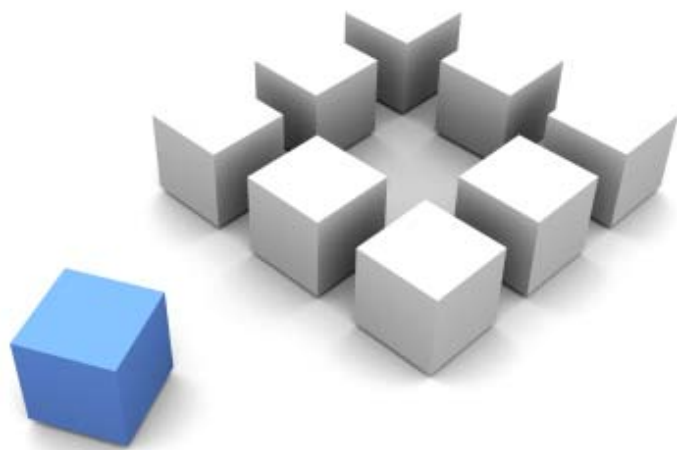




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An Introduction to Systems Thinking

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In order to understand systems thinking it is useful to understand traditional thinking and its origins to provide a comparison.

Traditional Thinking		Systems Thinking
Top down	 perspective	Outside in
Functional specialisation	 design	Demand, value, flow
Separated from work	 decision making	Integrated with work
Related to budget, activity, productivity, standards	 measures	Related to purpose, variation, demonstrating capability
Extrinsic (incentives)	 motivation	Intrinsic (pride)
Manage budgets & people	 management ethic	Act on the system
Contractual	 attitude to customers	What matters

Traditional thinking has its roots in the work of Henry Ford, Alfred Sloan, Frederick Taylor and others. The ideas developed by these people solved problems of their time and led to improved performance.

Systems thinking is a step beyond these traditional ideas. It has its roots in the work of Ackoff, Deming, Ohno, Senge and others

Systems thinking leads to 'economies of flow' - a *quantum* leap beyond economies of scale.

who were the first to challenge the status quo. 'Traditional thinking' is sometimes

labelled as 'mass production thinking'; mass production methods lead to 'economies of scale', systems thinking leads to 'economies of flow' - a quantum leap beyond economies of scale.

The consequences are better service and lower costs, something the traditional manager would find counter-intuitive because improving service is usually equated with increasing costs.

The starting-place for those who challenged traditional management thinking was the fact that it caused sub-optimisation. Breaking an organisation into parts (functions), setting targets for the parts and 'managing by the numbers' actually makes overall performance worse.

To understand just how this happens requires managers to look at how the parts work together, they have to take a systems view. When managers take a systems perspective they learn that systems thinking is indeed a better way to make the work work.

Systems thinking provides the means to understand work as a system. It leads to the design and management of work from the outside-in, managing flow rather than function. It requires the development of different measures and methods. And these principles lead to reductions in the number of steps, reductions in end-to-end time, reductions in waste, improved service and reduced costs.

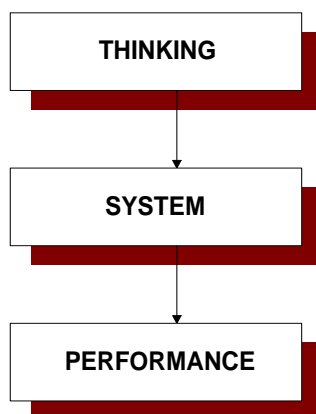
Some of the key principles of systems thinking are:

- Understand what customers want and only do work that improves their experience of the service
- Ensure work goes out 100 per cent perfect, taking whatever time is needed and drawing on all necessary resources
- Manage the customer through to the end of the process, keeping them informed of progress and the service levels they can expect
- Organise work so that it is as error-proof as possible
- In meeting demand, work on the principle of 'first in, first out'; seek to improve the end-to-end flow of work through the system every day
- Use measures that tell staff how well they are achieving things that matter to customers, not official specifications

Systems thinking organisations have 3 key operating principles:

1. Ensure that continuous improvement of customer service and efficiency becomes an integral part of the way that the business operates.

The goal of continuous improvement becoming integral to the way the business operates is achieved by ensuring everyone in the organisation is using the same principles, therefore action is taken on the system which improves performance in a consistent manner. It is an approach that ensures integrity between people's thinking and behaviour, and their actions on the way the work works.



2. Provide all staff with the tools and perspectives needed in your particular circumstances.

Working in this way ensures it is easy to deliver excellent service as it is easy to get things right and difficult to get things wrong. Quality is built into the system from the start.

3. Overcome any resistance to change

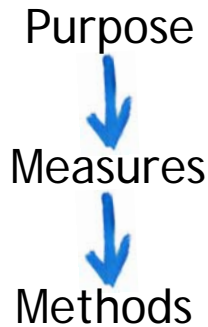
Using a 'normative' approach to change ('learn' rather than 'tell') involves people in understanding how their current system works today - what makes it sub-optimal and how their own thinking and behaviour contribute to the system's current capability. From this position people feel able to make informed choice about what to do.

The first step is to analyse the current system. This starts with establishing current performance -customer satisfaction, efficiency, revenue and productivity.

From here we look at how these results are being achieved (features of the system) and then, how thinking and behaviour are maintaining the status quo.

Statistical Process Control and Capability Measures

The principle issue with measurement is whether it can help us look at method. Capability data invites an exploration of method - it invites us to ask 'what are the causes of variation?' When genuine differences in performance occur they are known to be genuine and again one can ask why. 'What has caused a step-wise change?'



It is central to a systems approach that capability measures are used to measure performance. Capability measures tell you about the predictability of something; they can be used to learn about two aspects of how the work works - demand and response. Rather than know the percentage achievement of a standard, it is better to know what performance is being achieved predictably - that is what a capability measure will tell you.

A key aspect of capability measurement is statistical process control (SPC). SPC is an effective method of monitoring a process through the use of control charts. By collecting data from various points within

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the process, variations in the process that may affect the quality of the service can be detected and corrected, thus reducing waste and as well as

the likelihood that problems will be passed on to the customer. With its emphasis on early detection and prevention of problems, SPC has a distinct advantage over quality methods, such as inspection, that apply resources to detecting and correcting problems at the end of the process.

In addition to reducing waste, SPC can lead to a reduction in the time required to deliver the service end to end. This is because SPC data can be used to identify bottlenecks, wait times, and other sources of delays within the process. SPC also indicates when action should be taken in a process, but it also indicates when NO action should be taken, therefore is an extremely useful management tool.

For more on SPC visit:

www.answers.com/topic/control-chart

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