2. Transaction Cost Economics

Transactions Can Be Internal or External to an Organization

- **Transactions occur whenever a good or service is transferred from a provider to a user**
- **Transaction costs depend on how the transaction is organized, i.e., the governance structure**
  - **Within an organization, costs include managing and monitoring personnel and procuring inputs**
  - **When buying from an external provider, costs can include source selection, contract management, and performance monitoring**

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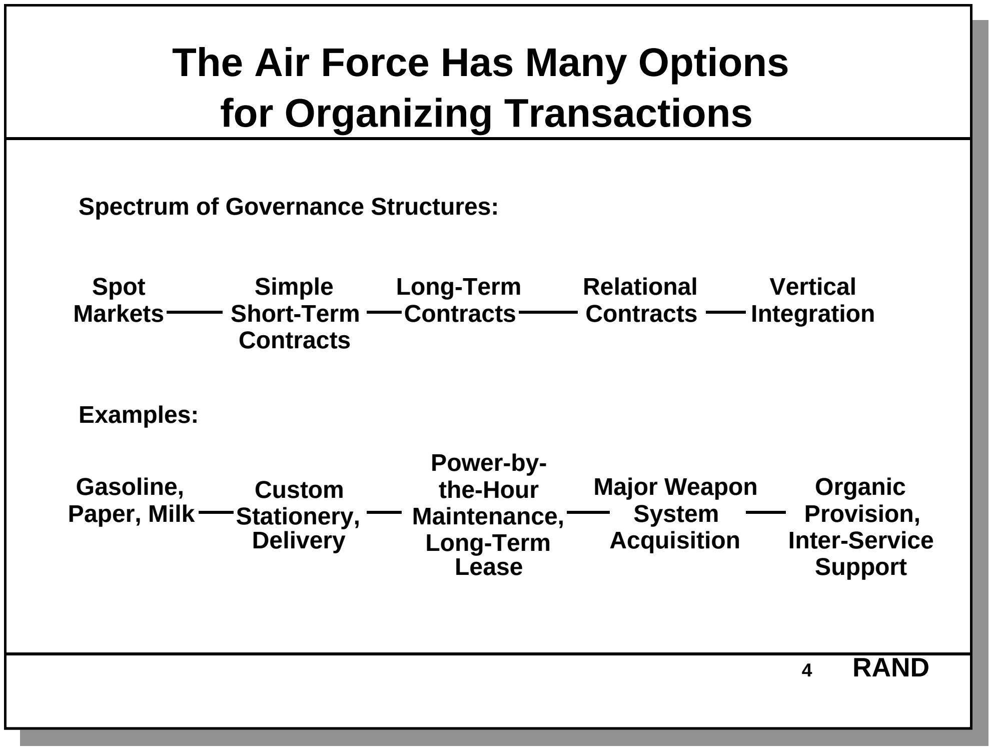
Transactions Can Be Internal or External to an Organization

Transaction Cost Economics focuses on the organization of transactions that occur whenever a good or service is transferred from a provider to a user across a technologically separable interface. When transactions occur within an organization, the transaction costs can include managing and monitoring personnel and procuring inputs and capital equipment. The transaction costs of buying the same good or service from an external provider can include the costs of source selection, contract management, performance measurement, and dispute resolution. Thus, the organization of transactions, or "governance structure," affects transaction costs.[1]

[1] This discussion of transaction cost theory is based on Williamson [1989].



The Air Force Has Many Options for Organizing Transactions

Transactions can be organized under a spectrum of governance structures ranging from pure, anonymous spot markets—where the good or service is generic and identities of buyers and sellers are immaterial to the transaction—to fully integrated firms or organizations, where both the trading parties are under unified ownership and control, and the transaction can be modified by managerial fiat. Between the two poles of spot markets and vertical integration are contracts of increasing duration and complexity, which can include shared ownership of assets. Simple, short-term contracts involve customization that requires an exchange of information and terms of payment. For more complex customization, longer-term contracts may be required, including adjustment clauses to respond to contingencies over the life of the contract. When the goods or services cannot be well defined in advance, relational contracts may be used. These contracts focus on the terms of the relationship rather than the scope of work, which may be renegotiated as needed.

The Air Force and the Department of Defense (DoD) currently use a similar range of governance structures to organize transactions. At one end of the spectrum are simple procurements of commodities such as office supplies, food, and fuel. Short-term contracts might be used for customized stationery or local delivery, and longer-term contracts for Federal Express service, power-by-the-hour maintenance, or leases. The arrangements through which major weapons systems are acquired under the Federal Acquisition Regulations (FAR) might be described as relational contracts.[2] Moving across the spectrum can involve contracts of increasing flexibility on price and performance, including government ownership of equipment and / or facilities. At the other end of the spectrum is organic provision of goods and services, such as depot maintenance and supply management at Air Logistics Centers or inter-service support agreements.

Within this context, outsourcing represents a move away from vertical integration (or organic provision) to one of the contracting options. As we discuss below, the optimal governance structure for a particular good or service, or how far one should move to the left of the spectrum, depends on the characteristics of the transactions involved.

[2] Under a power-by-the-hour maintenance contract, the buyer pays for support services based on hours of flight time, and the supplier is free to determine how to support the aircraft by positioning stocks of spare parts and maintenance personnel. The desired output can be fairly well defined in terms of aircraft availability. However, major weapon system acquisitions often cannot be well defined in terms of the performance of the aircraft being developed, particularly when new technologies are involved. Thus, the contract must cover a broader range of uncertainties.

Characteristics of Transactions Can Affect Transaction Costs

- **Investments in transaction-specific assets improve the efficiency of some transactions**
  - **Site specificity**
  - **Specialized equipment or tooling**
  - **Specific skills or knowledge**
  - **Dedicated capacity**
  - **Brand name or reputation**
- **If parties behave opportunistically, they can capture the value of investments made by others**
- **Bounded rationality limits the ability of both managers and contracts to control incentives**

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Characteristics of Transactions Can Affect Transaction Costs

Some goods and services can be produced more efficiently[3] if one of the parties invests in "transaction-specific" assets that cannot easily be put to other uses if the buyer/seller relationship breaks down. Asset specificity can take a variety of forms, including:

- *site* or *location specificity*—a buyer or seller locates its facilities next to the other to economize on inventories or transportation costs;
- *physical asset specificity*—investments are made in specialized equipment or tooling designed for a particular customer;
- *human capital specificity*—one or both of the parties develop skills or knowledge specific to the buyer-seller relationship;

[3] As used here, production is defined to be efficient if it maximizes the value of items produced net of the full costs of production and transactions associated with these items.

- *dedicated capacity*—capacity is created to serve a customer who is large relative to market size, so that it would be difficult to find alternative customers; and
- *brand name capital*—the parties must maintain the reputation of a shared brand name; for example, in franchise relationships the reputation of the franchise depends on the behavior of the individual franchisees.

Since the value of the transaction-specific assets depends on the continued existence of the buyer / seller relationship, the party that has not invested may expropriate some of the value of the investment by threatening to walk away from the relationship. If the investor cannot be assured of realizing the full value of the transaction-specific investment, efficient investments that reduce the cost of production may not be made, resulting in higher costs to both parties.

Bounded rationality may also interfere with the efficient operation of transactions. Because of limited managerial time and span of control, organizations cannot effectively manage an unlimited number of transactions internally. In addition, bounded rationality limits the capability of markets and simple contracts to handle asset specificity, because the parties cannot foresee and contract for all possible contingencies.

Each Governance Structure Has Strengths and Weaknesses

Governance Structure	Strengths	Weaknesses
Markets	Strong incentives to maximize net value	Can't protect transaction-specific investments
Contracts	Some protection for investments; market-like incentives	Can't contract for all possible contingencies
Vertical Integration	Internalizes value of transaction-specific investments	Can't control costs as well as markets

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Each Governance Structure Has Strengths and Weaknesses

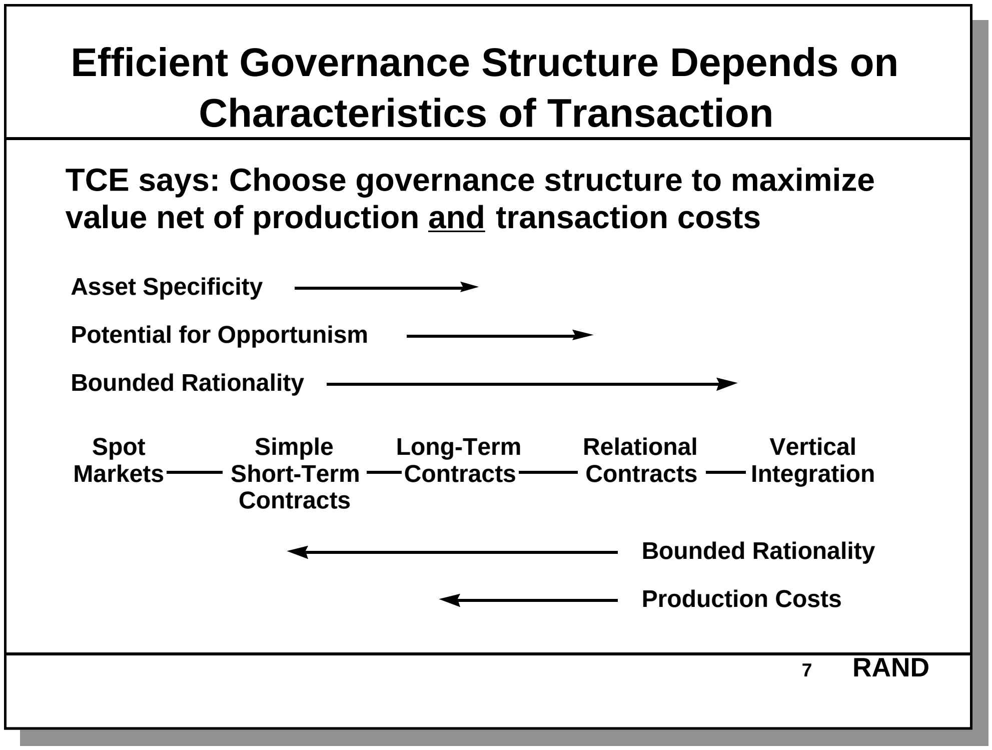
For many types of transactions, markets are the preferred governance structure because they provide “high-powered incentives.” That is, the supplier reaps the full benefits or bears the full costs of its own activities, and thus has a strong incentive to maximize value net of production costs, and to respond quickly to changes in the market prices of inputs or outputs. However, Transaction Cost Economics argues that markets have difficulty dealing with some transactions because of asset specificity, bounded rationality, and opportunistic behavior by the parties to the transaction. Since buyers and sellers can easily walk away from pure, spot-market transactions, they offer no protection against opportunism when transaction-specific assets are involved.

Contracts offer some protection for transaction-specific assets by tying the buyer and seller together for a specified period. However, bounded rationality precludes comprehensive ex ante contracting that specifies how the parties will behave in all possible circumstances. If contracts are inherently incomplete, parties may perceive potential gains from opportunistic behavior. As a result, attention must be focused on more complex (or internalized) governance mechanisms to fill gaps in the contract, settle disputes, and adapt to new conditions. Contracting parties may also make ex ante efforts to screen counterparties in terms of reliability or reputation, and / or design ex post safeguards to protect transaction-specific investments.

When asset specificity, bounded rationality, and opportunism make contracting problems severe, vertical integration may be needed to ensure that the value of transaction-specific assets is internalized. It can also allow for flexible redeployment of assets and personnel when the conditions surrounding the transaction change. However, bounded rationality limits the span of effective managerial control. Lower-level managers and employees may engage in suboptimizing behavior, or they may have insufficient incentives to minimize production costs.

If it is feasible to have more than one source of supply, organizations can mitigate some of the negative effects of markets and vertical integration by maintaining both internal and external providers. Outsourcing part of the workload to an external provider or allowing internal customers the option to buy externally can create incentives for the internal provider to control costs and improve performance by exposing it to market pressures. Conversely, retaining some capability to produce in-house can allow organizations to maintain management competencies needed to make more effective sourcing decisions; retain some leverage over the external provider, particularly when there are only a few potential suppliers; and maintain surge capacity.[4]

[4]For example, Mohrman, Lawler, and McMahan [1996] cite many examples of combined internal and external sourcing of support services such as human resource management and information technology.



Efficient Governance Structure Depends on Characteristics of Transaction

Because markets provide stronger incentives to maximize value net of production costs, whereas vertical integration may be a more cost-effective governance structure for transactions involving asset specificity, the central recommendation of TCE is that the governance structure for a particular transaction should be chosen to maximize value net of both production and governance costs. Thus, in making outsourcing decisions, it is important to consider not only the internal and external costs of providing the good or service, but also the cost of managing the transaction internally and externally.

To summarize the predictions of TCE, market governance of transactions may impede efficient investment in transaction-specific assets because of the potential for opportunistic behavior. Contracts can protect transaction-specific investments to some extent, but bounded rationality prevents contracts from specifying all possible contingencies. As contracts become more flexible, they allow more potential for opportunism. Thus, asset specificity, combined with the potential for opportunism and bounded rationality, tends to move the efficient governance structure to the right on the spectrum. However, bounded rationality also places a limit on the number of activities that can be controlled within a single organization, so firms should only internalize transactions that they can govern more effectively than through markets or contracts. Thus, the arrows in the diagram indicate that bounded rationality tends to preclude organizations based entirely on markets or on vertical integration. In addition, production costs are likely to be lower as one moves toward the market end of the spectrum because of market incentives to maximize value net of costs and because of the potential for greater economies of scale with an external provider that serves multiple customers. As we discuss in greater detail below, the business management literature indicates that external suppliers can also provide other benefits, such as improved performance because of greater specialization in their area of expertise.