likely to come by improving the contact center long term operational planning process, rather than the traditional workforce management process.

The Role of the Operational Planning Process: It's Where the Money Is

The operational planning process evolved to solve the core contact center business question. This problem is (assuming an inbound contact center): *given the seasonality of call volumes, the seasonality of agent attrition, the seasonality of agent sick time, vacation requests, and other shrinkage items, the seasonality of handle times, given that all of these items are different by center location and type of staff required, and given learning curves, training times, and other important and complicating characteristics, how does the organization manage the workforce, week over week, so the exact number of agents are available to work as the customer demand requires.*

There are many levers available to management to move their agent resources toward a more efficient plan. Center executives can plan for hiring, terminations, seasonal employees, and outsourced employees. They can plan for downtime to be filled with training, vacation, loans to other groups, and undertime (sending agents home early). They can fill staff shortages with overtime, temp agents, outsourcing, and the cancelling of off-phone activities. They can plan for handle times to be proactively shortened when understaffed or they can allow cross sales to be offered when overstaffed.

When the complexities of a multi-site, multi-skill, and multi-channel operation are overlaid onto the business problem, the quest for more efficiency is even more difficult; there is just so much to consider.

Optimally solving this problem is critically important. It is in these strategic business decisions that the most significant contact center costs are contained or the value is wasted.

The major functions of contact center strategic planning include:

1. **Making Predictions**: Estimate expected volumes, handle times, uncontrollable shrinkage and attrition

2. **Managing and taming seasonality**: Deliver the right number of agents to the operation each week, given the seasonality inherent in contact center operations

3. **Managing operational change**: Provide what-if analyses of company staffing policies, center configuration, marketing/sales initiatives, hiring, and other strategic questions

4. **Monitoring the operation**: Provide regular and timely variance analyses and explanation

5. **Providing Analysis**: Evaluate service goals and regularly determine the operations cost versus service tradeoff. Develop the most cost-effective operation strategy

Given the importance of contact center strategic planning, it might be expected that most large companies have invested significant resources into optimizing this process. But this isn't necessarily the case.

Hidden Inefficiencies in Contact Centers Due to the Planning Process

The state-of-the-art planning technology, up until 2001, was the Erlang or occupancy calculation-based spreadsheet. The mechanical processes associated with planning have been fairly consistent in the contact center industry:

1. Collect contact center volume data and performance history

2. Forecast all performance driver items necessary, primarily call volumes

3. Develop weekly staffing requirements

4. Develop hiring, overtime, undertime, controllable shrinkage plans

5. Convert hiring plans into a budget

6. Develop variance analyses and variance explanation

Because of the complexity of the strategic planning problem and the limitations of traditional technology employed (spreadsheets), analysts have to make sweeping assumptions and simplifications, simply to produce a plan in a relatively timely manner. These assumptions and simplifications have very hard costs.

But these hard costs are virtually unknown to the operation—they are hidden—because the sources of the costs are analytic and complex in nature. In order to demonstrate that the plan and operation is inefficient, a more efficient plan must be developed as a point of comparison. Not an easy task.

Similarly, in the 1990's, workforce-management-produced agent schedules were shown to be more efficient by providing a comparison to schedules produced in spreadsheets.

Since 2001, two new contact center planning technologies have been developed that have been proven to be more efficient than those found in most planning spreadsheets:

1. Discrete-event simulation-based staffing requirements are more accurate than both Erlang based requirements or occupancy-forecast based requirements. Simulation offers a host of benefits, in addition to its accuracy. Primarily, it allows the quick evaluation of almost any what-

if, and it allows the accurate modeling of almost any contact channel in any combination. With simulation systems, evaluating multi-channel operations is now viable.

2. Integer programming-based staff plans allow the development of mathematically-optimal, just-in-time staff plans. This includes hiring plans, termination plans, outsourcer plans, overtime and undertime plans, and controllable shrinkage plans. With spreadsheets, staff plans, whose goal is to determine how best to "hug" the seasonal requirements curve, is a completely manual, ad-hoc process. By its complex nature, it is impossible to optimize spreadsheet staff plans by hand (as it was impossible to optimize schedules by hand before workforce management algorithms).

Because we now have a point of comparison, we can demonstrate areas of improvement and their typical value to the operation. Systems that automate and optimize the planning process, like strategic planning systems, allow the quantification of the costs associated with spreadsheet shortcuts; here are some spreadsheet shortcuts that inject real costs to the contact center operation.

Common and Costly Sources of Hidden Cost due to the Spreadsheet Technology

The following list includes items that require new technologies, such as the purchase or development of simulation-based planning technologies, as well items that often can be incorporated into the current spreadsheet infrastructure. All will improve the plans and the efficiency of the operation.

1. **Flat-lining shrinkage**: Many organizations assume in their plans that all controllable shrinkage items (e.g. sick time) are constant throughout the year. This is simply not true, and further, seasonal shrinkage is usually very predictable using standard forecasting methods. By assuming that there is no seasonality associated with shrinkage, the plan builds in an inefficiency that is easy to avoid.

2. **Assuming different centers behave similarly**: In order to speed the planning process, many organizations assume that each of their contact centers have exactly the same behaviors; meaning that each contact center has the same handle times, the same shrinkage patterns, the same employee attrition, etc… This is not a good assumption, as most contact centers are different. By assuming a common efficiency, these real-world differences are ignored in the resulting plans, and the least efficient centers will receive the same consideration as the most efficient center. This results in a less efficient operation overall.

3. **The spreadsheet is too cumbersome for most what-ifs**: It is a truism and a cliché that software should be thrown out periodically and rewritten. This is certainly the case with planning spreadsheets; often they are developed for limited uses, but they grow to accommodate many add-on business questions. These periodic add-ons result in a much harder to maintain product. If the spreadsheet cannot accurately evaluate a moderately complex what-if in, say, an hour or so, it needs to be redesigned or the organization should invest in an engineered third party system.

The value of comprehensively answering important what-if questions with accurate and quick analyses is significant.

Similarly, what-if analyses require that the relationship between service goals and expected costs be known, but also, and maybe more importantly, it requires that the relationship between the available staff and expected service also be determined. For example, answering the question "what will our service levels be week over week over the next six months if we can't hire fast enough?" should be an easy what-if for your planning process. By understanding both views of this staffing problem, trade-off analyses become practical and possible. Drawing two simple graphs, 1) staff available versus service expected, and 2) service provided versus variable labor cost, provides a powerful picture that will help make clear the most appropriate service goal for the operation. This is a simple analysis to develop if the planning system is automated and the model that drives the analyses is flexible.

4. **The staff plan should be developed using mathematical optimization algorithms**: The development of hiring plans, overtime plans, controllable shrinkage plans, and overtime and undertime plans, given the seasonality inherent in contact center operations, belongs to a class of mathematical problems called *combinitoric* problems. In a nutshell, solving combinitoric problems require the evaluation of many possible solutions- many more than are feasible to evaluate manually with a spreadsheet. Yet this is how our industry solves this complex planning problem.

   In much the same way that workforce management improved the efficiency of agent schedules by applying optimization algorithms, plan efficiency can be greatly improved using similar mathematical approaches, like integer programming. It is not uncommon for an operation to reduce staffing costs by as much as 5% simply by automating and employing better algorithms to solve this complex problem.

5. **Your plan requires model validation:** Among the first lessons learned in mathematical modeling is the notion that models that predict behaviors, or models that describe the results of a system under different input loads, require *validation* of their accuracy. This seems both reasonable and prudent. If a computer model is to be believed, it must be proved accurate, or at least its inaccuracies must be made known.

   The most basic computer modeling exercise associated with the strategic planning problem is to determine how many agents are required to perform the work associated with the expected contact volume. Given the expected volume of contacts and the expected handle times, what is the number of agents required to hit the desired servicing goal? This one modeling step is the lynchpin to almost all other planning analyses.

   Yet, in the contact center industry, validating this important modeling step is rarely done. If the computer model that determines the variable labor costs of the contact center operation is not known to be accurate, then its results will always be appropriately assumed suspect.

Common Sources of Hidden Costs due to Planning Management Processes

Business processes are often developed around available technologies, and not vice versa, as they probably should be. The business processes that have surrounded the contact center planning problem have often been a slave to the flaws in the traditional spreadsheet technology.

Some common sources of costs associated with the business process of plan development include:

1. **Utilizing stretch goals**: A common business practice is to assign any improvement project its own line item in the budget. For example, if a manager wishes to implement a contact center improvement initiative, he or she would need to determine the expected benefit, in terms of operational improvement (say, a reduction of handle time) and that improvement would be added to the strategic plan and budget. Clearly, for many projects, the proposed improvement is often wishful thinking.

   However, any unrealized value associated with any project is baked into the operational plan via the stretch goal, and the operation may be in difficult straights, as many contact center plans are highly sensitive to the timing of center decisions, as in, for example, the decision to hire.

   If a company has developed an operational plan with several layers of "hoped for" improvements, then its operational plan's success would be much more susceptible to the success and the timing of any of these projects. As more stretch goals are introduced, a company absorbs more operational risk.

2. **Planning by committee**: Often, organizations have several layers of budget input, but few associated with real authority or expertise. When it comes to the largest line item in the budget, variable labor costs, the greatest expert is most often the lowly analyst that develops the staff plan.

   For example, given the dynamic call routing infrastructure of the modern contact center, most center managers will have less expertise in the determination of the operational staff plan than the central planner, as the central planner has an overall network view of the plan. Listen to the analyst.

3. **A myopic view:** A mistake some contact center organizations make when developing operational plans is to make long term decisions based on short term analysis. Given the seasonality associated with contact center operations, it is imperative that the analyses of, for example, when and where to hire contact center agents, consider at least one full season from the date of the decision. Eighteen month rolling plans are certainly a best practice.

4. **Using variance for early warning of operational changes**: It is commonly believed among planners that most variance meetings serve to simply tell the organization that the original forecast and plan is wrong, and to chastise the planners for their error. The best organizations

use variance to plan, not to assign blame, but to monitor the organization for changes in key operational drivers, and to determine the proper decisions to make to accommodate these changes.

5. **Developing one plan:** Most organizations develop one plan (albeit over several iterations). The best organizations-- those that have developed an automated, fast, and mathematically optimal planning process-- use their planning process to develop several competing operational plans, in order to evaluate the risk of each potential plan. With a quick and accurate planning system, plans can be evaluated quickly, and the operation simulated for sensitivity to the main planning assumptions. For example, if volumes are known to be erratic (as when economies are in a state of flux), having one consensus volume forecast does not make so much sense. Instead, it is smarter to evaluate several staff plans against the possible volume scenarios. This way, variable labor costs and operational risks can be determined and considered before deciding on an official operational plan. In this example, volumes are not predictable, however, the operational risk is.

Hidden Costs Can be Easy to Find

With an automated, validated, and optimized operational planning system, along with a disciplined and focused planning process and management team, hidden costs virtually disappear. The good news is that advanced modeling technologies now exist so that the old standby, the unwieldy spreadsheet, is no longer necessary. Our business processes grew around a sub optimal planning technology, and the old and tedious spreadsheet tools have been rendered obsolete by better modeling technologies. New management processes have emerged to take advantage of the added business intelligence.

The benefits of improving this process are terrific. Better plans result in both lower costs and more consistent operational plans. It leads to more knowledge of the operational risk associated with management decisions. It brings educated answers to business questions that were previously answered only through gut feel.

With an improved planning process, executives will not only be able to better answer the core planning problem, but they will know how many contact center agents to employ while having the tools to ensure that they can tame their seasonality in order to best hug that requirements curve.

About the Author

Ric Kosiba is one of the founders of Bay Bridge Decision Technologies and serves as its President. He leads the development of the company's simulation and optimization technologies used in contact center applications. Kosiba is expert in the field of call center management and modeling, collections and call center strategy optimization (where he holds two patents), and the optimization of large-scale operational processes. Kosiba is a frequent speaker at technical and contact center forums, and writes articles for numerous contact center publications.
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About Bay Bridge Decision Technologies

Bay Bridge Decision Technologies is the number one provider of planning and analysis applications to the contact center community through its CenterBridge suite of software applications. Bay Bridge's award-winning product is used by customers in a variety of industries including car rental, credit card, telecom, investments, insurance, educational lending, healthcare, lodging, and outsourcing.

Bay Bridge is headquartered in historic Annapolis, Maryland. For more information, please visit www.BayBridgeTech.com*.*

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