3. Organizational Context

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Plan for ISSD Lecture #3

The "manufacturing context" and the transition to the "service context"

Concepts for "organizational context"
  • Business model patterns
  • (MBA Moment: Profitability and Margins)
  • Business architecture patterns

"IT ecosystems" & "Infrastructure" as organizational context

Assignment 2: The BART Service System
The "Manufacturing Context"

Companies with an operations/manufacturing or technology mindset can be dominated by a belief that they compete on the basis of product cost, features, or quality.

Strong focus on input-based indicators and "value chain analysis" results in lesser focus on the experience that customers have with products...

... and encourages firms to view the customer experience as something that happens at the end of the manufacturing process.
Products, Services And "Value"

It is easy to imagine that most of the value in a product is added by the processing of the materials that go into it; to build a car we process rubber to make tires, leather to make seats, steel to make the chassis and body...

But even for cars, a great deal of value comes from intangibles and services before and after the product is purchased.

And for many products like clothing, pharmaceuticals, and software the cost of the raw materials is a negligible component of the value.

For many products like airplanes the customer who buys them does so in order to use them to provide services to its customers.

The Big Shift - Where is Value?

The inside-out perspective assumes that firms create value when they build products or systems or service capabilities.

This value is thus determined by the producer, and then delivered to and received by customers.

But in "the new economy," an emerging perspective called "service dominant logic" argues that value isn't created until the product/system/service is used.

This means that value is "co-created" with the customer, and different customers will create different kinds and amount of values.
Why Product Firms Are Looking to Services

Services have always been part of product life cycle, but now we're in an "information and service economy" and firms must work harder to:

GENERATE REVENUE
SATISFY CUSTOMER DEMAND
STAY COMPETITIVE

Big Ideas in Service Operations

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<th>Time period</th>
<th>Big ideas: theory and practice</th>
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<td>Application of scientific management to services</td>
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<td>Walt Disney: industrialized fantasy</td>
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<td>Holiday Inns: consistency in multi-site services</td>
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<td>1960s</td>
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"Manufacturing of Services"

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

In a "service production system" services are co-produced by the "service worker" and the customer.

The former is a "mini-factory" because they both help produce the output and are simultaneously involved in selling it.

The interactions between the service worker and the customer are "transactions" in which they exchange information and commitment.

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**Mills & Moberg - Service Production System**

![A Systems Model of the Service Production Process](image)
The "Technical Core" in a Production System

A firm's TECHNICAL CORE consists of its technologies and skills (of its workers) that perform its essential work.

Rational firms "seal off their technical core" from internal and external sources of uncertainty in order to create a "closed loop system".

(In other words, try to control inputs from customers so they don't mess up the manufacturing process.)

Techniques for "sealing off the core" include "buffering" (use of inventories) and "smoothing" or "rationing" (to manage supply and demand).

Limits on Sealing Off the Technical Core in Service Systems

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.

But unlike manufacturing efficiency, service efficiency obtained in this "Take it or leave it" way undermine's the customer experience.
The Context of Design

The design of any service -- whether it will be performed by people or by information systems -- takes place in a context of:

- Current and potential customers
- Current and potential technologies
- Current and potential competitors
- Existing services or systems
- Existing user or application interfaces
- Legal, regulatory, cultural systems and constraints

Organizational Context

Many of the dimensions in "The Context of Design" are represented in or shaped by the structure of the organization / firm / enterprise in which the design takes place.

There are many ways to talk about this structure, but key choices or characteristics include:

- Centralization vs decentralization
- The number and types of roles people play
- The span of control for managers
- The organizational "discipline" and "core competencies"

There aren't all that many "reasonable" combinations of these dimensions; businesses tend to follow organizational patterns.
Why Organizational Context Matters

It determines the influence and priority of stakeholder roles and individuals.

It determines how readily new systems or applications or methods can be adopted, and even whether "you can get there from here" at all.

If customers / principal stakeholders come from different contexts, this may systematically shape their goals and requirements.

...which means that it might be necessary to change the organizational design to make things work.

Business Organization Patterns

Physical Views
- Organization Chart
- Facilities Map

Conceptual Models
- Business Model
- Business Architecture
- Value Chain
- Core competencies
An "MBA Moment" - Profitability and Margins

Discussions about a firm's operations, market position, or need to generate new revenue usually are focused around its profitability and margins.

Profit margin (or net operating margin) is simply earnings (or profits) divided by sales.

Profitability and margins differ across industries.

Margins go up when a firm's costs decline, when it gets more efficient, or when it introduces new products for which it can charge premium prices.

Margins go down when its costs go up, when it gets less efficient, or when competition drives down the prices it can charge for its products.

See www.bizstats.com/corpnetincome.htm
Maximizing Margins

Within a given industry, the firms with the highest profit margins are those:

That are best at controlling costs through operational efficiency

That are best at inventing and bringing to market new products and services

That are best at engineering and marketing an optimal mix of product and service offerings with a carefully controlled pricing structure

The Traditional Sales and Cash Flow Cycle
No More Cash Cows

Other Conceptual Models of Business Organization

Somewhat less abstract but still conceptual are models that describe the functional or cross-functional organization of work:

- A Functional organization groups people doing the same activities together and minimizes the need to exchange information across organizational boundaries to get its work done.

- A Cross-functional organization duplicates functional activities in the enterprise as a whole but creates organizational units that achieve efficiencies based on product lines, customer segments, or geography.

- Outsourced activities are those formerly performed by functional organizations now performed by external service providers.
To Centralize, or not to Centralize?

Arguments for centralization...
Arguments against centralization...
Arguments for decentralization...
Arguments against decentralization...
Service Oriented Architecture - A Conceptual Perspective and Design Philosophy

Business processes are increasingly global and involve widely dispersed parts of an enterprise or multiple enterprises.

A business needs to be able to quickly and cost-effectively change how it does business and who it does business with (suppliers, business partners, customers).

A business also needs more flexible relationships with its partners and "assets" to handle variable demands.

Service Oriented Architecture - Business Components

So we need to think of "what a business does" in more granular terms.

Business functions or services are "components".

A business model is a composition or assembly of components.

These business components can be a mix of core, internal ones that a business does itself and outsourced ones provided by other businesses.
Modeling a Business as a Set of Components

Business processes are typically "factored" into components according to the "best practice" patterns in each industry.

An emphasis on business model / business process / information exchange patterns facilities component reuse / reassembly into new combinations - virtual enterprise, composite services.

"What components do" is defined in abstract, technology-independent terms so we don't have to care about the computer, operating system, or software application that performs each business process.

This level of abstraction reduces integration and communication costs between components and is the essence of service orientation.

Component Business Map -- Generic
Another View of Business Structure Patterns

Big Questions about Business Organization

What's the relationship between business model patterns and an enterprise's physical organization and technology?

What is the relationship between organizational patterns and business models?

Is any model of organization more natural than another? How is a "company of 1" organized? Is there a natural size to an organization or enterprise?
IT hardware and software environments have grown steadily in complexity...

- and "consist of many specialized functional components, often designed by multiple vendors"
- "interconnected in a plethora of permutations"
- "through an accumulation of small changes to prior iterations"
- or because of acquisitions, each "brought in with their own existing processes and departmental divisions"

A Job-Responsibility Diagram

The number and nature of the roles in the "human systems" has co-evolved with the technology evolution
Job-Responsibility Patterns

Key Lessons About "IT Ecosystems"

There is no "right way" to organize an enterprise and its IT capabilities.

The evolved IT ecosystem embodies tradeoffs about the nature, depth, and flexibility of system and personnel capabilities.

Different "users" perform the same task with the same tool in radically different contexts, or different tasks with the same tools.

Design methods must be adapted to the technology and personnel "configurations".
"we live embedded within a supporting network of technology, much of it invisible but essential"

- *this sounds like "back stage"

"some is profound, such as the institutions of business, government, and education"

- *this sounds like "service system"

"often multiple standards and techniques arise for the same service"

"we need to spend more time on infrastructure design"

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**Assignment 2: The BART Service System**

Familiarize yourself with the BART system, either by recalling previous experiences riding the BART, or by going out and going through the process of riding it and observing different aspects of the BART system.

Describe the BART service system by identifying the different services it offers to customers.

Organize these services using any point-of-view or classification scheme you think is appropriate.

Submit by 9 September (follow the online instructions)
Readings for 9 September

Brown, "Design Thinking", Harvard Business Review

Goldstein et al, "The Service Concept: The Missing Link in Service Design Research?"

Voss & Zomerdijk, "Innovation in Experiential Services" [Start reading at p.112, Section 4.3, "The Process of Innovation". We'll read pages 97-111 in a few weeks.]