

# CAPACITY MANAGEMENT

## Engineering the Balance Between Customer Satisfaction, Employee Satisfaction and Company Profit

By BRIAN SILL, FCSI (PP)

Ever since I was a chef and restaurant operator 25 years ago, I have always felt there had to be a simpler way to lead a restaurant enterprise. The layers of complexity and unpredictability of the business always led me to believe things were a little beyond our control - or even out of control. We always seemed to be reactive, not proactive. Sure, we had measurement tools, like the profit & loss statement, to guide us, but they were merely descriptive, not predictive. We had standards of operations, but we never seemed to operate in a standardized way. There

had to be a better way, one that required less effort and produced less stress.

This concern led me on a quest for predictability that has culminated in new ways to measure our business and to identify more-predictive brand standards. I call this discipline Capacity Management Science® because every person, process or facility in a hotel or restaurant has a capacity that can be measured and, there-

fore, managed. If we define our brand standards in capacity terms - that is, in terms of our full potential - we can better direct the outcomes that grow the business.

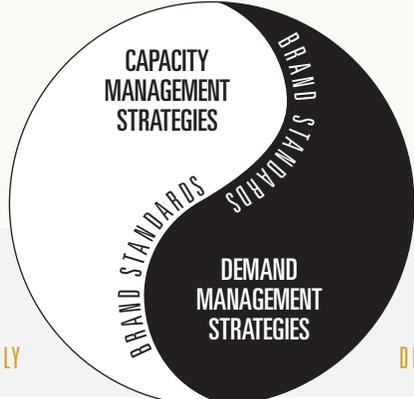
Capacity Management Science®, then, is defined as a process for quantifying brand standards and reworking them to achieve their full potential. The outcomes of this learning have enabled users to, for example:

- Increase table turns by 26 percent in peak sessions
- Increase kitchen throughput speed by \$300 per hour without adding staff
- Redesign kitchen workloads to achieve a 2-percentage point reduction in labor cost
- Right-size facility and equipment to save thousands of dollars in equipment investments
- Increase service speed and server tips
- Increase food and service consistency

And last but certainly not least:

- Improve the quality of work life and reduce the turnover of frontline workers and staff by identifying more accurate and more predictable brand standards.

### BUSINESS VISION AND BRAND POSITIONING STRATEGIES



SUPPLY

DEMAND

RESTAURANT INDUSTRY

## The Yin and Yang of Company Profit

A global understanding of Capacity Management begins with a fundamental view of supply and demand in the restaurant business. Much like the yin and yang of a brand's vision and positioning statement, Capacity Management Strategies exist on the one hand and Demand Management Strategies on the other, with brand standards as the seam matching supply with demand to bring a positive return on investment. The yin-yang metaphor denotes the need for these strategies to be in sync – like an operational ecosystem where we seek a delicate balance of the right people doing the right things at the right times to grow the business.

What is the process by which we determine our full potential? A simplified overview of the standards development process can be portrayed in the following progression:

### Step One

In assessing brand standards, measure existing resource capacities and validate their actions with a business vision and positioning statement, i.e., are they doing what they are supposed to be doing? This is one of the greatest areas of opportunity, as ill-defined standards left up to individual interpretation result in people doing things their own way in every way.

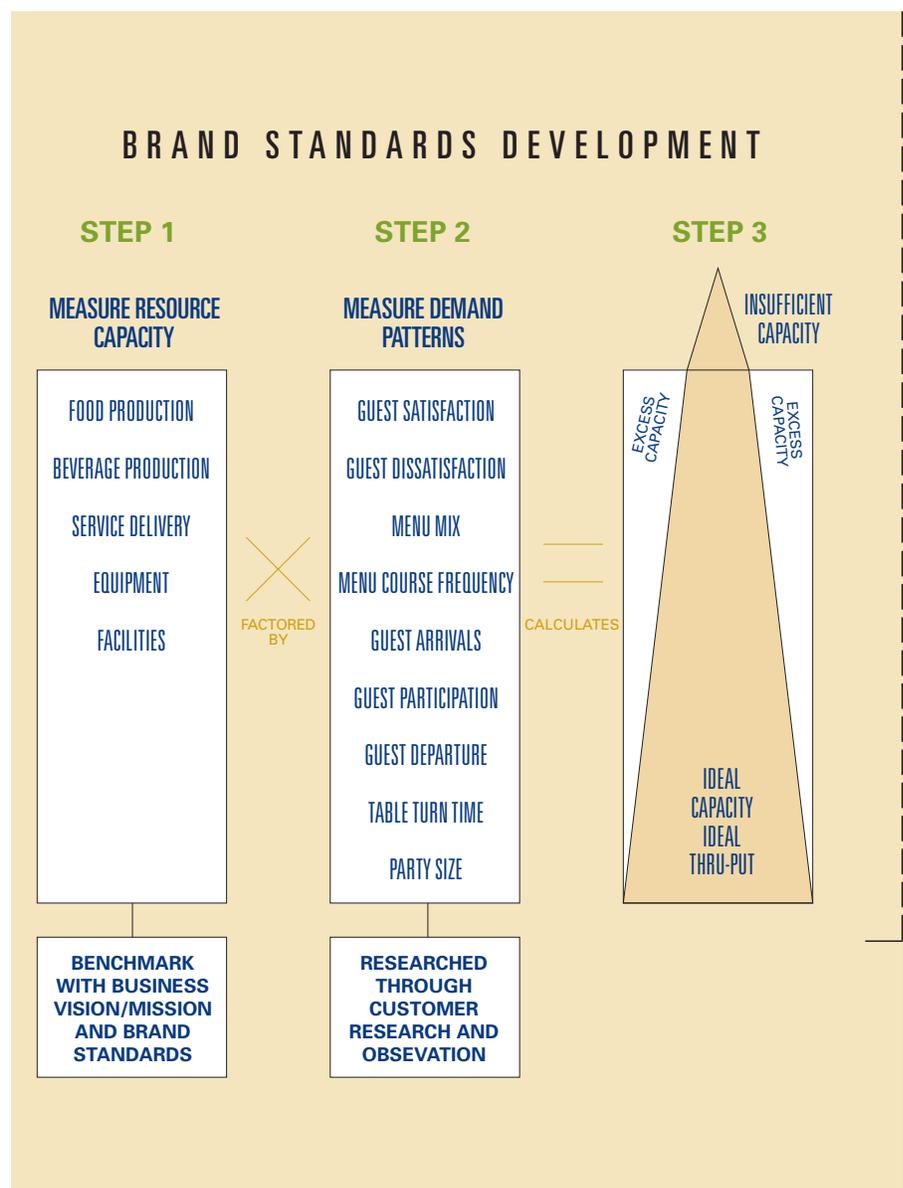
### Step Two

Measure guest demand patterns and how they choose to interact with your brand, i.e., what are the guest's preferences for buying your brand and does this fit the business model?

### Step Three

Calculate ideal production and service levels by factoring Step One with Step Two to learn, first of all, is the ideal correct – does it meet your business vision and profit objectives? Secondly, how do we remove excess capacity where the standards are too loose and are driving up costs or marshal additional resources where we are short on capacity and the standards are so tight they are restricting business opportunities?

While Capacity Management asks that you measure your business from an engineering perspective, it doesn't mean you have to be an engineer to do so. We have trained scores of people from all walks of life on our Capacity Management techniques. The trick is to identify those key areas of data collection and measurement that can be easily trained and then automate the capacity calculations with software so you don't need to be a statistician or industrial engineer to learn the answer.



In this way, the restaurant industry is provided a master library of time study results already gathered across hundreds of studies. Although these time values will be unique to each environment, you would be surprised by the similarities, and we get you started faster by providing the process step language and time values against which you can benchmark your studies.

## Work Study – Improving Employee Satisfaction

Following a recent training engagement with a company in England, I asked its food development manager to provide his estimate of the time it took him to learn Work Study, which is one of the more powerful Capacity Management skills and is comprised of three techniques (see diagram, page 77).

Over the past 15 years I have been performing this work, I have met many naysayers of Work Study techniques. Their concern is that such studies focus on simplification for the sake of simplification. This is reductionist thinking, and you will not survive long in the restaurant business if you think this way. If you dummy down a job to make it idiot-proof, you have no right to be surprised when only idiots can stand to do the job. The study of work is not simplification for the sake of it – it's about clarifying the purpose of work, or the lack thereof.

Another concern I have heard is that Work Study is used to measure human output as a means of controlling behavior. I prefer to think of Work Study in

a different way: as a communicating, learning, informing and designing tool, not a controlling tool. Measuring someone's performance should not be used to govern behavior but rather to establish boundaries in the form of training best-practiced methods that result in consistent and achievable brand standards.

# CAPACITY MANAGEMENT SCIENCE

## WORK STUDY TRAINEES

Corporate Chef  
 General Manager  
 Kitchen Manager  
 Operations Analyst  
 Productivity Manager  
 Labor Systems Manager  
 Regional Kitchen Manager  
 Food Development Manager  
 Regional Business Manager  
 Menu Development Manager  
 Brand Development Manager  
 Regional Operations Director  
 Manager Restaurant Systems  
 Regional Operations Manager  
 Manager Operations Services  
 Director of Business Process  
 Director of Menu Development  
 Operations Review Consultant  
 Director of Design and Equipment  
 Director, Operations Systems Design  
 Director of Food and Kitchen Operations

## CMS Case Study – Bass Leisure Retail

Bass Leisure Retail in the United Kingdom used Capacity Management Science® to identify brand standards within our business units. Bass Restaurant Group is the leading U.K. restaurant group, with five key brands operating 467 business units and annual sales of £417 million. The Restaurant Group is a division of Bass PLC, our Leisure Group focused on branded leisure retail – restaurants and bars. Other divisions are Bass Brewers, with a portfolio of branded drinks comprising 25 percent of the U.K. beer market, and Bass Hotels & Resorts, featuring Inter-Continental and Holiday Inn.

### Concepts

**All Bar One** – 52 bars, mostly in greater London. These are affluent, city-center bars used mainly by young professionals for lunch-time and after-work socializing.

**Browns** – Affluent, city-center restaurants offering familiar dishes cooked from classic, simple recipes using fresh ingredients.

**Harvester** – A suburban pub-restaurant chain famous for its salad bar and cooked-to-order char-grilling and split roasts.

**Toby Carvery** – A high-volume carvery restaurant in suburban locations, famous for freshly carved roasts and fresh vegetables.

**Vintage Inns** – Characterful local inns where you can enjoy refreshment and relaxation at its simple, traditional best. Out-of-town destination inns for informal eating out.

In this way, Work Study can give us more *meaning* to the content of our brand standards. It helps us better answer the question, “Why do we do it this way?” It also provides a richer script to answer questions posed by the backline and frontline workers. As someone once said, “Art happens when the work and worker connect.” The

question is simple: How can we design work to get our employees to connect with what they do and whom they serve?

Work Study can help measure food production and service complexity, which is useful in making brand-standard decisions regarding menu/recipe design, facilities design, service

delivery design, deployment training and staffing guidelines. Practical applications of this information include technology-based labor scheduling.

Another practical application of Work Study is to use the line cook capacity calculations to determine the best deployment that maximizes

## Applying CMS

The application of science in understanding how brands work helps us in the acquisition of brands such as Browns and the evolution of existing successful concepts.

There are two key stages in acquiring and applying the knowledge. We use consumer research to understand the brand image and the attitude to and use of the brand by users and non-users. We use the research findings to define our consumer proposition – the key values and supports that drive every element of brand development and operation.

We use Capacity Management Science® to understand how the brand works. It’s used to determine brand standards and drive operational engineering to improve the brand.

The appointment of Deterministics to conduct Capacity Management studies has been a standard element of brand development for all Restaurant Group brands since 1996. The application has been in the front of the house, focused on improved service delivery, and in the back of the house to improve production delivery. The key focus has been on impacting tangible and measurable results and ultimately achieving extra sales and profit.

## Outcomes – Front of the House

The focus with many brands on the hosting role has reaped numerous benefits, particularly in the “bookending,” or the first and last 10 seconds of the guest experience – i.e., the welcoming and farewell.

In Harvester, in particular, the reduction of section size per wait staff member gave benefits of increased guest contact, service visibility, table-turn drive,

guest satisfaction and bigger tips for team members.

The review of table layout by brand led to:

- In Harvester, the removing of pre-set wine glasses to simplify table bussing and to reduce service times.
- In Toby, we deformedalized and simplified the table-top settings, and in Vintage Inns, we introduced lighter plateware to increase the number of plates a team member could carry.
- In All Bar One, we introduced silent pagers for floor staff to avoid unnecessary trips to the kitchen, which helped team members focus on front-of-the-house service and selling while improving speed and the quality of food delivery.

We also reviewed design elements that constrained efficiency. This led to the removal of a conveyor track used for transmission of food orders through to the kitchen. The conveyor was slow and prone to errors and loss of orders. We replaced it as recommended (and very successfully) with an alternative order system and kitchen printers.

In Vintage Inns, as with other brands, we reduced the menu range and streamlined the presentation. Excessive menus had created guest assumptions of processed food, increased guest decision-making time and delayed delivery time.

## Outcomes – Back of the House

The study reviewed brand kitchen-equipment utilization by volume, which led to the subsequent adjustment of kitchen equipment by brand to optimize capacity. For example, in Harvester, the

char-grill width was reduced by 40 percent, and in All Bar One, we introduced an additional bench for the grill chef to improve plate assembly. Additionally, in the bar area, we reworked the bar layout to increase opportunities for multi-tasking at peak periods.

Vintage Inns reduced its grill length from 173 centimeters to 123 centimeters, removed pasta cookers and doubled microwave ovens for rapid pudding and starter items. The equipment specification was reworked for rapid access such as under-counter refrigeration, drawers for preparation and quick-access items.

Progressive redesign of menu items helped optimize menu-engineering disciplines such as streamlining preparation and production steps, as well as identifying pre-assembly and pre-portioning opportunities, thus reducing cook times and increasing peak cooking capacity.

## Sales and Profit Growth

It’s often said that if you can’t measure it, you can’t manage it, so we continue to apply operations-engineering findings to brand templates in determining design specifications, particularly in the back of the house. Restaurant Group brands have shown continued and significant sales growth over the past five years, and subsequent profit growth has been achieved through focused brand development.

– Karen Forrester  
Bass Leisure Retail

## WORK STUDY TECHNIQUE IS LIKE

**1. Process Mapping**  
**Training Time: 3 Hours**  
**Time to Proficiency: 1 Day**

**Writing a food recipe**

**2. Time Study**  
**Training Time: 4 Hours**  
**Time to Proficiency: 3 Days**

**Working a stopwatch**

**3. Deployment Modeling**  
**Training Time: 2 Hours**  
**Time to Proficiency: 1/2 Day**

**Balancing different sized pieces of a puzzle**

throughput speed and hourly sales capacity. This is particularly useful in determining who does what at different volume levels as well as when employees must share work stations. This same deployment exercise can be applied to any shared environment, such as the hotel front desk or a bartender work station, and it can lead to significant conclusions about equipment adjacencies and facility design.

This exercise using the Capacity Manager software to calculate deployment is powerful not just for operations, but it also enables the facilities design and marketing departments to explore their impact on peak sales capacity of alternative layouts, changes in menu and changes in menu mix from promotional events. And, thanks to the speed of calculations, it encourages experimentation. Throughput impact, therefore, can be known

quickly based on changes to the menu, as well as innovative changes in facility design, work methods and equipment. Innovate is precisely what this will enable you to do. If you put deployment modeling into the hands of those who control design decisions, Capacity Management is the connection between innovation and implementation.

For example, the graphic below shows the degree of improvement

## COOKLINE THROUGHPUT IMPROVEMENT

**Throughput Team: Food Development**

**Facilities Designer**

**Equipment Engineer**

**Lunch**      ↑ 27 Plates/Hour (22 percent improvement)  
                   x \$7.40/Plate  
                   = ↑\$200/Peak Hour with same staff

**Dinner**      ↑ 41 Plates/Hour (44 percent improvement)  
                   x \$9.36/Plate  
                   = ↑\$383/Peak Hour with same staff

achieved by a team of menu development and facilities designers: It realized a 22-percent increase, or an additional \$200 in sales per hour at lunch using the same number of staff, and added a 44-percent increase at dinner, adding \$383 dollars in peak sales capacity.

If the training, operations, menu development and facilities design departments are not measuring the brand standards they create, who's minding the store? How do you know how much is too much or how long is too long? How do you know when you are operating in a way that is fair to the employee, fair to the guest and fair to the company?

Every foodservice organization should have a food recipe and a labor recipe, derived in unison, for every item on its menu. In an era where you have to fish when the fish are biting, realizing your full potential to improve peak capacity is a real opportunity to grow year-on-year sales.

## Right-Brain Revolution

Another significant theme that makes Capacity Management Science® an exciting management discipline is the potential brought to bear by the new information technologies. In his book *The Roaring 2000's*, former Harvard professor Harry S. Dent offers an insightful perspective on why the term Information Revolution is wrong-footed and should be renamed the Right-Brain Revolution. He argues that a primary goal of information systems projects should be to automate the routine, repetitive, mathematical and clerical left-brain tasks, freeing up company resources to invest in the customer side of the business – the creative, right-brain, human-relational work of the craftsman, the designer, the trainer, the leader and the service provider.

In similar fashion, armed with the automated mathematics and trained in the Capacity Management techniques, the creative, right-brain artisans of an organization can make faster, more robust and smarter decisions about how their design and promotional decisions affect the business. Armed with measured information, Capacity Management Science® is the glue that binds Information Technology and the Right-Brain Revolution.

## CMS Case Study — Metromedia Family

### Steakhouses

Metromedia Family Steakhouses (Bonanza and Ponderosa Steakhouse brands) employed Brian Sill and Deterministics to undertake a capacity study of our new Ponderosa prototype restaurant in Johnstown, Pa.

This steakhouse differed greatly from existing Ponderosas in that it was almost 30 percent larger (8,200 square feet vs. 6,000) and the decor and foodservice and food production systems were significantly different. Deterministics' Work Study methods were critical in helping us determine capacity con-

straints, capacity excesses and key volume indicators to optimally design, operate and staff the steakhouse.

For example, in the front of the house, we were using servers in eight-table sections supported by service assistants. We debated using larger table sections supported by more support staff such as drink runners, food runners, etc. The time studies revealed it was better to reduce the number of divisions of labor and operate more service channels. So, we eliminated the service-assistant positions and reduced the server section size to five tables. The result was improved service, as servers would not abdicate responsibilities and it was easier to scale fewer positions up and down with business volumes.

Back-of-the-house and guest-con-

People learn best what they almost already know. For this reason, Capacity Management techniques will become second nature to the menu and facilities designers. Menu development people design work methods, and kitchen planners design work flows; why shouldn't work measurement of these methods and flows be incorporated into the design process? This also applies to the training department, responsible for orchestrating the choreography of guest service.

To be responsible innovators and designers, we need the courage to let go of the Old World and take ownership of the new techniques. The application is less about controlling behavior and more about using the techniques to improve designs and the quality of work life and becoming more predictive and less reactive to life's situations.

## Service Study — Improving Customer Satisfaction

A core competency of the restaurant industry is service, and the participative nature of the service exchange requires that service staff and the guest work together to achieve a desirable outcome. As a Capacity Management technique, Work Study is a great way to measure the components of service; that is, the time and timing of the guest and the server's actions and what they must go through to achieve a pleasant experience without delays or feeling rushed.

Work Study provides some of the most lucid and insightful information about service success or failure, as it measures the degree of difficulty of a brand. It can point to reasons for turnover, reasons for paying higher skill costs and reasons for poor morale

sumption studies helped us understand that our buffets were oversized on the cold and bakery buffets and under capacity on the hot buffet. The facility redesign reduced the cold-buffet square footage by 25 percent and increased the hot buffet from 10 to 18 linear feet, with a shallower depth to increase flow speed. The results were:

- Faster table turns (10-15 percent shorter)
- Shorter lines at buffets
- Hot food piping hot, cold food crispy cold
- Decreased construction costs
- Easier for team to operate
- Reduced labor costs

The greatest benefit achieved with Deterministics was the implementation of its Labor Deployment System. Using this disciplined process helped us optimize profitability while maintaining

guest and team member satisfaction - the key metrics for our business.

**- Jim Rand**  
**Metromedia Family Steakhouses**

#### Metromedia Restaurant Group

- Four brands:
  - \*Bonanza/Ponderosa
  - \*Steak and Ale
  - \*Bennigan's
  - \*International Division
- 1,000 restaurants
- System sales: \$1.4 billion
- 60,000 team members
- 42 states, 11 countries
- 160 million guests annually

#### Metromedia Family Steakhouses

- 619 Bonanza and Ponderosa units
- Average check: \$7
- Largest family steakhouse chain in the world
- Branded elements:
  - \*Double T Steaks
  - \*Rancher's Skillet
  - \*Breakfast Buffet
  - \*Hearty Homestyle Lunch Buffet
  - \*GrillSide Dinner Buffet

among the frontline workers. For those chains battling work-discrimination lawsuits, it can clarify the distinction between hourly and management tasks and the time required for each.

Closer scrutiny of business practices using Work Study can play a significant role in resolving labor challenges. With turnover averaging 170 percent for many operators and unemployment at a 30-year low, the scarcity of labor will only heighten the need for this focus. The key challenge will be to use Work Study to improve job qualities so that it is more rewarding to work, and to remove those stressful aspects of the job that cause turnover. One of the more common conclusions our service studies reveal is the need to reduce dining room section sizes. In fact, we have drawn this conclusion with over 85 percent of our clients.

In reducing section sizes, the objective is to allow more server attention time per table that eliminates all occurrences of the guest having to wait for service. This, in turn, results in an increase in guest satisfaction at the same time increasing table turn speed and, hopefully, the size of the server's tips.

When you calculate your ideal table-turn time based upon the service times studies and menu-coursing frequency, you can understand the amount of time the guest spends waiting for service, as well as your compromised table-turn speed. One client achieved a 26-percent increase in table turns on busy nights by reducing section sizes, and many successful chains use three-table sections as a key service initiative.

Studies have validated a powerful relationship between work standards

and team satisfaction. They have also proven an even tighter connection between team satisfaction and customer satisfaction. Work standards, therefore, are directly correlated to customer satisfaction.

### Time Measurement – A Missed Opportunity

A final reason for the timeliness of Capacity Management Science® is the concept of time itself. Managing time is *the* final frontier for the restaurant industry. Why? Time has become a major competitive weapon in today's marketplace. For example, we talk about time in terms of:

**Lead time** of getting new menus to market is shrinking, as operators copy segment leaders, resulting in menu saturation.

**Real time**, responding rapidly and reliably to customer requests, is critical for meeting guest expectations.

**Throughput time** of menu items can be 60 percent of total service time.

**Delivery time** of products and service must be consistent across all participants in the supply chain to assure reliability, trust and loyalty.

**Customer time** waiting to be seated, served and in serving themselves adds to the total cost of your offer. Waiting is an added cost to the guest, as it represents the alternative use of their time.

**Concepts in terms of time** – time-using: full service; time-saving: quick service.

**Service time** – service can be defined as the “smoothness of the ride” of timed service steps and the amount of attention time provided at the table. Research shows a positive relationship between the amount of face time and the size of the sale.

With this much emphasis placed on the importance of time, why don't we measure it? Our industry needs to become more time sensitive. Every organization should learn how to measure time, either through technologies like arrival-sensing devices, pagers, the point-of-sale device, kitchen monitors and cooking equipment, or with the simple use of a stopwatch. Timing every aspect of the business opens up a new world of perception and appreciation for what you put your guests and workers through to achieve a positive experience. Not only will you learn immediately how your brand standards affect time-sensitive issues, you will also learn the degree of timing variation between service steps. Service variation occurs when you see orders sitting in the window, guests waiting to order, guests waiting to pay and tables waiting to be bussed.

Measuring service variation is a powerful exercise because it provides the answer mystery shoppers don't. Mystery shoppers tell what the mystery guest's perception of service was but not the causes of service variation or what the service providers had to go through to achieve the end result. Focus groups, comment cards and exit interviews explain what the guest has to say, but work studies of the steps of service can detail what they don't.

## Conclusion

In an industry so dependent upon getting the basics right, Work Study is a perfect way to bring the basics back into focus, as it allows the opportunity to look at old problems in new ways with a new pair of glasses.

Competitive advantage belongs to the fastest learners. In an industry constantly challenged by visionaries to

think outside the box, it's time we gave more consideration to what's happening inside the box. We need to define our brand standards in capacity terms to understand our full potential and that the right measurement by the right people will accelerate learning curves and improve brand performance. 🌐

**Brian Sill, FCSI (PP)**, is principal of **Deterministics in Kirkland, Wash.**

**AD**