

# The Strategic & Policy in **Telecommunications** Industry

EMGT 520/620

Management of Engineering and Technology

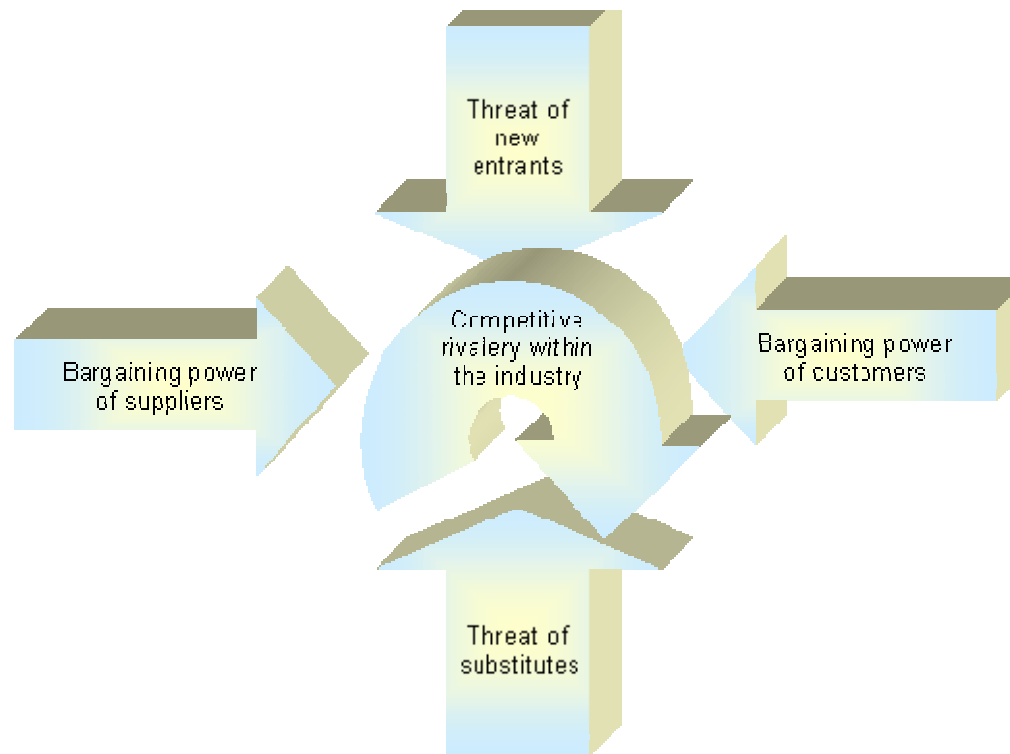
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# Porter's Five Forces

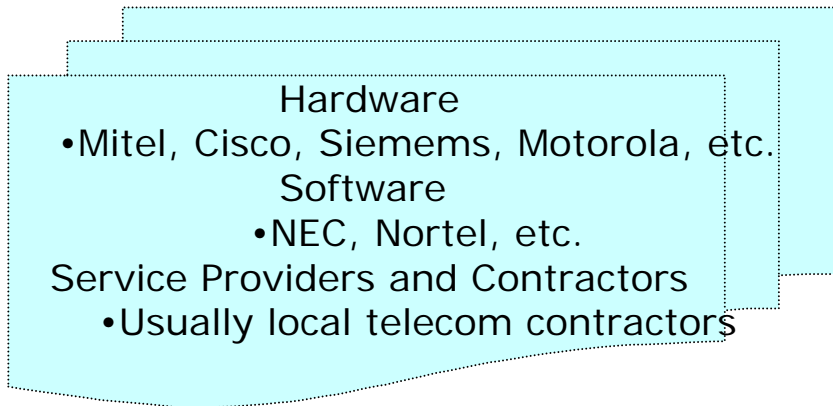


Michael Porter, economist & author,  
*Competitive Strategy: Techniques for Analyzing Industries and Competitors* 1980

# Supplier power

Supplier power is the leverage a supplier has with the customers (Telecom industry) in the areas:

## The suppliers in Telecomm Industry



# Supplier Power

- Supplier Power is weak:
  - Products and services are standardized
    - Wireless and Voice Over IP (VoIP)
      - Weak, many suppliers and standardizations
    - Wired Telephone Service
      - Medium, and getting weaker.
  - Purchasers are concentrated
  - Telecom Industry Diversity of Suppliers Strategy
- Powerful Suppliers
  - Union Workers of U.S Steel Industry
- Weak Suppliers
  - Suppliers for WalMart
  - Suppliers for Telecom

# Diversity of Suppliers Strategy

- Public Relation
  - Promoting small and minority owned businesses
- Diversity of Suppliers
  - Weakening the Supplier Power
  - Bringing small businesses into the supply chain
  - Providing Financial Support
  - Promoting Competitiveness
  - Lowering Overall Costs
  - Backward Integration
- Risk Mitigation
  - Assessing Supplier's Business' infrastructure
  - Review Supplier's Financial Viability
  - Evaluate Supplier's Technology Management Process
- Technology Management plays an important role.

# Bargaining Power of Buyers

## What is the bargaining power of buyers?

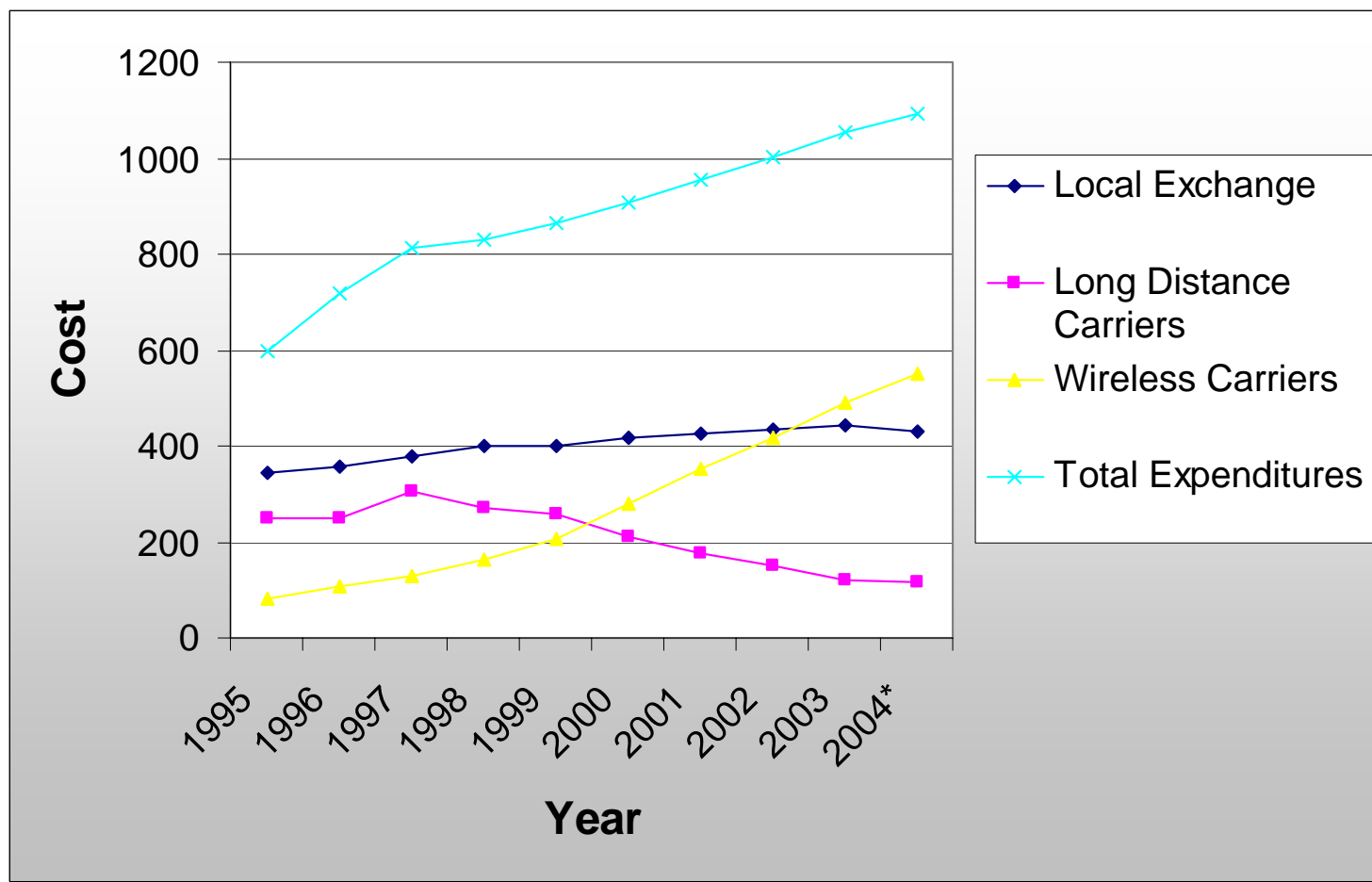
Bargaining power of buyers determines how much buyers can impose pressure on margins and volumes.

## Who are the buyers?

Buyers are the people and organizations who create demand in an industry:

- Residential customers
- Small and medium enterprises (SMEs)
- Large enterprises

## Average Annual Household Telecommunications Expenditures by Type of Provider, U.S.: 1995-2004



Source: FCC; Calculated by Industry Analysis and Technology Division staff using survey data from TNS Telecoms ReQuest Market Monitor™, Bill Harvesting®, Plunkett Research, Ltd.

# Indicators of Bargaining Power

## **BUYER POWER IS HIGH BECAUSE:**

- 1. The supplying industry comprises a large number of small operators**
- 2. The supplying industry operates with high fixed costs**
- 3. The product is undifferentiated, and can be replaced by substitutes**
- 4. Switching to an alternative product is relatively simple and is not related to high costs**
- 5. Customers have low margins and are price sensitive**

## **BUYER POWER IS LOW BECAUSE:**

- 1. They buy small volumes; there is no concentration of buyers**
- 2. Customers cannot produce the product themselves**
- 3. The product is of strategic importance to the customer**
- 4. The customer may not know the costs of the product**
- 5. There is no the possibility of the customer integrating backwards**



## Bargaining Power of Buyers

- One study has found that, on a worldwide basis, 34 million wireless telecom customers will churn from supplier to supplier as they look for better value; and, by 2004, that number will have grown to 77 million. In the United States, the average telecom loses 2.5% of its customers each month, or 30% a year.
- Revenue per minute for interstate calls (long distance) fell from 9 cents per minute in 2000 to 8 cents per minute in 2001.
- Revenue per minute for international calls (long distance) fell from 52 cents per minute in 2000 to 36 cents per minute in 2001
- Adjusted for inflation, interstate and international toll rates declined 60% from 1991 to 2001.

## How to reduce the bargaining power of the consumers?

1. Partnering
2. Supply chain management
3. Increase loyalty
4. Increase value-added services
5. Cut out intermediaries

## Barriers to Entry

“When technology is advancing quickly there is more opportunity for innovation. However, the driver of innovation is the search for competitive advantage.

To stimulate innovation in communications, we must organize the industry to promote competition and reduce **barriers to entry.**”

-- B. Lampson, D. Tennenhouse and S. Gillett

- Easy to Enter if there is:
  - Common technology
  - Little brand franchise
  - Access to distribution channels
  - Low scale threshold

- Difficult to Enter if there is:
  - Patented or proprietary know-how
  - Difficulty in brand switching
  - Restricted distribution channels
  - High scale threshold

## Common barriers to entry:

- Government
  - Can permit monopolies, but regulate the industry; franchises; legislation to review and restrict prices.
  - Telecommunications Act of 1996 (deregulation)
- Patents and proprietary knowledge
- Asset specificity
  - Highly specialized technology.
- Organizational Economies of Scale
  - Minimum Efficient Scale (MES) - the most cost efficient level of production.

## Present & Future

- Where we are -- Information service tied to one or two distribution systems: voice calls to telephone wires or cellular spectrum. Follows the model of public utilities, which were forced to build specialized distribution systems and hence are regarded as natural monopolies and tend to be vertically integrated.
- Where we want to be -- Distribution needs to be separate from services to encourage competition. Many distributors compete to handle every service, rather than just the one or two that are tied to that service. A new service doesn't have to develop its own distribution system, and therefore faces lower barriers to entry.

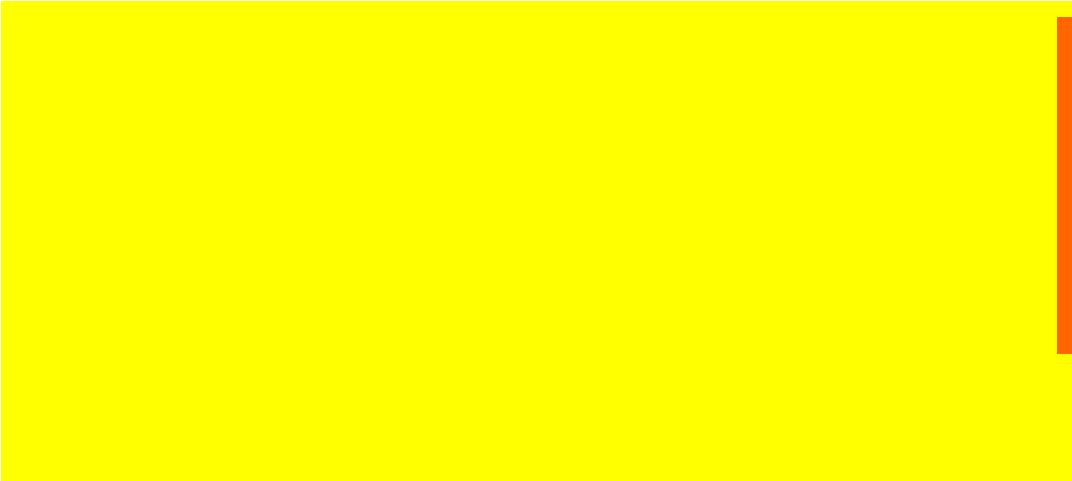
## Driving Forces :

- Dramatic reductions in the costs of transmission and switching.
- Digitization.
- Restructuring of the regulatory environment through the implementation of the 1996 Telecommunications Act.
- Move of value from underlying services (such as transmission and switching) to the interface and content (features).
- Move toward multi-function programmable devices with programmable interfaces, such as computers, and away from single-function, non-programmable consumer devices, such as traditional telephone appliances.
- Re-allocation of electromagnetic spectrum, allowing for new types of wireless competition.
- Interconnection and interoperability of interconnected networks; standardization of communications protocols.

# Threat of Substitutes

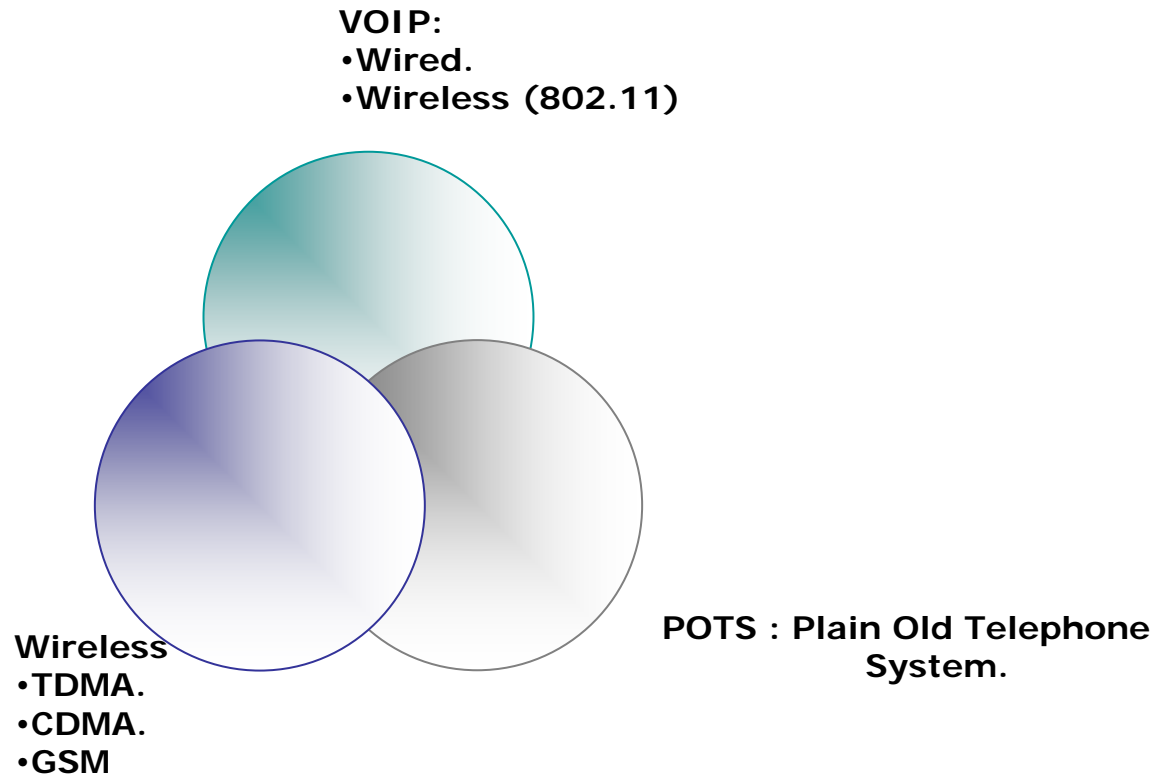


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# Main Segments in **Telecommunications** Industry



# Industry Competition

- Price
  - POTS: Price pressure has forced extreme commoditization of long-distance services
  - Wireless: Intense price pressure
  - VOIP: 600% less expensive to operate than POTS
- Product Differentiation
  - POTS: Reliable, well known, ubiquitous
  - Wireless: Mobile, chic
  - VOIP: Inexpensive, feature-rich
- Distribution channels
  - POTS: RBOCs only
  - Wireless: multiple
  - VOIP: Cable companies, traditional LDCs, Independents
- Product Differentiation
  - POTS: Reliable, well known, ubiquitous
  - Wireless: mobile, feature-rich
  - VOIP: Inexpensive, feature-rich
- Supplier relationships
  - POTS: few, large suppliers
  - Wireless: More suppliers
  - VOIP: Many non-traditional suppliers

# Industry Rivalries

- Number of firms
  - POTS: Few, regulated
  - Wireless: Many, decreasing
  - VOIP: Few, increasing
- Market Growth
  - POTS: Huge, shrinking
  - Wireless: Growing, but stabilizing
  - VOIP: Tiny, growing
- Fixed costs
  - POTS: Huge
  - Wireless: Huge
  - VOIP: Moderate
- Switching costs
  - Non-existent in most segments
- Product Differentiation
- Strategic Stakes
  - POTS: Huge investment
  - VOIP: Disruptive technology
- Exit Barriers
  - POTS: Huge assets
  - VOIP: Fewer Assets
- Industry Shakeout
  - Possible upcoming shakeout as VOIP overtakes POTS
- Regulation
  - POTS & Wireless highly regulated
  - VOIP Unregulated

Any Questions ???

Thank you...