Spear and Bowen

(1999)

Summary of Toyota Production System

Decoding the DNA of the Toyota Production System

“ The Toyota Production System is a paradox.

On the one hand, every activity, connection, and production flow in a Toyota factory is rigidly scripted. Yet at the same time, Toyota's operations are enormously flexible and responsive to customer demand. How can that be?”

(Spear and Bowen, 1999)

Decoding the DNA

"It's the very rigidity of the operations that makes the flexibility possible. That's because the company's operations can be seen as a continuous series of controlled experiments. Whenever Toyota defines a specification, it is establishing a hypothesis that is then tested through action. This approach — the scientific method—is not imposed on workers, it's ingrained in them. And it stimulates them to engage in the kind of experimentation that is widely recognized as the cornerstone of a learning organization."

(Spear and Bowen, 1999)

Spear and Bowen's Rules

- Rule 1

  "All work shall be highly specified as to content, sequence, timing, and outcome."

- So
  - What is the best way to lay out an office / surgery / reception?
  - Are items always in the same place - or do you go searching? Do things get lost? (e.g. P60, inter-library loan books)
  - Is it reliable, clear, obvious, consistent to staff and customers?

Spear and Bowen's Rules

- **Rule 2**

  "Every customer-supplier connection must be direct, and there must be an unambiguous yes-or-no way to send requests and receive responses."

- **So**
  - **When you complain at a hotel reception / bank / call centre / etc. does it go any further?**
  - **The more steps the more opportunity to go wrong**
  - **Do you have one clearly known, immediate person to whom concerns can be communicated?**

Rule 2

- Importance of tracing the flow of complaints
- Is top management deluded?
- Do you reward problem solvers?

Spear and Bowen's Rules

- **Rule 3**

  "The pathway for every product and service must be simple and direct."

- **So**
  - **Involve as few steps as possible**
  - **How many rework loops? How many steps or touches does it take the customer?**
  - **Do you often talk to an multi-stage telephone system, and then finally get through to a service you don't want?**
  - **'Everyone's job is on-ones job'**

Rule 3

- **This is value stream mapping - from the customer's perspective!**
- **This is complexity reduction**
- **This is Stalk and Hout's Golden Rule**

"Against Time: How Time-Based Competition Is Reshaping Global Markets, 1990"

- ***Benetton***
- ***"reducing the lead time by 50 per cent will reduce the forecast error by 50 per cent "***

Spear and Bowen's Rules

- **Rule 4**

  "Any improvement must be made in accordance with the scientific method, under the guidance of a teacher, at the lowest possible level in the organization"

- **So**
  - **Direct response to a problem**
  - **All improvement is based on DIRECT OBSERVATION**
  - **But not DIY (and tell no-one)**
  - **Does the problem recur ? ('Be more careful next time')**
  - **All changes must be tested; all redesign done in consultation with those doing the work**
  - **A mentor or coach, using the Socratic method.**

Rule 4

- This is the Learning System
- (and everyone needs to re-learn)

Spear and Bowen's Rules

Learning the rules:

- Never tell someone about how to do a job
- But ask probing, challenging questions such as
  - How do you do this work?
  - How do know you are doing the work correctly?
  - How do you know that the outcome is free of defects?
  - What do you do if you have a problem?"
  - What signals cue your work?
  - Do you do this in the same way as others?

- "It is not the quality of the answers that distinguishes an expert, but the quality of the questions."
- "Don't tell me the answer, just explain the question" (Yogi Berra)