An Engineering Approach to Work and Enterprises

or

In the Footsteps of Monty Python

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Some Interesting Results

Oil company: filling orders
cycle time reduced by 75%, cost reduced 45%, customer satisfaction increased 100%

Trucking firm: sales
RFP cycle time reduced 95%, win rate increased 70%

Consumer packaged goods: product deployment
lead time reduced 50%, inventory reduced 25%, backorders decreased 50%

Auto insurer: claims handling
cycle time reduced 90%

Computer firm: product development
time to market reduced 75%, development costs reduced 40%, customer satisfaction increased 25%

Electric utility: new connections
cycle time reduced 90%, personnel required reduced 70%
**The Underlying Theme: Process**

**Concept:** end-to-end work as opposed to piecemeal work

**Definition:** an organized group of related tasks that work together to create a result of value

transformation of inputs into outputs
structured purposeful work

**Some common processes**

order fulfillment
procurement
product development

order acquisition
demand creation
plan to produce

**Themes**

cross-functional
outcome-focused
context for activities

work, not structure
tasks, not people
small in number

**The reality**

processes are present but unrecognized in every enterprise
reversing a 200 year legacy
The Old Way

CSR → Line tester → Dispatcher → Field service technician
Customer Service as a Process

CCA

Zone technician
The Old Way

Sales → Engineering → Tooling

Manufacturing
Sample Development as a Process

Sales and Engineering

Engineering

Tooling

Manufacturing
Identify the enterprise’s processes
a business model in process terms, driven by strategic goals

Measure process performance
and set design goals

Create high-performance process designs
specifying precisely how tasks fit together
replacing inherited default designs

Implement new process designs
after suitable testing
including supporting training, infrastructure, and technology

Improve process performance
on an ongoing basis

Improved performance through improved design
The key determinant of process performance is **process design**
specification of who does what, when, where, whether, and how much

**Process design provides an envelope for process performance**
the end of heroics as strategy
you can’t (consistently) do better than the design allows

**Any process design is better than no design**
moving beyond tribal knowledge

**A good design is better than a bad design**
leveraged way to improve

**Any process design needs to be improved**
to keep up with change

**Redesigning a process means reorganizing how the pieces fit together into a whole**
the Tinker Toy approach to eliminating need for NVA
What’s the Matter with Your Old Process Designs?

- They were poorly designed in the first place
- They have become burdened with accretions
- The world has changed
- Requirements have evolved
- Assumptions have become false
- Technology has advanced
- They are obsolete
- They don’t fit together
- Nobody knows them

What old process designs?
The Process Lifecycle

- Understand source of performance gap
- Develop intervention plan
- Improve execution
- Improve design
- Modify design
- Replace design
- Ensure process compliance
- Design, document, and implement process
- Set performance target
- Measure process performance
- Understand customer needs and benchmark competitors
The Key Dimensions of Process Design
“The 7 W’s”

Who

When (relative or absolute)

Where (physically or organizationally)

Whether

What precision

What interconnections

What information

Redesign rearranges the value-adding tasks
**Principles of High Performance Process Design**

- **Work should be done by whoever is in the best position to do it**
  irrespective of history or organizational boundaries

- **A process should be performed by as few people as possible**
  to minimize handoffs

- **Do work at the best time for it to be done**
  don’t be constrained by history

- **Don’t wait for one task to finish before beginning the next one**
  avoid artificial linearity

- **Location is a variable, not a given**
  to be explicitly factored in

- **Strive for simplicity**
  non-value-adding work breeds complexity

- **Consider the context when performing work**
  the virtues of uniformity have been greatly oversold

- **Control must be subjected to cost-benefit analysis, just like everything else**
  neither perfect nor free
By Way of Contrast: Traditional Design Templates

Sequentiability and linearity (assembly line)

Specialization

Segregation of duties

Transaction-level control

Hierarchical decision-making

Striving for complete precision

Uniformity
Process Iilities

**Repeatability**
formal design

**Improvability**
context and process

**Adaptability**
a handle for change

**Accountability**
ownership

**Manageability**
measures and comprehensibility

**Flexibility**
separation of work and resources
Representations of an Enterprise

Organization chart
who we are

P and L statement
how much we make

Balance sheet
what we own

Product catalog
what we sell

Customer list
whom we serve

Mission statement
what we aspire to
Cisco Process Model

Idea to Offering
- Research to concept
- Concept to commit
- Design to prototype
- Validate to ramp up
- Monitor to improve
- Improve to EOL

Market to Order
- Research to market identification
- Market identification to plan
- Campaign to lead
- Lead to order
- Account strategy to relationship

Quote to Cash
- Quote to order entry
- Order validation to commitment
- Delivery to revenue recognition
- Invoice to cash
- Contract to renewal

Forecast to Delivery
- Forecast to demand
- Demand to Plan
- Manage to Buy
- Plan to Build
- Ship to Receive
- Commit to deliver service

Issue to Resolution
- Issue detection to problem identification
- Develop solution to resolution
- Return to replace
- Closed loop feedback

Resource management
- Financial mgmt
- Fixed assets mgmt
- Hire to develop/develop to retire
- Vendor/Partner mgmt
- Other

Business management
- Strategy and planning / Acquisitions
- Brand / Identity mgmt
- Knowledge mgmt/Intellectual Capital
- Customer feedback
- Metrics Review
- Other

SUPPORT THE BUSINESS
Aligning with Processes

Metrics
processed-based performance measures

Information systems
integrated systems to support process work

Facilities
work spaces to reinforce team work and process flow

Human resource systems
job descriptions, career models, and compensation systems designed for process performers

Management systems
budgeting, planning, and financial systems focused on processes

Culture
attitudes and values of teamwork, customer concern, and personal responsibility

Integration
mechanisms for ensuring that processes work together as well as individually
The Tradeoff

System simplicity vs. component complexity