

## Workforce Planning and Scheduling

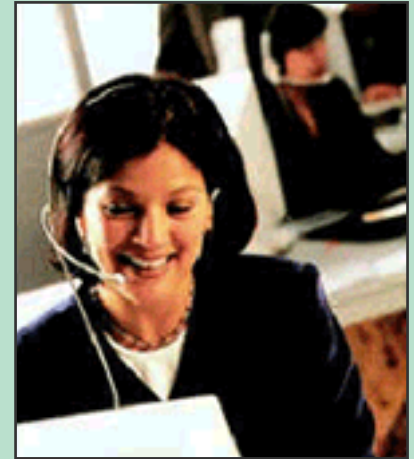
In today's competitive business environment, there is a greater need for organizations to manage their operations efficiently to achieve competitive advantage in every part of the organization.

Human resource is the core of any organization as a large part of an **organization's workforce is directly involved in running key operations**, e.g. labor in manufacturing operations, sales representatives in servicing customers, medical representatives in visiting doctors, contact center employees in handling customer interactions, airline crew in servicing various flight legs, etc. **Efficiently managed workforce** ultimately adds to the productivity, and thus bottom line of the organization.

The goal of any workforce application is to **cover the workload with the resource available**, while respecting work constraints, balancing the workload among employees, and minimizing idle time. There are major benefits of better workforce allocation and scheduling such as reduced cost, higher efficiencies, improved customer service, and higher employee satisfaction. For example, a **contact center with better workforce management can achieve improved operations efficiencies, optimized use of resource, and expanded customer base**. Whereas departure from optimality can make contact center:

- Drain its limited budget through high costs-per-call
- Miss opportunities to build revenues via cross selling and up-selling
- Reduce customer confidence in their client company and increase customer churn

Workforce planning and scheduling has its applications in many others areas such as:



### **The Math of Call Center Staffing**

Running a successful call center operation means managing by the numbers. And the most important number of all is the number of bodies in seats each hour to respond to customer contacts. Since over two-thirds of call center operating costs are related to personnel, getting the "just right" number of staff in place is critical in terms of both service and cost. [Read More...](#)

### **More Resources**

- [McDonald's Franchises](#)- Case Study

- [United Airlines](#)- Case Study

1. Staff allocation in departmental stores
2. Nurse rostering in hospitals
3. Ground staff allocation in airline operations
4. Work pattern allocation in banks
5. Time Tabling of classes and lectures in a university
6. Reservation Systems in Airlines, and Railways
7. Car, Train, and Bus drivers' route allocation, and scheduling in public transportation
8. Shift allocation, and scheduling of labor in manufacturing units
9. Training Schedule preparation

**Workforce optimization problems** are **highly combinatorial** and **heavily constrained**. No classic algorithm can answer all the constraints involved in workforce optimization such as heavy regulations, economic goals, union rules, individual wishes, staff availability, and skill requirements.

In **workforce optimization** problems, job requirements such as employee skills, job duration, and job priority are grouped together to give the workload. The activities or tasks of a job need to be scheduled over specific periods of time in order to **meet customer requirements**. Some of requirements are quite complex (e.g., skill requirements, various work rules such as shift start times, lengths, break windows, durations, etc.). This **correlation of requirements** over time often implies sequencing effects that can dramatically affect the cost of jobs.

Manually creating a workforce schedule can be tedious and time-consuming. Researching the countless number of configurations of shifts and breaks becomes quite difficult when the size of the scheduled group is 20 or more, and often best answers and scenario analysis is impossible to find. **Workforce solutions can help** in coming up with best answers by **generating and evaluating all relevant scenarios**. This is why optimization software is key to workforce scheduling and allocation applications. To address workforce-planning problems, a system must take into account the company needs, constraints and objectives, and provide different objects, planning, schedule checking, and reactive planning.

Better workforce planning and scheduling results in **increased workforce productivity**, feedback and support from the staff, and involvement of support organizations (engineering, stores, operations, etc.), which further results in the **improved overall**

- [More on Call Center Staffing](#)

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### About DecisionCraft Analytics

DecisionCraft Analytics is a consulting firm specialized in building Decision Support Systems in the **planning and optimization** domain using proprietary tools and techniques.

DecisionCraft's solutions are innovative and cutting edge and are a result of extensive research, setting industry wide benchmarks.

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### DecisionCraft Services

#### [Business Diagnostics](#)

We analyze business processes and transactional data to identify underlying patterns, unravel hidden relationships and recommend areas for improvement that can improve ROI and reduce costs.

#### [Predictive Analytics](#)

We use historical data intelligently to develop a view of future market trends and help our clients focus on the right audiences thereby developing their competitive edge.

#### [Forecasting](#)

We use advanced time-series

**reliability and efficiency** of the organization.

Next Issue: [Financial Risk Modeling](#)

Previous Issue: [Optimized Load Planning Decisions](#)

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and regression techniques for forecasting behavior of critical business variables that allows our clients to plan for their resources intelligently.