(Value Chain Models)

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Plan for Today's Lecture

Mills & Moberg: Origins of the Service System Perspective
The Value Creation Cycle
Heskett: The Service Profit Chain
Oliva & Sterman: The "Vicious Cycle" of Eroding Service Standards
Typical Manufacturing System
Origins of the Service System Perspective - Mills & Moberg

Mills and Moberg "Perspectives on Technology of Service Operations" (1982) was first to contrast and extend manufacturing system concepts to service design and delivery.

Services are co-produced by the "service worker" and the customer.

The interactions between the service worker and the customer are "transactions" in which they exchange information and commitment.
Mills & Moberg - Service Production System
The "Technical Core"

A firm's *technical core* consists of its technologies and skills (of its workers) that perform its essential work.

Organizational and systems theory in Mills and Moberg's time (1970s) held that rational firms would "seal off their technical core" from internal and external sources of uncertainty in order to create a "closed loop system" that maximizes their efficiency and reduces coordination costs.

Techniques for "sealing off the core" include "buffering" (use of inventories) and "smoothing" or "rationing" (to manage supply and demand).
The technical core can't be sealed off entirely because people engage in "cycling, aborting, and serendipitous" processes (unlike raw materials).

Denying service to customers who would cause problems, or "socializing" customers to be better behaved are "rationing" techniques that reduce uncertainty, but require additional service operations.

Making the service transaction more routine and disallowing any exceptions can make service times more regular.
"It seems clear that applying scientific management and other closed system logics within service operations is tenuous"

Service systems can be viewed on a structure continuum from *Full-service* to *Restricted service*

Technology capabilities should NOT be allowed to determine service system structure; it is much more important to consider the tolerance of the client pool and the skills of the service workers

More service, or more intense service, isn't necessarily better!
Service Triangle

- Firm
- Frontline employees
- Customer

Internal marketing

- Service marketing
  - Service features and outcome
  - Positioning and pricing
  - Mass communication and branding

Sales and relationship marketing
Service Triangle Marketing and Delivery Symmetry

- Firm
  - Internal marketing
    - Frontline employees
      - Best marketing agents
        - They deliver the service and control the interaction.
        - They are the real "beasts" of the interaction. Hence the importance of internal marketing to sell the service to the employee before the client.
    - Relationship
  - Mass communication
    - Customer
      - Best marketing agents
        - Customers are the best advocates of the service as they experienced it.
        - Word-of-mouth is more convincing than mass communication.
        - They co-produce and control the interaction.
        - They customize and integrate the service through their participation.
        - They give direct feedback or lodge a complaint.
The Value Creation Cycle

Service intensity is a useful though somewhat coarse view of the value creation tradeoffs in a service system because it views the service as a whole on the "touch" dimension.

But there can be many potential "touch points" where customer needs can be met.

Service designs differ in how many of these touch points are incorporated into a service offering.

Services also can differ in the extent of interaction and customization with the customer at each point.
Value Creation Cycle in the Hotel Business
Value Creation Cycle - Budget Service
Value Creation Cycle - Full Service
The most successful service organizations recognize that their profitability is largely determined by how their employees interact with their customers.

These firms make lots of "intangible investments" in recruiting, training, and compensation of their employees.

They measure many aspects of employee and customer behavior and satisfaction.

Goal is to calibrate the value of products and services delivered so that the firm can increase customer satisfaction and loyalty and assess the impact on profitability and growth.
Principles Governing the Service-Profit Chain

- Customer Loyalty Drives Profitability and Growth
- Customer Satisfaction Drives Customer Loyalty
- Value Drives Customer Satisfaction
- Employee Productivity Drives Value
- Employee Loyalty Drives Productivity
- Employee Satisfaction Drives Loyalty
- Internal Quality Drives Employee Satisfaction
The Service-Profit Chain
Customer Loyalty Drives Profitability and Growth

Loyal customers are the most valuable -- most loyal 20% provide all the profit and cover the costs incurred in dealing with less loyal customers.

Loyalty is measured by the duration and the depth of the relationship.
Customer Satisfaction Drives Customer Loyalty

Only the most satisfied customers are truly loyal (on 1-5 satisfaction scale, 5s are substantially more loyal than 4s)

Companies strive to create *apostles* and to avoid creating *terrorists*
Apostles and Terrorists

![Graph showing the relationship between satisfaction and loyalty, with zones of affection, indifference, and defection.](Image)
Value Drives Customer Satisfaction

But value is often tricky to measure, because there are both absolute or objective measures of value and subjective ones based on customer expectations.

Studies show that people will sometimes rate a service experience more highly if they had to wait.
Employee Productivity Drives Value

Example in paper is Southwest Airlines, where positions are designed so that employees can do several jobs if necessary.

The faster turnaround time for planes increases their utilization.

Southwest was the most profitable airline at the time this paper was written and remains highly profitable today.
Employee Loyalty Drives Productivity

The cost of employee turnover is usually measured in terms of the costs of recruiting, hiring, and training replacements.

But in most service jobs, the real cost of turnover is the loss of productivity, which in turn results in lower customer satisfaction.
Employee Satisfaction Drives Loyalty

This may be the most obvious principle... that if you like your job you probably want to keep it for a long time.

Too often firms don't bother to measure whether their employees are satisfied, especially when they don't perceive that employees have many options to leave.
Internal Quality Drives Employee Satisfaction

Internal quality is a measurement of the attitudes that employees have toward their jobs, colleagues, and the firm as a whole.

A key contributor to internal quality is whether employees feel empowered to meet customer needs.
The "Vicious Cycle" of Eroding Service Standards

Many firms -- and even entire industries -- have observed a pattern of service quality erosion:

Employees try to maintain service productivity goals by absorbing small variations in workload by reducing time with each customer, working through lunch, working a little overtime.

This reduction in time per customer gradually erodes the norms of service quality.

Management misinterprets this as productivity gains and tries to capture them by reducing staffing levels.
"Cutting Corners and Working Overtime" -- Oliva and Sterman

Participants in the service system - workers, managers, and customers -- are boundedly rational; they try to follow sensible decision rules.

But they are also social beings who respond to the norms and behaviors of those around them.

Face-to-face encounters between service workers and customer bring them physically, psychologically, and organizationally close.

As a result, they can influence each others' perceptions and expectations about the quality of the "service encounter".

This co-evolution is often discussed in qualitative terms, but the mechanisms haven't been understood.
Oliva & Sterman's Service System Model

- Service Delivery
  - Backlog
  - Order fulfillment
  - Desired service capacity
- Desired service capacity
  - Effective service capacity
- Customer orders

- Service Capacity
  - Service capacity
  - Learning curve
  - Labor effectiveness
  - Desired total labor
  - Hiring and turnover
- Desired time per order
  - Time per order
  - Work intensity
  - Fatigue

- Employee Responses
  - Work pressure
  - Time per order
  - Desired time per order
  - Work intensity
  - Fatigue

- Service Quality
  - Service quality
  - Quality perceptions
  - Quality expectations
  - Quality pressure
Service Delivery Parameters and Functions

Customers enter the system to obtain service at some rate

The rate at which they are served depends on how hard the employees are working (the portion of their time devoted to dealing with customers)
Service Capacity Parameters and Functions

We need to model hiring, on the job training, and turnover of the workforce.

The employees consist of experienced workers and "rookies".

New hires learn on the job partly through coaching and mentoring by more experienced workers, but having to train the rookies reduces the productivity of the experienced people during the training period.

Workers occasionally quit, but the average tenure of employment is much longer than the training period so it is assumed that no rookies quit while they are being trained.

Management sets the size of the workforce based on perceptions of required service capacity and labor effectiveness, but this desired workforce always lags these other values because of delays in getting the measurements.
Employee Responses Parameters and Functions

The inherent delays in matching service capacity to required service capacity, and the variability in customers showing up for service means there is often more demand than capacity to meet it.

The shortfall in capacity affects the work pressure on employees.

Employees respond to work pressure by adjusting their behavior to meet expectations.

But overtime causes fatigue, which is a "decreasing nonlinear function that reduces service capacity".

A final "burnout" function increases the attrition rate after workers have been putting in a lot of overtime.
Service Quality Parameters and Functions

Service quality for the customer decreases when the time a worker spends with a customer is less than the expected time.

When workers perceive this lower customer satisfaction, their decrease in loyalty is modeled as an increase in the attrition rate.
Feedback Structure
Fitting Model to Data
Readings for 19 September

Brenda Dietrich & Terry Harrison "Serving the Services" OR/MS Today 33(3) (June 2006)