

- ❑ **Customer and Supplier Business is Relationship Based First**



- ❑ **Logistical Networks that are Integrated**

- ❑ **Smaller Numbers of Suppliers to Focus On Relationship Building**



- ❑ **Supplier and Customer Sharing of Information – Open Door Policies**



- ❑ **Open – Blanket Purchase Orders with Focus on Delivery**



- ❑ **Integration of Supplier into Design of Products**



- ❑ **1985 Research study showed that for both Chrysler and Toyota that 70% of the vehicle was provided by external suppliers, however Toyota's cost was 30% lower than Chrysler's**
- ❑ **As of 1996 Japan's Gross Domestic Product (GDP) per person was approximately 20% greater than the U.S.**
- ❑ **Japan has an abnormally high concentration of complex product market share – autos, heavy eqpt., robotics, machine tools, electronics etc.**
- ❑ **Toyota has significantly outperformed all competitors, including its Japanese ones like Nissan and Honda**
- ❑ **While the U.S. is currently busy extending its supply chain, the Japanese are dramatically shortening theirs, with some suppliers being located in the same building or building new factories fifty feet away.**
- ❑ **They must have greater resources? – GM has ten times more people in supply chain management than Toyota**

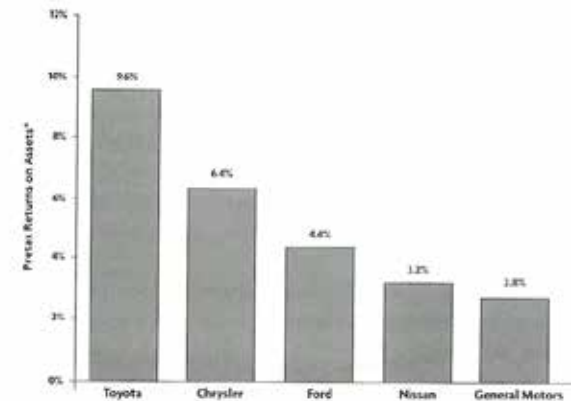
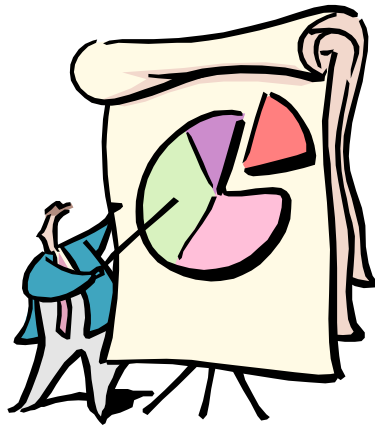
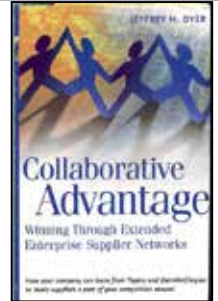


Figure Intro.1. Automaker Profitability  
(Average from 1982-1998)

(Source: Annual reports, Daiwa Analysts Guide)

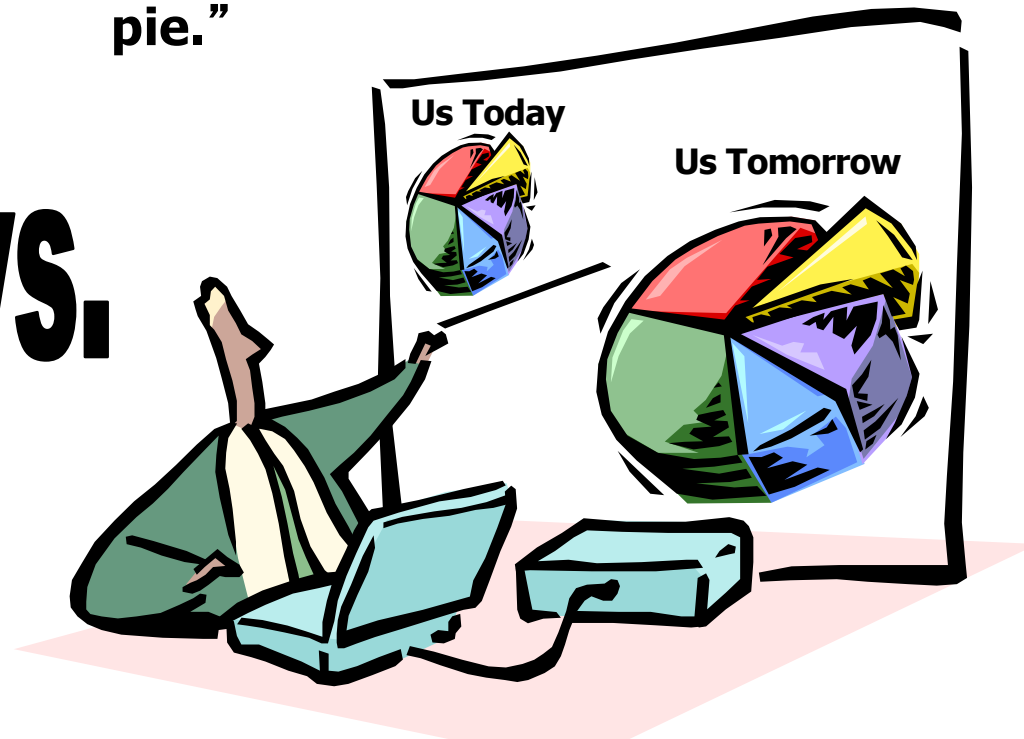
\* Pretax automotive income divided by automotive assets.

**“High trust within the extended enterprise results in a production network with the lowest transaction costs. Less time and effort is spent bargaining and haggling over the pie and more time and resources are spent increasing the size of the pie.”**



**This is you and this is me. This is good and this is bad.**

**VS.**



“...firms within a production network have incentives to maximize their own profits, and this often comes at the expense of a firm adjacent in the value chain (supplier or customer). Thus, firms do not naturally trust each other, share information, or engage in other activities that result in productivity improvements for the the production network as a whole.”

- ❑ **Consistently do what you say you're going to do!** (Beware of the false hope optimist!)
- ❑ **Knowledge Sharing**
  - From within
  - With and through other suppliers
  - Twenty three percent of top management in U.S. and Japanese Toyota suppliers are previous Toyota employees.
  - Toyota has 50 consultants that are available upon request, free of charge that spend days and weeks on-site working on improvement project. Suppliers receive this as a gift. The one requirement is that they must be open to sharing with other non-competitor suppliers.
- ❑ **Reliable and open information sharing**
  - Forecasts, Kanbans, support resources
  - New model plans and design
- ❑ **Fair and consistent practices and procedures for all parties**
  - A supplier to both GM and Toyota states that both customers rotate purchasing staff and other leadership, but when GM does our relationship is shaken up for quite some time. With Toyota, we always know what to expect. Their interaction with us and system stay the same even when the people change.
- ❑ **Vested interest in the suppliers success**
  - Toyota owns on average 28% of their suppliers with two main reasons; a vested commitment in their success and as a safeguard measure against their own possible nature of taking advantage or mis-treating a supplier. If we influence our supplier negatively, then we are hurting ourselves. Conversely, when our supplier does well, we do well.



Table 3.1. How Toyota Facilitates Learning in Its Supplier Network

| Process  | Nature of the Transfer Process | Type of Knowledge                         | Toyota Functions Involved |
|--|--------------------------------|---|---------------------------|
| 1. Supplier Association                          | Multilateral                   | Explicit Knowledge (some tacit knowledge) | Purchasing                |
| 2. On-site Consulting                            | Bilateral                      | Tacit Knowledge                           | OMCD/TSSC                 |
| 3. Supplier Learning Teams (Jishuken/PDA Groups) | Multilateral                   | Tacit Knowledge                           | OMCD, LAD                 |
| 4. Problem-Solving Teams                         | Bilateral                      | Tacit Knowledge                           | QAD, MOD<br>OMCD, LAD     |
| 5. Employee Transfers                            | Bilateral                      | Tacit Knowledge                           | Purchasing, Pe            |
| 6. Performance Feedback; Process Monitoring      | Bilateral                      | Explicit Knowledge                        | Purchasing                |

Note: OMCD=Operations Management Consulting Division; TSSC=Toyota Supplier Support Center; MOD=Manufacturing Operations Division; QAD=Quality Assurance Division; LAD=Logistics Administration Division.

**Even for Toyota, this was a five year process here in the U.S. – Upon offering the above extensive resources to suppliers, free of charge only 8 suppliers were interested the first year. They maintained their focus and four years later their were 97 suppliers participating.**

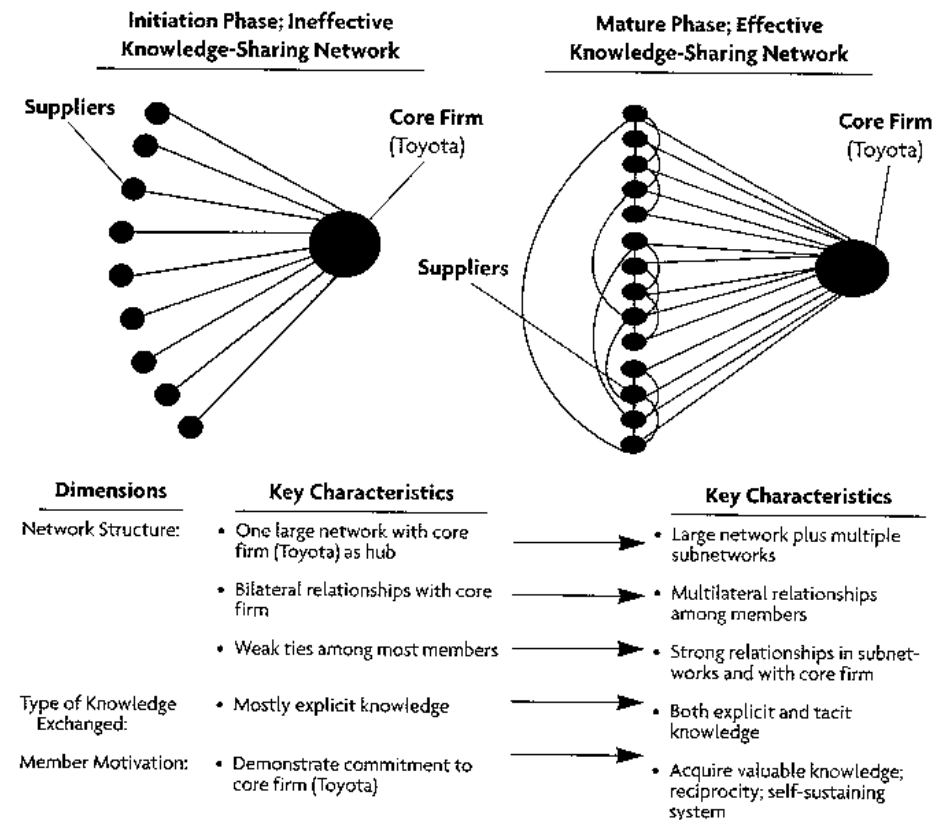
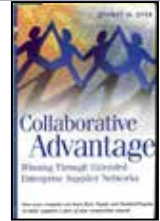


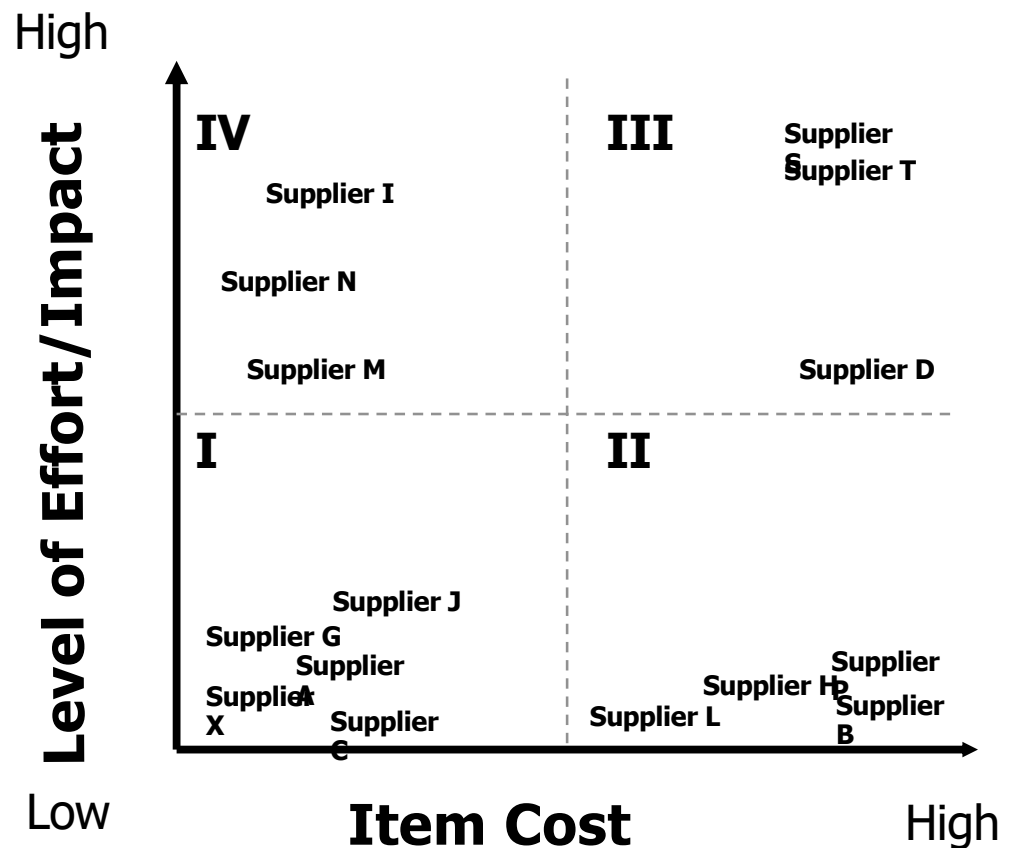
Figure 7.2. Evolution of Knowledge-Sharing in Toyota's U.S. Extended Enterprise

And Develop Strategies for Dealing with Each Type...



- I Time Wasters  
**Minimize administrative tasks-  
automate planning and delivery**
- II Dollar Eaters  
**Focus on cost reduction**
- III Maker-Breakers  
**Forge partnerships. Candidates  
for joint process improvement  
activities.**
- IV Performance Busters  
**Focus on reliability and quality.**

## Supplier Differentiation Matrix



*Activity result will look like a scatter diagram.*



### Options for Managing “Dollar Eaters”

**Kanban Concept:** Many times in traditional manufacturing environments, high dollar items receive much attention and are closely watched. In the high variation, old environment of MRP this is a constant, fruitless battle. When delivering products of any kind it is difficult to let go of the ‘common’ sense/functional mindset that some parts or components are more important than others. Ex: On a jet, which is more important the engine or a rivet? The manufacturer may jump to say, “The engine of course!” The passenger however will tell you the true answer ...Both! Which is more important, the jet engine or the rivets? Regardless of the part value, a company must have a reliable source of materials. This is the reason for the Kanban system.



***Best Option for Managing “Dollar Eaters” – Get them involved in product design or re-design ASAP! Provide them an incentive to reduce your design and product costs for you!***

Example: Honda – Charlie Baker, Large Project Leader – 1998 Acura 2.2 CL

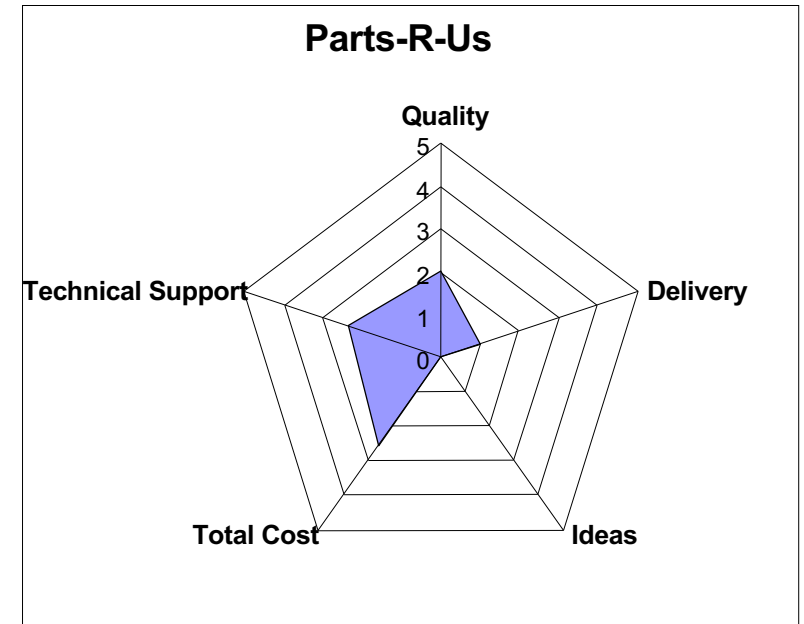
The Honda engineering design called for the driver and passenger seats to the two-door CL to automatically move forward for rear entry and return to it’s original location in six seconds or less (rain conditions). The Honda team developed their design and then hosted a Supplier Integration Rapid Design Workshop.

|                      | Honda Engineering Team | Seat and Seat Controls Supplier |
|----------------------|------------------------|---------------------------------|
| Function Cycle Time  | 6 sec                  | 4.8 sec                         |
| Number of Components | 42                     | 19                              |
| Cost                 | \$640                  | \$162                           |
| Affect on Customer   | Listed as Option       | Included as Standard            |
| Affect on Suppliers  | Est. 20% Demand        | 100% Demand -                   |





| Supplier:         |       | Parts-R-U's                                     |                            |                   |                    |       |
|-------------------|-------|---|----------------------------|-------------------|--------------------|-------|
| Area              | Score | Defects   | Total Parts                | PPM Quality       | PPM                | Score |
| Quality           | 2     | 16000   | 470852                     | 33,981            | 0                  | 5     |
|                   |       |   |                            |                   | 101                | 4     |
|                   |       |   |                            |                   | 1001               | 3     |
|                   |       |   |                            |                   | 10001              | 2     |
|                   |       |   |                            |                   | 50001              | 1     |
|                   |       |   |                            |                   | 100001             | 0     |
|                   |       | Line items on time                              | Line items Expected        | Percent On Time   | % on Time          | Score |
| Delivery          | 1     | 139   | 163                        | 85.3%             | 0%                 | 0     |
|                   |       |   |                            |                   | 80%                | 1     |
|                   |       |   |                            |                   | 90%                | 2     |
|                   |       |   |                            |                   | 95%                | 3     |
|                   |       |   |                            |                   | 98%                | 4     |
|                   |       |   |                            |                   | 100%               | 5     |
|                   |       | Metric  |                            | Score             | Performance        | Score |
| Total Cost        | 2.6   | Price Competitiveness                           |                            | 4                 | Benchmark          | 5     |
|                   |       | Payment Terms                                   |                            | 3                 | Leading            | 4     |
|                   |       | Inventory Management                            |                            | 2                 | Above Avg          | 3     |
|                   |       | Value in Product & Services                     |                            | 3                 | Average            | 2     |
|                   |       | Non-Productive Costs                            |                            | 2                 | Below Avg          | 1     |
|                   |       | Freight & Transportation Costs                  |                            | 2                 | Poor               | 0     |
|                   |       | Communications                                  |                            | 2                 |                    |       |
|                   |       | \$\$ Value of IDEAS                             | Annual Spend with Supplier | IDEAS Cost Saving | IDEAS Cost Savings | Score |
| Ideas             | 0     | \$ -  | \$ 250,000                 | 0.0%              | 0%                 | 0     |
|                   |       |   |                            |                   | 1%                 | 1     |
|                   |       |   |                            |                   | 2%                 | 2     |
|                   |       |   |                            |                   | 5%                 | 3     |
|                   |       |   |                            |                   | 7%                 | 4     |
|                   |       |   |                            |                   | 10%                | 5     |
|                   |       | Metric  |                            | Score             | Performance        | Score |
| Technical Support | 2.3   | Support of C-H Design Teams                     |                            | 2                 | Benchmark          | 5     |
|                   |       | Proactive Review of C-H Products                |                            | 2                 | Leading            | 4     |
|                   |       | Product Performance Test Capabilities           |                            | 2                 | Above Avg          | 3     |
|                   |       | Technical Capabilities                          |                            | 2                 | Average            | 2     |
|                   |       | Investment in product and/or Process Technology |                            | 3                 | Below Avg          | 1     |
|                   |       | Support of failure analysis of Field Problems   |                            | 2                 | Poor               | 0     |



**❑ Create the New Supplier Scorecards!**

**❑ Each Type of Supplier Scorecard Will Be Slightly Unique!**