Are You Target Driven or Customer Driven?

An Introduction to Systems Thinking

David Joyce
ThoughtWorks
Systems Thinking

A Brief History
Systems Thinking

The means to obtain knowledge, and act with prediction and confidence of improvement.
Where are we today?

Better practice NOT best practice

Anything can be improved if you know how to look.
Everything you need to know is in your own system

No Single Solution
Are we just building the **wrong** thing **righter**?

Rather than focusing on going Agile which may lead to being successful, instead we should focus on the needs of our customers.

It’s **not** the employer who pays the wages, he only handles the money. It is the **product** that pays the wages.

How agile you are doesn’t matter. Whether you are 50% agile, 90% agile, or agile through and through doesn’t matter. What matters, is that your company is satisfying its customers, stakeholders, and employees.

*Dr Russell Ackoff & Henry Ford & Esther Derby*
We need to bring considerably more to the table than just the technical ability to transform user stories into product in a more efficient way.

We need to encourage a whole "system" view rather than a locally optimised view.

We often develop solutions based on sub optimised status quo.

Projects often focus on the needs of a single business unit.

Delivering "Value"?
The approach of IT implementation is “push”.

Here is the new IT system, now how do we get people to use it?
It's not "The Business",
It's "Our Business"
No investment in new initiatives should be undertaken without knowledge of the nature of demand from the customers' point of view.

To take initiatives in any online customer points of transaction without knowing about whether and how information would improve the customer experience is potentially disastrous.
If we build technology around a **wasteful** process, then we are **locking** in that process for longer.
Usually the impulse is to provide a technical solution too early.

Making changes on inadequate information will lead to costly mistakes.

Change must be based on knowledge.
I’ve Heard this Before!?!?

Business Analysis - NO!

Customer Analysis - Yes!
Typical Organisation Hierarchy

Senior Leaders

Upper Mgt

Middle Mgt

Line Mgt

Workers

Customer View

Customers

Workers

Line Mgt

Middle Mgt

Upper Mgt

Senior Leaders
Senior Leaders

98% against targets
I.T.

Hidden costs

Senior Leaders

180 days
On target to achieve nothing?

Numbers have achieved ascendancy over purpose. An idea that solved a problem for Alfred Sloan has become a disease within our organisations.

The whole of the system is focused on satisfying management rather than customers, who are the source of the organisations sustainability.

We don't have silos, we have iron cylinders in our organisation!

Anonymous CEO from MIT study
Wrong Purpose

Deming: If you give a manager a numerical target, he’ll make it, even if he has to destroy the company in the process.
Wrong Behaviour

Many years ago I was describing to a chief executive how his organisation was sub optimised, because of the way managers behaved with measures. He asked me 3 times for culprits' names.

On the 3rd occasion I gave him one name – his
The **first thing** we do is go out and **study** the **system**

Most people **think change starts** with a **plan**.

This **change starts** with **getting knowledge**. That’s the only plan.
Senior Leaders

Outside
in

Flow
Flow
Flow
Flow

Sales
Marketing
Finance
Front Office
IT

Hidden costs

20 days
There is **little merit** in a well executed project that no one wants the **output** from.

The Standish data are **NOT** a good indicator of poor software development performance. However, they **ARE** an indicator of **systemic failure** of our **planning** and **measurement** processes.
“I recently asked a CIO whether he would prefer to deliver a project somewhat late and over-budget, but rich with business benefits, or one that is on-time and under-budget but of scant business value.

He thought it was a tough call, and then went for the on-time scenario.

Delivering on-time and within budget is part of his IT department’s performance metrics.

Chasing after the elusive business value, over which he thought he had little control anyway, is not.”
The thing that makes technology work is **not** the technology

Does this mean the *end of IT?*

---

There is a **better** way to **approach** the use of technology.

**Understand** and **improve**, then ask if technology can **further improve**
Larger gains can be achieved through better thinking around the **design** and **management** of work.

All organisations are systems, they are simply not understood and managed as such. When you **learn** to look at an organisation as a system, you find a multitude of forces working against customer purpose.
Clarity of purpose, and measures that relate to purpose, are prerequisites to learning and improvement.
Value vs Failure Demand

Value Demand; what we want from our customers and spend time on

Failure Demand; demands we don’t want. Failure to do something or do something right for the customer

Failure demand is typically between 20% and 80% in most organisations
Some people think #1 reason for Failure Demand is because of the people. This is wrong. It’s the System.
The secret to effective design is the knowledge of demand and its predictability.

The ultimate purpose of the work, will be to turn off failure demand, and optimise the way the organisation deals with value demand.
End to End Flow

We need to study the flow. We take a customer demand and follow it through the system.
We often find hundreds of steps, but very few will be valued by the customer.

People may argue over what the value steps are. The rule is purpose defines the value work.
Mapping is important, because it helps staff to change their perspective on the work.
Institutionalising Failure Demand

When studying the System, we will find many failure processes that have been put in place to cope with the demand caused by failure demand.

We shouldn't aim to improve such a process, but to instead reduce the demand so there is no need for the process.

We don't want to institutionalise waste.
Changing the system will change what people do. Changing what people do will not change the system.
People may argue over what we should or shouldn’t do for our customers, but they cannot argue over what we actually do.
Capability and Predictability

[Diagram showing a control chart with upper and lower control limits, mean, and time on the x-axis.]
Capability and Predictability

Common Cause vs Special Cause
Capability and Predictability
Comparison

Team 1

Team 2

Team 3

Team 4
Improve performance without using technology

If the current work uses technology, leave it in place, work with it, or treat it as a constraint.

Don’t do anything to change the technology.

Instead, change to a Systems Design.

Plan the redesign.

Setup a clean stream and Roll changes in.
When we focus on customer needs, and the organisation as a system, many of the previous problems, that apparently required software projects, may well have been ‘dissolved’

The improvement effort can be targeted to where it has most benefit
Can technology further improve this process or system?

Now we can see potential benefits, from a position of knowledge, about the work.

We can therefore predict the benefits technology solutions will bring.

The result is always less investment in technology, but much more value from it.

IT is pulled into the work, rather than dictating the way work works.
Measure improvement results

Use operational performance data

Split data after a change
A better method for IT

Measure

Understand System

Pull Technology

Improve the work

CHECK

DO

PLAN
Case Studies
Case Study

Study of query management
Total customer experience involves multiple silos and hand-offs between 3rd party call centre and BBC Divisions.
End to end vs SLAs

Customer query end to end times in days provides a different perspective.

3rd Party reported following against SLAs:

- 80% of queries resolved in 1 working day
- 100% in 5 working days
- Call answering SLA is 90% of calls answered within 30 seconds
- Call abandoned rate is less than 3%
Analysing Demand

60% Failure Demand
Current **IVR Query Routing** vs **Top 5 Query Reasons**

IVR questions did not match customer demand
Recommendations

1. Total system visibility - map end to end experience, identifying improvements
2. Call handling analysis - establish end to end times and value/failure demand
3. Align IVR route options with customer needs
4. Supplement SLAs with end to end times and & value/failure demand metrics
5. Website for customers to easily update their details
Case Study

Results
Case Study

Measures
If you find that *despite* lots of measures, you *don’t really* know much about *what matters* to customers, then it can be a powerful starting place for change.

Measures should be *in the hands of those doing the work*.
How do you study purpose? **Go out into the system and study demand, what matters to your customer.** Look at Value Demand vs Failure Demand, go and talk to your customers!
The worker has to be responsible, and have the means to control their own work.

When people understand what is happening where they work, they are able to contribute more in improving the work. This results in greater control and flexibility.
Case Study

Results
Case Study

IT Help Desk
Variation reducing, but average # calls not by much

Low # calls is xmas period
Before

- 17% One Stop

- 83% Passed on

No. pass ons
Avg: 3.6
UCL: 8.9

End-to-end
Avg: 11 days
UCL: 50

After

- 80% One Stop

- 20% Passed on

End-to-end
Avg: 2 days
UCL: 10
Intervention Theory

To affect change, we need to look at Intervention theory, i.e. how do we change a human system.

People won't change their minds until they have had the opportunity to test new beliefs.
Making successful and sustainable change means changing thinking. Unless we are prepared to make explicit, and then change, the logics and assumptions which drive current ways of working, then improvement will always be marginal at best, and unlikely to be sustained.
Case Study

Results
Product Development

Customer Development

- Customer Discovery
- Customer Validation
- Customer Creation
- Scale Company

Data, Feedback, Insights

Hypotheses, Experiments, Insights

Agile Development
# Change Thinking!

<table>
<thead>
<tr>
<th>Traditional thinking</th>
<th>Systems thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top-down</td>
<td>perspective</td>
</tr>
<tr>
<td>Functional specialisation</td>
<td>design</td>
</tr>
<tr>
<td>Separated from work</td>
<td>decision-making</td>
</tr>
<tr>
<td>Budget, targets, standards, service levels, activity etc.</td>
<td>measures</td>
</tr>
<tr>
<td>Manage budgets and people</td>
<td>ethic</td>
</tr>
<tr>
<td>Contractual</td>
<td>attitude to customers</td>
</tr>
<tr>
<td>Contractual</td>
<td>attitude to suppliers</td>
</tr>
<tr>
<td></td>
<td>Outside-in</td>
</tr>
<tr>
<td></td>
<td>Demand, value and flow</td>
</tr>
<tr>
<td></td>
<td>Integrated with work</td>
</tr>
<tr>
<td></td>
<td>Capability versus purpose, variation</td>
</tr>
<tr>
<td></td>
<td>Act on system</td>
</tr>
<tr>
<td></td>
<td>What matters.....?</td>
</tr>
<tr>
<td></td>
<td>Partnering and co-operation</td>
</tr>
</tbody>
</table>
Deming: I find few people in industry know what constitutes a system.

Drucker: There is nothing so useless as doing efficiently, that which should not be done at all.

Ohno: The important thing with improvement, is to think of new work methods, not to make new tools or equipment.
Any Questions?

I must understand the system, improve the work, THEN pull IT
I must understand the system, improve the work, THEN pull IT
I must understand the system, improve the work, THEN pull IT
I must understand the system, improve the work, THEN pull IT
I must understand the system, improve the work, THEN pull IT