



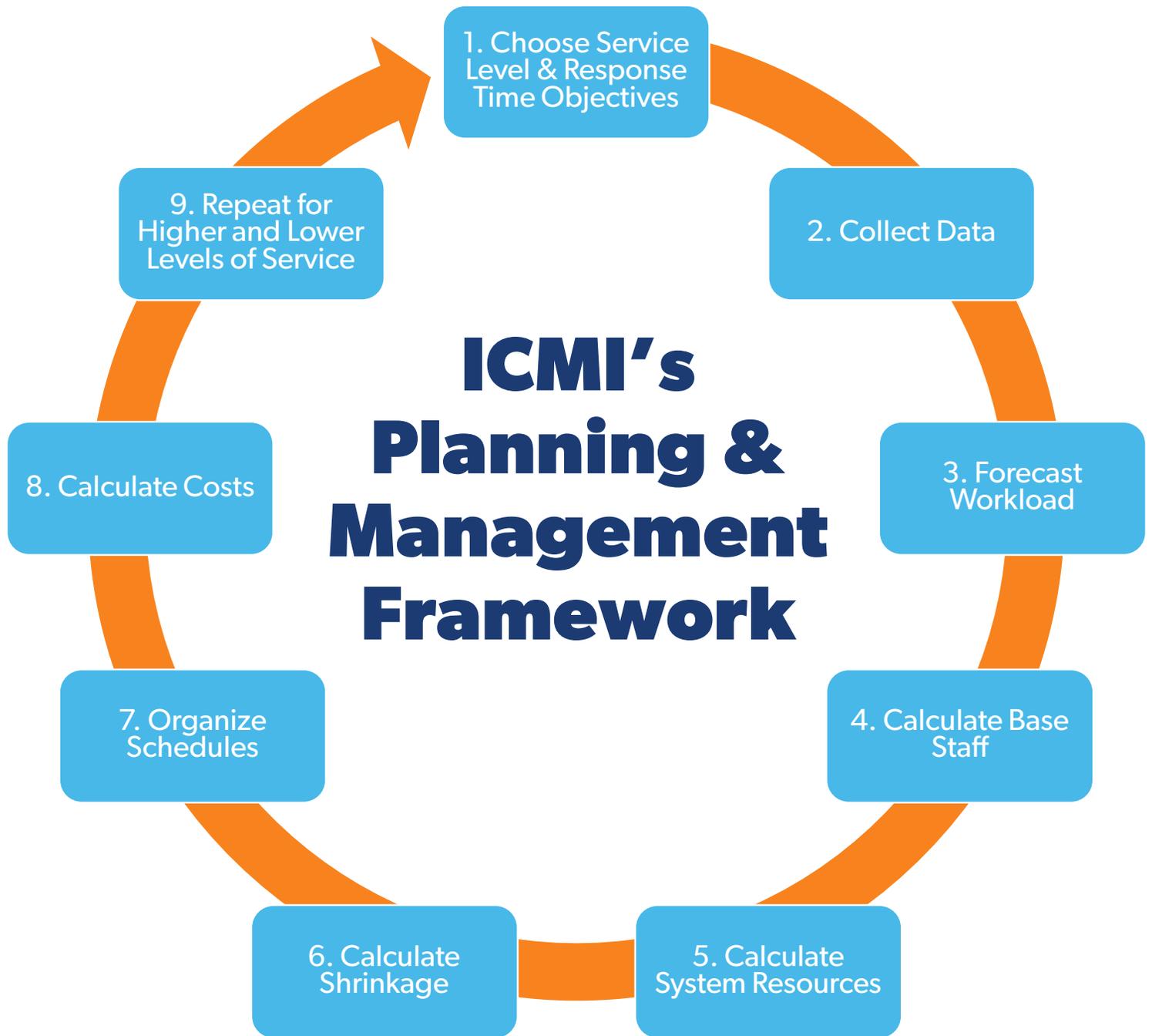
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ICMI's Planning & Management Framework

Step 1. Choose service level and response time objectives

Service level and response time objectives (accessibility objectives) are at the heart of effective contact center management. These objectives are essential in defining staffing and network requirements, and associated costs.

Step 2. Collect data

Planning and managing a contact center requires information from many places. Today's contact center systems are important sources of planning data that reveal much about the interactions being handled. But much of the information required comes from beyond the contact center's walls – e.g., what marketing is doing, how customer preferences are changing, conversations and trends in digital channels, competitive activity that may have an impact on the workload, and relevant developments in the economy.

Step 3. Forecast the workload

Workload forecasts must include each of the components of customer contacts: average talk time, average after-contact work (wrap-up), and volume (or just handling time and volume for contacts that don't have separate talk and wrap-up requirements, such as social media or email). A good forecast predicts these components accurately for future time periods, usually down to a half hour. Forecasts should encompass all types of contacts – phone, email, chat, social media, SMS, et al., and plans should also account for any related work that will require contact center resources.

Step 4. Calculate base staff

Most developed contact centers use Erlang C or variations of it to calculate staffing requirements. Erlang C is the base formula in virtually all workforce management systems. But capabilities such as skills-based routing and complex network environments present challenges that often require computer simulation and modeling.

Step 5. Calculate system resources

Staffing and system resource issues are inextricably associated and must be calculated together.

ICMI's Planning & Management Framework

Steps 6 and 7. Calculate shrinkage and organize schedules

Rostered staff factor and shrinkage take into account breaks, absenteeism, training, work not directly part of handling customer interactions, and all of the other considerations that occupy agent time. Schedules are essentially forecasts of who needs to be where and when, and plans of action for agents and supervisors. They should lead to getting the right people in the right places at the right times.

Steps 8 and 9. Calculate costs and repeat for higher and lower levels of service

These final steps in the process involve projecting costs for the resources required and preparing budgets. Preparing budgets around different levels of service provides an understanding of cost trade-offs, which is invaluable in budgeting decisions.

How-To Calculate Staff Requirements

Calculating Base Staff for Contacts Handled As They Arrive

Using an Erlang C Calculator, 4 Variable Inputs Are Required:

- Average Talk Time
- Average After-Contact Work
- Contact Volume
- Service Level Objective
[Service Level = X% of contacts handled in Y Seconds]

Forecasting Tip

Input projected averages for the future half-hour being analyzed.

Outputs will include base staff calculations and predictions on queue dynamics such as average speed of answer, occupancy, and trunk load.

Consider This!

Base staff must be calculated for each half hour of the day and for every unique group of agents – sales, customer service, etc.

This is why having a workforce management system to run these calculations is a great time saver!

Dynamics to Watch

The more agents handling contacts, the higher service level will be.

The more agents handling contacts, the lower trunk load will be.

The more agents handling contacts, the lower occupancy will be.

The Six Immutable Laws of Inbound Contact Centers

1. For a given contact load, when service level goes up (improves), occupancy goes down.
2. As service level improves, it will reach a point of diminishing returns.
3. For a given service level, larger agent groups are more efficient than smaller groups.
4. All other things equal, pooled groups are more efficient than specialized groups.
5. For a given contact load, add staff and average speed of answer will go down.
6. For a given contact load, add staff and trunk load will go down.

How-To Calculate Staff Requirements

Calculating Base Staff for Contacts Handled At a Later Time

Calculating staff to handle email and other response time contacts is generally based on a units-of-output approach. Since response time contacts do not have to be handled immediately, there are many ways to distribute the workload in staff schedules.

The basic formula for calculating minimum staff required is:

$$\frac{\text{Volume}}{(\text{RT} / \text{AHT})} = \text{Agents}$$

Volume = Volume for forecast increment
(e.g, volume per hour)
RT = Response Time
AHT = Average Handling Time

Volume is the quantity of transactions that must be handled.
AHT is the average amount of time it takes agents to handle them.
Response time is the time available to respond to customers.

Consider This!



An efficiency factor must be applied to ensure that enough agents are scheduled to prevent them from burnout, the result of handling one transaction after another for extended periods. To apply an efficiency factor of 90%, for example, divide base staff calculations by .9 to calculate if additional staff are required.

Insider Tips



When response time objectives are less than 1 hour, we recommend using Erlang C or computer simulation to calculate base staff. This would be a queuing and service level scenario, like inbound phone calls.

With 24-hour response time objectives, projected workload can be built into the following day's staffing requirements.

When determining required staff for proactive outbound contacts, there is a general six-step outline to follow:

1. Identify the strategic objective
2. Gather historical data
3. Determine the size of the list of contacts to attempt
4. Determine time of day effectiveness
5. Determine average handling time (AHT) by type of contact
6. Combine data to determine base staff required

How-To Calculate Staff Requirements

When calculating base staff for outbound contacts you must consider dialer pacing, list quality, and feedback loop to strategy team.

Staffing Considerations for Web Chat and Social Media

Web chat is a service-level-oriented contact and the essential planning steps apply. However, because one agent can typically respond to more than one customer chat at a time, applying Erlang C will overstaff for this contact channel.

ICMI recommends that when you need five or more agents handling chat at any one time, a more disciplined approach will begin to pay off. Until the workload is significant, consider using a less formal approach to determining staff.

KEY DECISIONS:

How many simultaneous sessions per agent to allow

Systems can be configured to enable 16 or more simultaneous sessions per agent – which, of course, is impractical from a human standpoint in most cases. The number of maximum concurrent sessions allowed will impact exchange response times, customer satisfaction, accuracy, and employee morale. For centers just starting out, no more than two or three concurrent sessions should be allowed until the center has more experience with this contact channel.

When to send the customer's request to an agent

When the system receives the customer's initial request, it can either send a generic greeting to the customer without sending the session to an agent right away or it can immediately deliver the session to an agent while sending an automated, personalized greeting from that agent to the customer. Since some customers will request a chat session, but not initiate the exchange, sending the session to an agent right away may tie up an agent too early. Given this possibility, relatively more concurrent sessions per agent should be allowed than in a session where an agent is selected only after an exchange is initiated.

When a session ends

Often, the point of close-out is clear, but sometimes it's not. Customers may stop responding, for example, and decisions must be made about how to reengage the customer and when the agent can give up and close the session. The longer the threshold until close-out, the more time the agent will spend waiting for an exchange that may never occur; accordingly, a long threshold would suggest that a higher number of concurrent sessions may be allowed.

How-To Calculate Staff Requirements

Staffing Considerations for Web Chat and Social Media

For staffing purposes, there are four different types of social interactions:

1. Real-time, with single response
2. Real-time, with multiple exchanges
3. Deferred
4. Internal (company) interactions

Staffing for social interactions should be driven by whether the work needs to happen immediately and whether it involves multiple exchanges.

Real-time, with single response

In this setting, the organization handles interactions through social channels as they occur, with one response generally being sufficient. Typical examples include responding to customers with numbers they can contact, specific email addresses, or links to online resources that provide necessary information. These are service-level-type interactions, and the staffing approach is like that for inbound phone calls.

Real-time, with multiple exchanges

In this case, the organization strives to handle interactions when they are initiated, and the dialog often involves multiple back-and-forth messages. Once engaged, customers may continue to ask questions or seek clarification. These are service-level-type contacts with staffing considerations like those of chat.

Deferred

This approach involves addressing inquiries or issues that do not require an immediate response. Common examples include responding to general inquiries posted on an organization's Facebook page. In this scenario, staffing is response time oriented, like that for email or outbound contacts are scheduled.

Internal Interactions

As with other types of internal communication, the impact of internal collaboration on staffing requirements must be considered in context. If dialog is necessitated by and happens while handling customer interactions, this time required should be reflected realistically in the average handling time associated with those contacts.

How-To Calculate Staff Requirements

Queuing Formulas and Simulations:		
Formula	Used For	Assumptions
Erlang C	Calculating base staff and predicting occupancy, trunk load, delay times, etc. Assumes no abandoned calls or busy signals.	Assumes steady state arrival or that traffic does not increase or decrease beyond random fluctuations within the time period. Assumes you have a fixed number of staff handling calls throughout the time period. Assumes that all agents within a group can handle the calls presented to the group.
Computer Simulation	Simulates what happens in terms of service level, delay, busies, overflow, etc., for the set of variables you assume	Can be programmed to assume a wide variety of variables, such as overflow, overlapping groups, and skills-based routing.
Erlang B	Calculating trunks and IVR ports required	Assumes that if callers get busy signals, they go away forever, never to retry. Since some callers retry, Erlang B can underestimate trunks required.
Poisson	Calculating trunks and IVR ports required	Assumes that if callers get busy signals, they keep trying until they successfully get through. Since some callers won't keep trying, Poisson can overestimate trunks required.
Retrial Tables	Calculating trunks and IVR ports required	Are used less frequently by traffic engineers, but correctly assume that some callers retry and others will go away.

Erlang C is a formula commonly used for calculating base staff; in software form, it is easy to use and widely available.

Computer simulation is more difficult to use than Erlang C, but can more accurately model complex environments.

Erlang B, Poisson and Retrial Tables are alternatives used for calculating trunks and IVR ports.

No calculation or methodology is perfect, and it is important to understand the assumptions each makes and to apply common sense.

Tips for Creating a More Effective Schedule

Gain a better understanding of your staff needed by calculating the Rostered Staff Factor (RSF).

- Enter the base staff required by half hour
- Identify the things that routinely keep agents from the workload
- Add base staff to the number of agents who will be away from the workload, for each half hour
- Calculate RSF
- Use the factors when organizing future schedules

Example:

	Base Staff Required					On Schedule	Rostered Staff Factor
	Phone	Email	Absent	On Break	Training		
8:00 – 8:30	18	4	2	0	0	24	1.09
8:30 – 9:00	20	4	2	0	4	30	1.25

$$\text{Rostered Staff Factor} = \text{On Schedule} / \text{Base Staff Required}$$

Scheduling is inherently an iterative process, and involves a certain amount of trial and error. Important scheduling parameters include:

Agent Preferences

Agents who are involved in identifying scheduling possibilities upfront will generate ideas that were not considered previously.

Agent Group Structure and Channel Mix

Keep your routing contingencies simply enough to manage. Some contact centers can't say with precision where contacts go because their skills-or contingency-based routing environments are so complex. Similarly, consider how your channel mix affects agent structures.

Schedule Horizon

How far in advance will schedules be determined? Scheduling further out, say two or three months from now, results in schedules that will be less efficient. On the other hand, scheduling in too short of a timeframe will be less popular with agents. It's a balancing act.

Tips for Creating a More Effective Schedule

Union, Legal, and Contract Requirements

Care should be taken when considering union, legal and any specific contractual requirements to ensure that schedules fall within acceptable parameters. Restrictions on part-time staff, hours worked and overtime pay will impact the alternatives that can be used. For union-based contact centers, an open, collaborative environment with union representatives – as well as educating all involved on the immutable laws of contact centers – can help immensely.

24 x 7 Operations

There are special considerations for 24x7 operations. Key considerations include:

- Employee safety

- Variations in daily contact arrival patterns (*e.g., is the volume at night low enough that agent groups should be combined?*)

- Agent productivity by shift (*e.g., productivity standards and staffing calculations must account for workload variations*)

- Night coverage for meals/breaks

- Night coverage for absenteeism

- Supervisors for evening/night hours

Considering that staffing needs to fluctuate significantly throughout the day, month and year, it can be challenging to have an adequate number of people in place without being overstaffed much of the time. Fortunately, quite a few alternatives exist. Not all will be feasible for every center, but here are some of the options:

- | | |
|---|--|
| Stagger shifts | Offer agents to go home without pay |
| Offer concentrated shifts | Create a SWAT team |
| Flex-time scheduling | Arrange for on-call agents |
| Use an envelope strategy | Send overflow calls to an outsourcer |
| Offer overtime | Collaborate with similar organizations |
| Adjust breaks, lunch, meeting, and training schedules | |

Tips for Creating a More Effective Schedule

This list provides questions designed to help you and your team identify the root cause(s) of your scheduling problems. Answer each question with either a “yes”, “no”, or “not applicable.” Answering a question with a “no” response indicates that there is room for improvement and that the area represents a potential problem or root cause. (Remember, continuous scheduling improvement is an ongoing process, so even if you answer a question with a “yes,” there may still be room for improvement in that area.)

1. Are you considering all feasible scheduling alternatives, such as:
 - a. Using conventional, staggered, concentrated or split shifts?
 - b. Adjusting breaks, lunches, training session times?
 - c. Incorporating part-timers and/or flex-timers?
 - d. Offering overtime or leave without pay?
 - e. Establishing a telecommuting (work at home) program?
 - f. Sharing staff with another contact center with complementary scheduling needs?
2. Do you solicit input from everyone involved in scheduling (e.g., forecasters, supervisors and agents)?
3. When making adjustments to the schedule, do you make sure that all the newest agents are NOT assigned to the newest supervisors/managers?
4. Do you make sure that agents who exchange shifts have compatible skill sets?
5. Do you factor in inevitable “exceptions” that affect schedules, without allowing for too many exceptions?
6. Do you have a real-time escalation process that is in writing and well understood by staff?
7. Do you manage around each half-hour rather than around daily averages?
8. Do your supervisors provide coaching on adherence-to-schedule?
9. Do your agents “buy into” adherence, and do they understand the “Power of One” (the big impact that each of them has on the center’s overall performance/service level)?
10. When measuring adherence, do you measure how much and WHEN?

Ways to Improve Your Real-Time Management Skills

The key to effective real-time management is to react appropriately to evolving conditions. Consequently, it is important to monitor developments and identify trends as early as possible. Random contact arrival means that, at times, it will *appear* as though the center is falling behind even though it is staffed appropriately. But if there is a genuine trend, quick action needs to be taken to prevent further degradation of service.

Since there are a variety of reports and dashboards capturing contact center data, it's important to have a systematic approach to when and where you focus your attention. It should be in this order:

1. **Number of contacts in queue:** This is the real-time report most sensitive to changes and trends. Look at this first.
2. **Longest current wait (oldest contact):** This is a real-time report, but behaves like a historical report (e.g., many contacts can come into the queue, but longest current wait will take some time to reflect the problem). This report gives context to the number of contacts in a queue. For example, if there are far more contacts in queue than normal, but longest current wait is modest, the center is at the beginning of a downward trend. Now is the time to react.
3. **Service level, average speed of answer, average time to abandonment and other measures of queue and customer behavior:** These reports of rolling history provide additional context to number of calls in queue and longest current wait. For example, if service level is low, but there are few or no calls in queue, then the problem is clearing and service level will begin to climb.
4. **Agent Status:** This real-time report indicates how many agents are available and what modes they are in. Some managers suggest that agent status should be at the top of the list. Their argument is that if agents are where they need to be, there won't be much of a queue in the first place. However, agent status can be difficult to interpret unless the condition of the queue is known. So what if few agents are taking calls, if few calls are coming in? In that case, it is appropriate for agents to be working on other tasks. With the right training on what real-time information means and the activity it is reporting, experienced agents and supervisors can scan and decipher these reports quickly.

Factors to Consider When Choosing Your Next Workforce Management System

At a basic level, workforce management systems provide automated support for four key processes in the contact center - forecasting, staffing projections, scheduling and tracking.

People are the most expensive resource in a contact center and they are also the most valuable. In most contact centers anywhere from 65 - 75% of the budget will be staff. Because of the importance of utilizing staff appropriately, it is typically the contact center management team and/or the finance department that drives the decision to purchase a WFMS. Cloud-based WFMS have continued to drive down pricing, making them now more affordable for small centers.

The primary value of a workforce management system to a contact center lies in its ability to maximize the use of available resources and thereby reduce overall staffing requirements and costs.

Think Simple. Smart. Agile. The following are important considerations when choosing a WFMS:

- Length of time data is retained
- Ability to segment and schedule by skill
- System flexibility in changing schedules
- Ability to include a shrinkage factor when creating schedules
- Ability to provide for flexible hours of operation
- Capacity to change the calculations the system uses, such as Service Level, Abandonment Rate, Shrinkage
- Ability to customize formats of reports
- Ability to interface with your ACD, ERMS and other multichannel contact systems in order to appropriately forecast and schedule for all contact channels
- Capability to incorporate the after contact work and off queue time codes that the ACD system can generate
- Ability to determine the best time to make outbound contacts for blended centers

About ICMI and Serenova

About ICMI

The International Customer Management Institute (ICMI) is the leading global provider of comprehensive resources for customer management professionals -- from frontline agents to executives -- who wish to improve customer experiences and increase efficiencies at every level of the contact center. Since 1985, ICMI has helped more than 50,000 organizations in 167 countries through training, events, consulting, and informational resources.

ICMI's experienced and dedicated team of industry insiders, trainers, and consultants are committed to helping you raise the strategic value of your contact center, optimize your operations and improve your customer service. ICMI is a part of UBM plc (www.ubm.com), a global events-led marketing services and communications company.

About Serenova

Serenova simplifies every aspect of the customer experience to make life easier for contact center executives, their customers and employees. The world's most passionate, customer-focused brands achieve better interactions, deeper insights, and more meaningful outcomes with Serenova's contact center solutions. Headquartered in Austin, Texas, Serenova has operations in California, Canada, the United Kingdom and Australia.

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