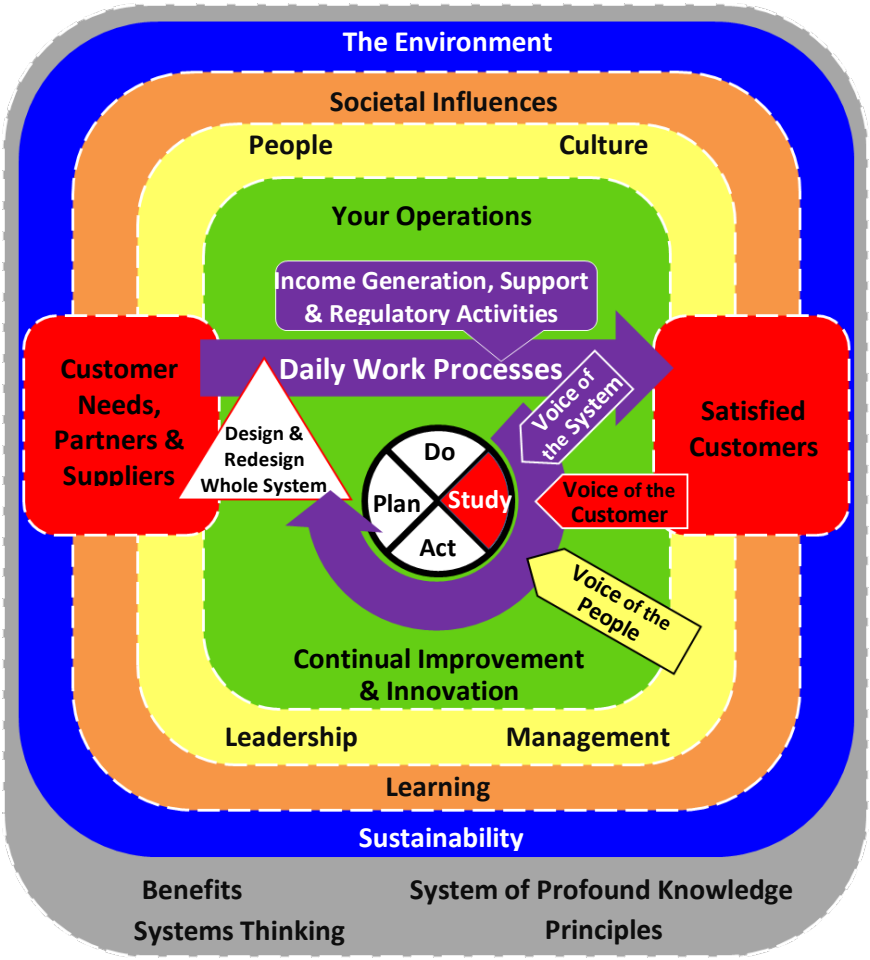
How Sustainable is your organisation?



The Model of Sustainable Organisation (MoSO)

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Deming Approach

Business-As-Usual (BAU) is not an option. It is an unstable and unsustainable state in the face of threats including demographic changes, globalisation and possible ecological disaster. Some idea of this can be had from the decline in the average life of companies. John Hagel reports that "average life expectancy of a company in the S&P 500 has dropped from 75 in 1937 to 15 years." Ellen de Rooij confirmed this "average life expectancy of companies in Europe is 12.5 years."

In addition public sector organisations, such as the National Health Service in the U.K., struggle with events in society such as the rising expectations of response times in the Internet age and increasing numbers of older people.

Transforming an organisation from BAU to a state of sustainable organisational excellence or World-class requires a new body of knowledge. The aim of a **Model of Sustainable Organisation (MoSO)** is to make such a body of knowledge accessible.

The work of Dr W Edwards Deming is the primary inspiration and foundation for the development of MoSO. It also draws on the work of people such as Peter Drucker, Donald Wheeler, Myron Tribus, Henry Neave, Peter Scholtes, Russell Ackoff, Alfie Kohn and others who are consistent with it. We call this foundation Deming++.

In the 1980's the significant forces at work were globalisation and the rise of Japanese manufacturing, which exposed the weakness of the prevailing Western business model. To address this Deming stated that transformation was required in the existing business model and mind-set.

Central to achieving this transformation he suggested were joined-up thinking, an organisation's people, its customers and quality. About the latter he said, "Quality is everyone's responsibility." The irony was that thirty years earlier he gave the same message to Japanese manufacturing as it faced post World War 2 reconstruction.

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Deming's work itself was based upon that of Walter A Shewhart on science-based management and quality thinking. Against the prevailing Management by Objects/Results thinking Deming called his approach **Management for Quality**.

His critically important contribution was his advocacy of the need for a balanced multi-disciplinary approach to management that he called a System of Profound Knowledge (SoPK) that comprises four interrelated parts:

- **Appreciation for a System**: *performance comes from all parts of the organisation working together*
- **Knowledge about Variation**: *proper measurement and use of statistics*
- **Theory of Knowledge**: *continually improving, conscious domain knowledge about the organisation*
- **Psychology**: *why people behave as they do; understanding and meeting their needs*

Each of these is an enormous field of knowledge in its own right. This publication provides an introduction. Greater depth is available in the MoSO online resource.

Although developed towards the end of his life, SoPK provides an important framework for his earlier work, notably Shewhart-influenced statistics that he is perhaps better known for; the famous 14 Points or Obligations for Managers; the 7 Deadly Diseases; and the Forces of Destruction.

Deming's importance can be summarised as:

- Spreading Shewhart's work on science-based management and quality thinking
- Customer-focused, balanced multi-disciplinary approach, including using data properly
- Inspiring two manufacturing revolutions - Post-WW2 Japan and 1980 onwards in the USA and West
- Identifying the even greater opportunities in service sector
- A lifelong learner, he modelled the importance of knowledge

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DEMING Emphasised

- The customer is the most important part of the production line or service delivery system
- Everyone in the organisation is responsible for delivering quality to the customer
- Thorough understanding of the technical aspects of your work is gained from deep experience
- Scientific measurement of both technical and managerial aspects - but treated as a basis for improvement NOT targets
- Promoting Shewhart's process behaviour methods and concepts
- Concentration on unending improvement and innovation; NOT cost
- Management is responsible for a comprehensive system of thinking about the organisation itself, as a whole system
- The psychology of the workplace, including "You are a manager of people"
- Respect for people - emphasis on training, support and leadership

Summary

In a fast-changing world Business-As-Usual is not a survival strategy. W Edwards Deming was an acknowledged thought-leader in quality and an expert on statistics. His work and thinking remain relevant and applicable to the whole field of management, to support the transformation to successful and sustainable World-class organisations.

MoSO provides access to core principles and a body of knowledge that have been inspired by Deming's work along with contributions from many others. This can be summarised as:

> ***The aim of your organisation is for your people to serve customers by everyone working together in a system that delivers value to those customers. Using proper science-based measurement and analysis you can understand what is happening, so that you can continually improve and innovate. This can only be achieved with the correct leadership and management. In this way your organisation will succeed and sustain.***

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Self-Examination: in your organisation

- To what extent is the customer the most important part of your system?
- How far does everyone go to make delivery of quality to the customer a reality?
- How is measurement science used to drive improvement and innovation?
- To what degree is 'respect for people' a fundamental value in action at all levels?

Exploration: inspiring stories around the Deming Approach

- Deming, W. E., (1986) Out of the Crisis. Cambridge, MA: CAES - MIT
- Deming, W. E., (1993) The New Economics for Industry, Government, Education. Cambridge, MA: MIT
- Deming the Man: https://deming.org/deming/deming-the-man, The Deming Institute
- Deming videos: https://www.youtube.com/user/deminginstitute, The Deming Institute
- Deming Way: http://www.qla.com.au/papers/demings-way/2112871003 , Myron Tribus paper explaining the relevance and impact of Deming's revolutionary thinking. 1981

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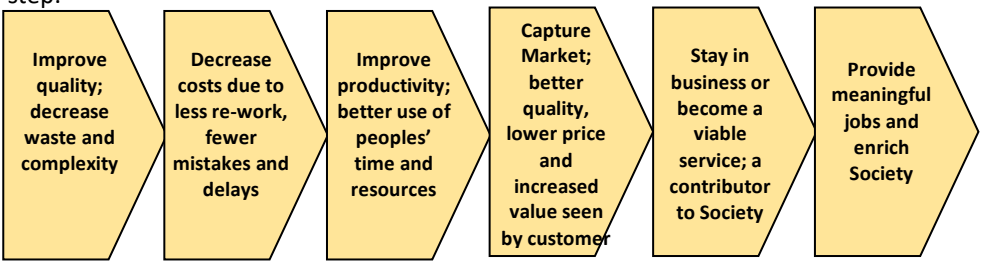
Benefits

Considering the amount of effort that can be needed to create the changes envisaged in an organisation, it is reasonable to ask what the benefits are, and how they can be achieved. This was summarised by Deming in what he called the Chain Reaction, where an initial step leads to changes that give increases in an organisation's value and its sustainability.

The following example of a Chain Reaction applies particularly to an organisation supplying customers directly. It lists the changes and benefits flowing from the first step.



The essential point is to start not by uninformed cost-cutting, but on providing the consumers of the organisation's output with what those consumers value. This provision is the Quality Improvement listed in the first step. It is the leverage point yielding a massive change in the system, i.e. the organisation and its environment.

Obviously the emphasis can change for individual organisations in the light of their circumstances and the talents of their management. For some organisations there may be circumstances where instead of decreasing prices the savings could be applied to investment or innovation.

The senior management of the organisation must:

a) Be data-smart,
b) Know what to look for and how to interpret numbers in the least risky way,
c) Supply leadership to all the organisation's stakeholders, and
d) Always have focus on the organisation's aims.

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How this can be achieved is described in other sections of this digest; in particular the voices of customers, the system and the organisation's people.

Self-Examination: in your organisation

- To what extent does your organisation understand the difference between 'cutting costs' and 'removing the causes of costs', and where the causes of costs can be found?
- What is the result of constructing the 'chain reaction' for your organisation?
- How can you tackle the essential first steps?

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Principles

A sustainable organisation will operate on a foundation of the following set of eight guiding principles:

- **Principle #1: Customer focus put into practice through quality - an understanding of customer needs and expectations.** Customer focus is the primary principle, for without customers the organisation has no purpose. Quality is what the customer says it is and provides a constant reference point for the whole organisation.

- **Principle #2: Systems Thinking, taking the approach to understand the whole situation in perspective – the woods and the trees.** The essence of systems thinking is that everything is connected and therefore it is worth understanding the most important connections for any given situation.

- **Principle #3: Everyone's daily work viewed as a seamless flow through the organisation to produce outcomes valued by customers with the minimum of waste.** The daily work of the organisation is to transform the inputs of customer needs and resources into outcomes valued by customers. Daily work needs to be timely, efficient and productive so as to minimise waste (human, materiel and environmental)

- **Principle #4: Wisdom from data (both numbers and language) - guided by actions.** Knowing when and how to act requires wisdom from data, of all types, to deal with complexity and balance human nature. This requires measurement and methods to deal with the variation present in messy real-world data.

- **Principle #5: Leadership that is Inspiring, visionary and guides change.** Leadership is required to synthesize and communicate a vision of a better future that inspires organisations to respond in a changing world. This long-term philosophy is at the core of a sustainable organisation.

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- **Principle #6: An openness to learning that drives continual improvement and innovation.** Learning, continual improvement and innovation are essential parts of everyone's daily work to achieve the vision of a better future.

- **Principle #7: Protection of the natural environment. The resources of the natural environment are finite and held in trust for future generations.** Consideration should be given to external environments that are part of the operating context and were created by society, for example financial and built environments.

- **Principle #8: Respect for people. Organisations consist of people who are part of a global society.** Respect for people is therefore a value that underpins all aspects of organisational sustainability.

The intent is that MoSO users take these principles and build on them to make them their own – perhaps by using wording that has relevance and meaning within their own organisation, or sector.

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Customers

"The consumer is the most important part of the production line",
W Edwards Deming

Customers are the reason every business, public sector or not-for-profit organisation exists; the resulting need for customer focus applies to all combinations of products and services. Meeting or exceeding customer needs and expectations now and in the future is essential for sustained success. At a fundamental level customers provide jobs, profits to re-invest and dividends. At the most basic level they pay the wages, and managers forget this at their peril.

Customers define quality, since it is whatever they think it is. Customers decide whether to buy and their primacy in sustaining organisational success should be beyond doubt. The leaders of any organisation must not pay lip-service to the importance of customers; their behaviour should set a consistent example. Customers must be the focus of the organisational system, aligning everybody's activity.

There are both internal and external customers for organisations. Internal customers do not usually have a choice of supplier, but it is essential to supply them with quality that enables them best to serve external customers. This extends upstream to pre-sales or marketing, and downstream to after sales service and disposal in the case of products. Any possible end-to-end dealings with customers can be summed up in the term *Total Customer Experience;* this must not be left to chance, it must be designed as an integrated system.

The design of the total customer experience should aim for customer satisfaction at the very least. The ongoing aim should be to improve, and thus to achieve customer delight, excitement, and even insistence.

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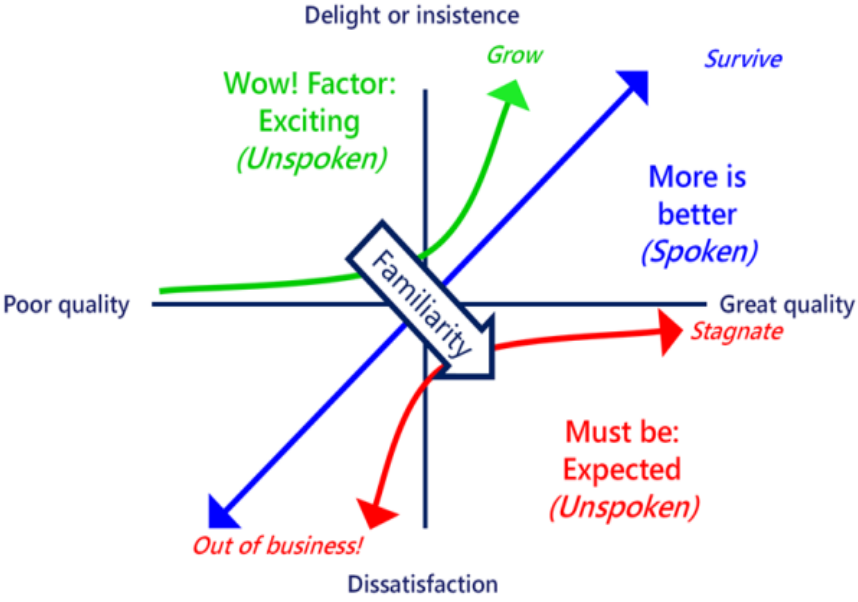
The spoken needs of customers only partly represent their needs, as defined by Professor Noriaki Kano as Normal, One-Dimensional or 'More is Better' quality. He proposed two further types of quality, 'Must-be' and 'Exciting', or 'Wow Factor', and these meet the unspoken needs of customers. To satisfy customers, normal and must-be needs should be met. Going beyond, to delight, excitement or insistence requires the Wow factor. Rising customer expectations drive perceptions down from Wow factor to normal and eventually to must-be. Failing to meet must-be needs is equivalent to giving business away.



Innovations or breakthroughs – these are the responsibility of the organisation. This is Wow factor quality that meets the unspoken or latent needs of the customer. The customer cannot say in advance how their needs can be met, and, although they are the primary source for information about their needs, they may have difficulty expressing those needs. Listen to the 'Voice of the Customer', see separate article; a key principle is that it should be recorded/taken down verbatim in the customers' own words at the point of use.

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Design capable delivery systems and processes – the technique of Quality Function Deployment (QFD) provides a method for translating the voice of the customer into customer requirements, prioritises these and derives critical quality characteristics required of delivery processes. These characteristics provide the standards against which process capability can be measured.

'Moments of Truth' – these occur when a customer interacts with the organisation. Management's job is to support its people in those moments of truth. This is perhaps more important in service industries than in manufacturing. Jan Carlson's classic book of the same title estimated the moment of truth is as short as fifteen seconds, which was the average time customers were in contact with an employee of his airline, SAS.

After sales service is critical to the overall customer perception of quality. In service industries or markets where there is an ongoing purchase of consumable items it can be more financially significant than the original purchase. Handling complaints effectively is an important part of after sales service - the challenge always is to accept feedback without denial.

In Summary - customers or consumers are the reason every organisation exists. It is the whole of the customer contact with the organisation that counts, which can be called the Total Customer Experience. This experience must be designed from end-to-end, with processes capable of meeting or exceeding customer expectations for quality. Furthermore, delivery outcomes must be continually monitored and improved, to be sustainably successful.

Kano provides a valuable framework for how products and services can be designed meet or exceed customer needs, and through the use of methods such as QFD, quality characteristics provide standards against which the capability of products, services and processes can be assessed. Attention must be paid to customer-facing moments of truth to ensure that people have the support and authority to serve customers in a timely manner, and deliver a great experience.

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The author Hal Mather summed it all up in a 1990 seminar:

> *"Customer delight is what you should aim for – they are paying to be satisfied."*

SELF-EXAMINATION: In your organisation

- How focused on the customer is everyone from boardroom to customer facing staff?
- How thorough and up to date is understanding of the total customer experience?
- What is done to ensure that there are processes in place to support moments of truth?
- How deep is the understanding of what quality means to your customers?

References & Exploration: inspiring stories around Customers

The following books and articles are definitely worth a read:

- Carlzon, Jan (1987), Moments of Truth. New York: Ballinger
- Jenkinson, Angus (1995), Valuing Your Customers. London: McGraw-Hill
- Reichheld, Frederick F (1996), The Loyalty Effect, Boston MA: Harvard Business School Press.
- Scholtes, Peter; Hacquebord, Heero; Joiner Associates Inc., (1987) Madison, WI 'A Practical Approach to Quality' ASQC 41st Annual Quality Congress, May 1987, Minneapolis, MN, Vol. 41, No. 0, May

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Your Operations

Sustainable organisations exist to transform their customer needs into customer satisfaction. To do this effectively an organisation needs to create a seamless and uninterrupted flow of work and information through the organisation. The internal elements of an organisation need to embody structurally the flow of work and information in a way that does not impede the flow.

There are a number of elements that need to be addressed to accomplish this end:

- ***Daily Work Processes:*** *the primary activities of the organisation.*
- ***Continual Improvement and Innovation (PDSA)***
- Listening to and responding to (acting on) the ***Voice of the Customer (VoC)***, the ***Voice of the System (VoS)*** and the ***Voice of the People (VoP)***
- Understanding what ***Your Operations*** look like; now (as-is) and in the future (to-be)

Daily Work Processes

We would naturally expect organisations to build or design their operations in a manner to achieve what they believe to be the best possible outcomes for the customer. In reality, many operational work processes (systems) evolve over time, with changes often built to meet arbitrary internal objectives based on a perceived need, and often not focused on the customer.

To be sustainable, ***Your Operations*** need to be carried out with minimal waste, in terms of materials, peoples' efforts and environmental considerations, optimal efficiency and speed of response to customer needs; through uninterrupted flow of work and information right through the organisation. It's vitally important to have a commonly agreed model of the operation that all the organisation's people, managers and leaders understand and can use as a touchstone for assessment, measurement and continual improvement.

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Continual Improvement and Innovation

The PDSA cycle is a fundamental means of systematically driving renewal and improvement. Data and information are reviewed, improvements planned and changes tested and analysed and the cycle is repeated until the required improvements are obtained. Embedding a PDSA cycle into your operations (the way you work) will significantly enhance the organisation. It does not have to be defined precisely in this way, but the culture of driving improvement and innovation by thinking and acting in line with PDSA is what is important.

Voice of the Customer

This is the most obvious input to the organisation of what needs to be captured and studied. It can take the form of market surveys and customer satisfaction studies, but these need to be designed well if they are to be truly useful. Even if a customer takes the trouble to write in to complain, that input can be the best insight as to how your organisation is operating. As Jan Carlzon CEO of SAS (Scandinavian Air Services) put it; whenever a customer interacts with an employee (sales, baggage handling, by telephone) it's a 'touch point'. At such points a customer makes a sub-conscious evaluation of your operation, and that may be positive or negative.

Voice of the System

Listening to and interpreting the voice of the system is key to understanding whether your processes are adding (or otherwise) value and whether they are properly designed, developed and robust. Without high levels of capability your customer's expectations will not be met and your costs (materials, time, money and resources) will rise. One proven and reliable way to analyse data from your processes is to measure performance and use Process Behaviour Charts to determine process capability.

Process behaviour charts can be used for all products and services (in any type of organisation) and by everyone in the organisation from boardroom to warehouse. A culture that uses them to drive continual improvement will bring significant benefits to your organisation. Choosing what to measure and monitor is key, but getting and analysing performance data in this way is listening to the Voice of the Process/System.

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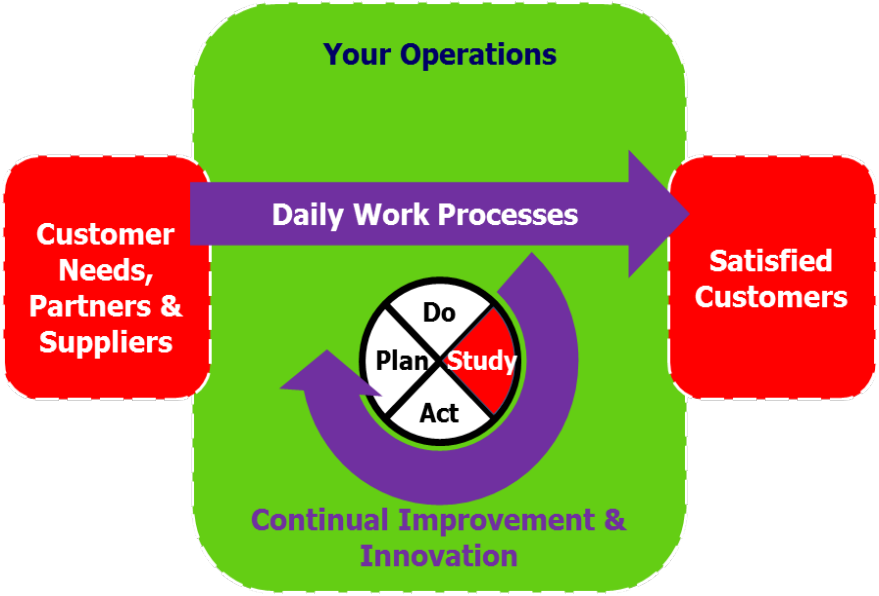
Voice of the People

This is the means needed by an organisation to understand properly the health (mental and physical) and capability of its workforce. In many organisations a system of appraisals and rankings exists, but many international studies show that such techniques do little to help the organisation understand its operations; in fact they commonly destroy workforce morale and productivity. By contrast large staff meetings can act as a conduit for unstructured and public (within the confines of the organisation) feedback. Any type of event which seeks to understand the feelings and issues of the workforce is useful.

What do Your Operations look like?

This is a very generic operational system model.

The value of a model of this kind, whether at a high or lower level, is that it shows the big picture and allows people in your organisation to ask the big questions!



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Self-Examination: in your organisation

- How does your organisational big picture address the operational aspects of MoSO?
- To what extent are communication links well formed, robust and helpful?
- What organisational silos/chimneys exist and why?

Exploration: inspiring stories around Your Operations

- Process mapping: http://en.wikipedia.org/wiki/Business_process_mapping
- Process mapping: https://bizfluent.com/how-5155054-do-business-process-mapping.html
- TED Talk: Process Improvement: https://www.youtube.com/watch?v=1hvprBVWn3M

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Voice of the Customer

The expression Voice of the Customer, or VoC, is typically used in two ways:

- We refer to Voice of the Customer as data that defines or describes customer needs and expectations; it defines what is wanted. This data can be either in the form of numbers, or language or both.
- An organisation may also have VoC processes – used to systematically capture and analyse voice of the customer data and drive improvements in products, services and processes.

Why is VoC Necessary?

All work starts and finishes with a customer. The customer defines and determines the quality of our work, so organisations must focus on achieving the best possible outcomes for customers. Professor Shoji Shiba makes a distinction between 'Product-Out' (work according to established process; internal focus) and 'Market-In' (focus on customer satisfaction), noting that Product-Out is not enough.

To achieve 'Market-In', organisations must know their customers and expectations. Listening to, and interpreting, VoC is essential to achieving customer satisfaction, which is the best and only lasting means to sustainability.

The Consequences of not listening to VoC

If an organisation does not systematically listen to VoC it is "unknowingly indifferent to customer needs and expectations." This is most likely brought about by a failure in organisational capability; a lack of skills and of poor or non-existent VoC processes.

When discussing customers, we intuitively think of 'external' customers, but it's worth considering 'internal' customers and the role they play in continual improvement.

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Language Skills

Voice of the Customer places emphasis on collecting, analysing, and understanding data; not just numbers but also language data. Skilful collection and analysis of language data requires knowledge of semantics; what is the customer really saying?

Listening and questioning skills are important and when coupled with semantic skills, we have the capability to exchange information and ideas to understand customer expectations.

VOC Processes

The aim of VoC processes is to capture the customer's written or explicitly stated requirements, and to gain a deeper understanding of the issues and problems that the customer has to deal with.

By having this deeper understanding, we may be in a position to help our customers be more successful in doing their job. Establishing VoC processes creates an agreed way of working that can be systematically repeated and improved; building essential skills and organisational capability.

VoC processes may be relatively simple (able to be carried out by all employees if given the basic language skills), to the very complex (typically carried out by experts – either internal or external to the organisation):

1. **Customer Discussion / Interview**: Typically internal to the organisation. Discussions are held with staff from a 'customer' department. Basic language and listening skills are used to discover needs, and to obtain facts associated with adverse performance (errors, defects, responsiveness, etc.).
2. **Customer Visitation**: a documented step-by-step process for customer visitations with a specific aim, e.g. understanding a customer's current environment and challenges, discovering new requirements, reviewing service level agreements or performance, and problem resolution.

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Typical steps could be:

- Describe and communicate the purpose for the VoC activity
- Prepare for the visitation (select customers; develop interview script)
- Conduct the Interview (ideally Face-to-Face, but alternatively by telephone/Internet where customer contacts are distant or geographically dispersed)
- Analyze the VoC Data (e.g. Language Processing and numerically, as appropriate)
- Develop, Implement, and Monitor an Action Plan (confirmed with customer)
- Reflect on the Process (STUDY the process and ACT to improve it based on actual experience)

3. **Kano Method**: A method to investigate the characteristics of customer requirements developed by Professor Noriaki Kano. This method seeks to differentiate between Must-be (hygiene), One-dimensional linear, and Attractive/Delighter customer requirements. This type of differentiation, is useful when defining what customers need and are willing to pay for – as opposed to 'would be nice' but will not pay for.

About Customer Surveys

VoC data can be collected by means of a questionnaire (survey) or interview. Whilst surveys can be a very valuable tool in search for the Voice of the Customer, in the view of the author, they do have significant limitations. Some organisations use an initial survey to highlight possible areas of concern, and then use interviews – often in the customers' work environment - to get the underlying facts and data.

Breakthrough Management

When Not to Listen to Your Customers - Dr Kaoru Ishikawa is quoted as saying, "The customer is king but sometimes blind" (perhaps to other possibilities or future needs of the organisation).

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To survive, organisations may need to explore completely new products/service or a completely different strategic direction, or new ways of working. These 'breakthroughs' may be seen by current customers as being contrary to their best interests, and they have been known to try to prevent breakthrough from taking place.

Self-Examination: in your organisation

- Do we know who our customers are (internal and external) and to what extent do we understand the needs and expectations of those customers – now and future
- What is the predominant culture in my/our organisation – Product-Out or Market-In?
- Do we have the appropriate Voice of the Customer processes in place?

Exploration: inspiring stories around Voice of the Customer

- S.I. Hayakawa and Alan R. Hayakawa. Language in Thought and Action. Harcourt Brace & Company.
- Shoji Shiba, David Walden. Four Practical Revolutions in Management – Systems for Creating Unique Organisational Capability
- Kano model: http://en.wikipedia.org/wiki/Kano_model
- Professor Shiba: http://en.wikipedia.org/wiki/Shoji_Shiba
- Professor Ishikawa: http://en.wikipedia.org/wiki/Kaoru_Ishikawa

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Voice of the People

Voice of the People is critical for assessing the health and capability of an organisation. Service relies on people; they generate aspects of critical value to customers. Leveraging knowledge and collaboration requires the creation, articulation and sustained alignment of peoples' shared values. Leaders must understand the nature of how their people interact with customers, particularly at moments of truth.

People are at the heart of organisations and good leaders have approaches in place for listening to their people and acting upon them. There are various approaches, which can be used in combination, as follows;

Public structured voices – open and scheduled:

- Focus groups – engaging with people, normally on a chosen topic.
- Rich pictures and brown paper fairs – designed to explore processes or organisational systems, they can capture a wide range of issues, so can be used to capture insights.
- Back to the floor – a public and valuable opportunity for managers to engage with teams and individuals, with learning and listening being key skills in sharing key issues.
- Suggestion (new ideas) system – open to anyone and may be themed, with no subject off-limits.

Public unstructured voices – open approaches; a listening ear:

- Town hall meetings – themed to consult about developments such as strategy. Feedback depends on a culture of trust and openness.
- Management and team meetings – feedback sessions need to be scheduled so that attendees can provide input, allowing a dialogue of value to take place.
- Go to the Workplace – informal, and consists of managers taking time out daily or weekly to invest in engaging with their people; observing, learning and listening.

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- Discussion groups – moderated to provide data for analysis and action, and can be valuable safety valves to allow knowledge sharing, especially if teams are fragmented.

Private structured voices – scheduled and needing careful management:

- One-to-ones – feedback obtained should only be included in analysis and action by mutual consent, otherwise this can destroy trust, rather than engendering dialogue.
- Surveys – these act as a valuable weather-vane, setting priorities, so allow ranking for relevant factors, identify additional information, and ensure that respondents cannot be identified.

Private unstructured voices are typically conversational or online, and organisations can badly damage trust if they gather and/or act on them. An organisation asking an informal network for feedback is creating a structured activity and information gathered needs to be carefully treated.

Action - organisations only derive value if they act and communicate about issues raised and action taken:

- People only honestly share if they believe that the organisation is genuine about acting on feedback
- Communicate findings and conclusions – analyze, prioritize, plan and assign ownership. Communicate happens next and be candid about constraints
- Share progress and successes – celebrate positive shifts and ensuring that successes are 'real'.

Self-Examination: how does your organisation

- Systematically capture voice of the people?
- Decide and adjust the mix of approaches in use within the organisation?
- Assess how well the approaches work, analyze feedback and act on it?

Exploration; inspiring stories around Voice of the People

The wisdom of the crowd, Francis Galton:
http://en.wikipedia.org/wiki/The_Wisdom_of_Crowds
Leadership, Shackleton:
http://people.whitman.edu/~weilercs/dialogiv_publications/Shackleton.pdf

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Voice of the System

Why is it necessary to hear and act on the voice of the system? Why do we need to analyse data?

Organisations are systems; they have inputs (materials, social work, etc.) and produce outputs (finished products, satisfied people, refuse collection, etc.). In moving from inputs to outputs organisations produce data (numbers) on all sorts of things (how many patients were treated, yields from raw materials to finished goods, units (cost) of energy used - these numbers invariably find their way into reports or balance sheets.

In order to "manage" the organisation people take numbers, generally in a raw state, and come to conclusions about what is happening and needs to be done. Rarely are numbers analysed in a way that leads to clarity, or a basis for rational decision.

Daniel Boorstin[1] stated that "Information is random and miscellaneous but knowledge is orderly and cumulative." Hence, in order to understand a process (or organisation) and to manage rationally we need intuitively to analyse random information.

Fortunately, there is a simple, reliable and proven 80-year-old method that works. We need to graph the numbers over time, not as bar charts, but as a process behaviour chart, to include as much historical data as are available and relevant. Bad habits to avoid are:

- Comparing one number with another; i.e. this week's sales with last week or the same time last year. Comparisons of this type are confusing and do not show the underlying picture of what is going on.
- Comparing percentages; this often leads to a focus on the larger percentage which may be less relevant in the context of other information.

As Myron Tribus[2] observed: "Managing the company by means of the (numerical) monthly report is like trying to drive a car by watching the line in the centre of the road in the rear view mirror", i.e. you are not looking where you are going.

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A key job of management is prediction, seeing what's ahead.

Why do it this way?

Simple comparisons between two numbers are limited and give weak analysis. Such comparisons are limited due to the low quantity of data used and they are weak as both numbers will be subject to variation that exists in all real world data. There are two types of variation:

- Common Cause is a result of normal behaviour of the process or system
- Special Cause is the result of external factors, not normal within the system. When attempting to change any process, Special Cause variation needs to be resolved first in order to stabilise the system.

Graphs using bar charts do not easily show the variable nature of the data over time [less so pie charts or stacked bar charts]. But a process behaviour chart readily does this and allows for the inclusion of natural process limits; the theoretical upper and lower maximum values the data can take. Used in conjunction with the way in which the data are varying, they can describe a lot about how the process is behaving, and critically for management, whether the process is predictable or unpredictable.

How does it work?

A traditional tabular set of performance data; what are we to make from this? That the last 3 months are out of alignment with the previous three? A comment in the financial report could be: "After a promising first three months that showed increases in profit over the same period last year, the second quarter figures currently show a significant fall. The reasons are currently being investigated, although the suspicion is that manufacturing is out of sequence with sales demand. It is considered that the third quarter will show growth in line with seasonal activity."

Month	£ 000's	% Variance from same month last year
Jan	43.12	0.55
Feb	42.55	6.77
Mar	43.78	5.64
Apr	44.20	-2.51
May	46.02	-9.07
Jun	45.79	-8.35

Really; honestly; how can you tell from that table?

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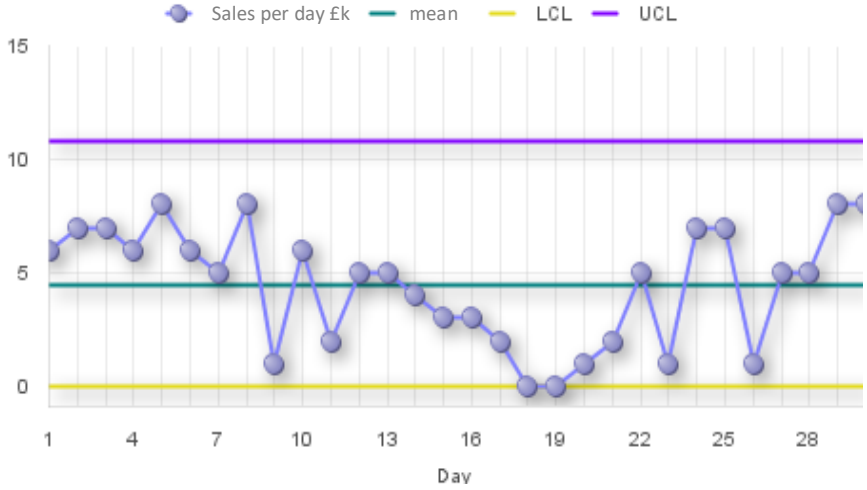
However, if we show a set of data from a similar process, this one monitored daily, we can see that all the variation is Common Cause (i.e. from within the system) and that the process is fairly predictable, hence within limits every month.



The tabular data set also illustrates the erroneous assumptions that can be derived from looking at percentages. Leaping to conclusions can cause problems in an organisation when we fail to ensure that data are appropriately viewed in the whole and on a continuous basis. Data are more revealing if plotted as a process behaviour chart, as time connects points in the data with events in the real world, one can see patterns emerging and prediction of performance is more easily achieved.

Self-Examination: in your organisation

- How do management reports work: is there just tabular data, do people use point comparison, do reports distinguish between normal behaviour and exceptional events?
- Is data of sufficient quality to assess 'system behaviour' and what are the consequences of not understanding data?
- To what extent is Voice of the System driving continual improvements and innovation?

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Exploration: inspiring stories around Voice of the System

- Donald J.Wheeler, Understanding Variation – the Key to Understanding Chaos, SPC Press
- Process Behaviour Charts (control charts): http://en.wikipedia.org/wiki/Control_chart
- Performance indicators: http://en.wikipedia.org/wiki/Performance_indicator
- Root cause analysis: http://www.youtube.com/watch?v=v7M1Gs951Jk
- https://www.qualitydigest.com/inside/quality-insider-article/four-control-chart-myths-foolish-experts.html, Four Control Chart Myths from Foolish Experts; David Balestracci
- https://www.youtube.com/watch?v=mP7TH3-35cU, Freedom, Purpose and Values; Henry Stewart
- https://www.spcpress.com/, Statistical Process Controls (SPC) and data analysis: website of Dr Donald J Wheeler, world-leading authority on SPC, Six Sigma [Done right], Data Analysis, and Quality Improvement
- https://inspguilfoyle.wordpress.com/, Where are the Stick People?, blog from Simon Guilfoyle

(1) Daniel Boorstin - American historian at the University of Chicago, writing on many topics in American history and world history and was twelfth Librarian of the United States Congress.

(2) Myron Tribus - American organisational theorist, who was the director of the Centre for Advanced Engineering Study at MIT from 1974 to 1986.

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Continual Improvement - the PDSA cycle

The **PDSA Cycle** is a model for Learning and Improvement. It is used to implement and control any activity that involves continual improvement. Experience has shown that applying a methodical sequence of stages to any problem solving, experimenting or design activity contributes to the achievement of the best results.

The **PDSA Method** is a cyclical, four stage process, which can be defined in a diagram;

ACT
Take action on learning.
Standardise the changed system.
Plan ongoing monitoring of the changed system.
Capitalise on opportunities.
Look for further improvements.

PLAN
Analyse the situation.
Questions, predictions.
Recognise an opportunity.
Plan a change.
Define objectives.

STUDY
Gather data / observations.
Review and analyse test results.
Has desired improvement been achieved?

DO
Test the proposed change.
Carry out plan on trial /pilot basis.

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At the conclusion of each cycle, capture lessons learned in relation to how the PDSA process was used and consequently what improvements can be made for the next cycle. People naturally rush in to action which leads to frustrating and costly solutions. Careful planning is essential.

The PDSA Cycle is repeated continually - there is no end point - and thus is the basis of true 'Continual Improvement.' This repetition can be applied in both the basic cycle as well as the nested, or "wheel-within-a-wheel" cycle.

The starting point of PDSA depends on where you are in the improvement process. If a process already exists then you would probably start incremental improvement at the STUDY stage where you observe the need for further change (SAPDo).

Breakthrough improvement might start at the 'Act' stage where an unexpected event disrupts the process and causes us to plan for either eliminating the event if undesirable or institutionalising the event if desirable.

Where you start in the PDSA cycle is not as important as the cycle itself.

STRENGTHS OF THE PDSA APPROACH

1. PDSA tests changes on a small scale. To see if they achieve their specified objectives, it is important to test them on a small scale - in effect, implementing a change on a temporary or pilot basis. Testing on a small scale has several advantages;
    - It can be accomplished quickly with a minimal expenditure.
    - The experience and feedback gained can be used to modify and improve the original Plan.
    - The organisation's people are more likely to buy-in to if change strategies are tested on a small scale.
2. By focusing on Process Improvement, it encourages planned changes in processes, increasing the likelihood of effective process change.
3. It allows for testing of multiple changes through multiple cycles. Each change is tested on a small scale and moves through successive cycles until the desired change is achieved.

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4. Tried and proven changes can be extended and adapted, to the rest of your organisation. Responsibilities for implementing the actions should be clearly defined and compatible with each individual's skills and functions in the organisation. Work incrementally in cooperation with staff that are involved or affected by the changes. Be alert to both positive and negative feedback, both of which can improve strategies. To extend and adapt small-scale changes, consider the following actions:
    - Extend the change to other areas in the organisation.
    - Adapt the change to each area.
    - Make the change routine in each area.
    - Share the adaptations among all areas.

WHERE CAN PDSA BE USED?

- As a model for the Planning Cycle
- As a model for continual improvement.
- When starting every improvement project.
- When developing a new or improved design of a process, product or service.
- When defining and improving any repetitive work process.
- When implementing any change.

Self-Examination: in your organisation

- To what extent is the PDSA cycle and method used for; learning, improvement, strategy and planning?
- Do you have consistent processes to improve your primary operating and support processes?
- How do you translate data from organisational performance into priorities for continual and breakthrough improvement, opportunities for innovation
- How are these priorities and opportunities discharged and deployed in operational teams?

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Exploration: inspiring stories around Continual Improvement and PDSA

- Economic Control of Quality of Manufactured Product, Shewhart, pp. 55, 121,
- Statistical Method from the Viewpoint of Quality Control, Shewhart, pages 44 - 45
- The New Economics, Deming
- Bringing the PDSA Cycle to Life, Provost – API
- https://www.youtube.com/watch?v=C5X5fbjQVkE, Remembering our Roots: The Intellectual Foundations of Modern Improvement; Don Berwick
- https://qualitysafety.bmj.com/content/20/Suppl_1/i92.full, Analytical studies: a framework for quality improvement design and analysis; Lloyd P Provost
- https://www.lean.org/, Lean Enterprise Institute in US
- https://leanenterprise.org.uk/, Lean Enterprise Research Centre (LERC), Cardiff University

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Innovation

We are in a world where change is unavoidable. If we are part of an organisation that provides products or services we have to accommodate this. Our consumers want something better; we want to do it better (to provide more of it, or to provide it more efficiently). Expectations, knowledge and abilities increase continually, however increasing complexity leads to useful information being overlooked or forgotten.

Customers don't always know what they want, but they do like it when they see it. Henry Ford, the automotive pioneer, said that his customers would have asked for a faster horse when they really wanted a reliable, consistent, powerful means of transport (for both people and goods). The potential customers recognised the features of what they wanted, but could not conceive the means of providing them (the internal combustion engine was beyond their world). A customer will name a preference today and buy something else tomorrow. Meeting customers' needs requires organisations to know the customers' needs, both stated and unstated.

Improvements are better ways of doing what we do already. Innovation is doing or using things in a new way to bring about socially useful changes. Deming indicated the priority when he said, "improvement is essential, but relatively unimportant (when compared with innovation)". He wrote down Four Prongs of Quality, ranked by importance:

1. Innovation in Products and Services
2. Innovation in Processes
3. Improvement in Products and Services
4. Improvement in Processes

When senior management of an organisation decides to innovate, they need to do several things:

- Make the commitment for what is going to be a long term activity, then be consistent about it as time passes, because the organisation is innovating for its future.

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- Let its people know and engage them, so that they enjoy the work and know they are contributing.
- Get as much creative input as possible at the start. Concept changes become more expensive and time-consuming as development goes on. Advance using the PDSA (Plan-Do-Study-Act) cycle. At the very start it may be beneficial to start with the Study step of PDSA (we call this the SAPDo process).
- Recognise that Innovation is different from regular work. It will probably require different resources and arrangements.

Purposeful innovation follows a path; creation (ideas generation), judgment and evaluation, development, and finally implementation. However each organisation may need to adapt their approach, since their size, complexity, resources and ambitions may differ. Innovation is necessary for survival, but not sufficient. With good fortune timing and execution will be right, especially if the organisation understands its operation and, most importantly, the consumers of its output.

Self-Examination: in your organisation

- Have senior management shown leadership in innovation?
- Is there a support infrastructure for innovation and is it clear how and where to start?
- What is the difference between innovation and improvement?

Exploration: inspiring stories around Innovation

- Creating a culture of innovation: https://www.fastcompany.com/90157762/want-to-build-a-culture-of-innovation-master-the-design-critique?cid=search
- Systemic Innovation: http://www.1000advices.com/guru/innovation_culture_sk.html

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Transformation

Transformation is a journey of significant change that an organisation may take to change systems, policies, values or ways of doing things; anything that can help it perform better and be more sustainable. The gap between today's current state and a future vision or destination represents the journey's length and difficulty. Beginning with the end in mind – we are concerned here with the capabilities that a sustainable organisation of any type or size needs to possess; hence such organisations need an inherent capability to:

- Continually improve the understanding of, and ability to meet and exceed, expectations of key stakeholders.
- Continually increase the rate of innovation, evolution and improvement, including radical change.

Transformation capability comprises an enduring set of **principles**, **practices** and **infrastructures**, continually to mobilise the organisation to both recognise and then meet current and future needs of customers and other stakeholders.

- **Principles** underpin and guide; they are based on tried and tested concepts, knowledge and theory that do not radically change over time, for example; Deming's 14 points, ISO 9001 Quality Principles, and especially Customer Focus (both internal and external).
- **Practices** help to enact the principles; they create a common language and way of thinking, reinforcing learning and continual improvement and will typically form a core set of common processes, tools and techniques. These stabilise the way we work to the best current method and provide a springboard for yet more improvement
- **Infrastructures** define how an organisation governs and manages transformation, for example a cascading management structure that touches all parts and levels of the organisation will, most likely, need to adapt to meet emerging needs.

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A transformation journey can be regarded as having two phases; personal and organisational, with personal transformation as a prerequisite for the latter. In this journey the leader's personal transformation becomes the driver for key individuals; a commitment to change based on agreed principles, mobilisation planned and agreed, before implementation itself, and a model developed to sustain the post-transformation culture.

- **Changing one's thinking; embracing thoughts beyond present limitations or patterns.** Individuals must be convinced that the journey is worth the effort, and this is particularly true of transformation leaders, for example: CEO, senior managers, change agents, operational managers. Leaders may be motivated by learning, particularly from outside the organisation, through engagement with advisors, customers, suppliers, peers or consultants. Alternatively fear, a crisis or 'jolt' may precipitate change, for example: falling behind competitors/market, societal influence, regulatory intervention, or customer feedback, indicating that the organisation must act to thrive or survive. A leader's personal transformation may range from a 'fuzzy' sense of discomfort, clearly defined need for change, moment of truth in a number of situations, personal insight or knowledge-based hypothesis.
- **Engaging key individuals.** A leader needs the buy-in and commitment of supportive individuals, who will drive or co-operate in managing transformation (either senior managers or peers). These key people must also go through a personal transformation, possibly as a team. Leader engagement may be strategic; leading by example, working constantly in teams, or personal; one-to-one time, conveying passion and sharing their personal transformation in an intimate way.
- **Commitment to Change.** Without key individuals' commitment, no lasting change will result. As these key individuals are likely to be leaders in their spheres of influence, this leadership is not delegated. 'Doing' transformation requires the building of understanding and skill; embedding the thinking so that the new way becomes the accepted way. This is best supported by a set of enduring principles to form the bedrock of the transformation.

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- **Mobilisation.** Organisations require a mobilisation strategy and structure for managing change. This strategy and structure contains three parts:
    - A high-visibility and committed leader as a driving force,
    - Strategies for change covering: initiation and goal setting, empowering and mobilising people and setting teams to work, as well as alignment to required results, then
    - Organisational infrastructure, i.e. governance and processes to manage during and after transformation.
- **Implementation and Managing**. The transformation infrastructure needs itself to be mobilised and managed during a transformation. This is typically underpinned by project management, covering the process of transformation and contributory projects. Leaders may need to protect and champion the transformation effort from the natural inertia of the organisation.
- **Post Transformation Model**. Leaders must devote time and effort to sustaining change, to prevent the culture engendered becoming diluted or subverted, including when new people join the organisation, so post-transformation activities are an essential component of any change.

A strong culture of quality and improvement is required to achieve transformational change. 'Islands' of change will require some organisational autonomy and knowledge of both the need for and the methods necessary to achieve it.

Organisational transformation is most likely to be a mass movement, reaching and involving as many people as are needed to achieve the necessary change, and because this is never easy, that's the reason for a clear mobilisation strategy. Success is also dependent on the absence of opposition; even weak opposition can prevent change, which needs to be addressed by engagement, building trust and gaining commitment. Finally, internal and external facilitators can only succeed in driving change with the visible involvement of leaders and key individuals.

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Self-Examination: in your organisation

- To what extent have imperatives for transformational change been clearly set out and agreed?
- How has the gap between the organisation's 'current state' and 'destination' been articulated?
- Has a set of principles and values been agreed, to form an enduring foundation for transformation?
- To what extent are leaders committed to devoting time and effort, to building knowledge, understanding and skills in practices that drive change?
- To what extent have leaders developed a capability for change through the organisation?

Exploration: inspiring stories around Transformation

- W.E.Deming: Out of the Crisis (or others)
- Shoji Shiba: Breakthrough Management
- Jim Collins: Good to Great
- Peter Scholtes: The Leaders Handbook

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People, Culture, Leadership and Management

These are four critical elements of MoSO; People, Culture, Leadership and Management, which permeate the organisation's operation.

PEOPLE - in any organisation:

- The customers for products or services are people
- The vision is provided by people
- People do the work – and improve things
- People need to be engaged – they have a need, as does the organisation!
- Understanding what goes on in any organisation – or outside it – requires an understanding of every aspect of the way people do, and don't, work together.

CULTURE

'*The way we do things round here'* is a simple description of culture – yet we need to look below the surface if we are to work with culture – as opposed to being frustrated by its seeming intransigence! Organisation culture has been described as the emergent result of the continuing negotiations about values, meanings and proprieties between the members of that organisation and with its environment. .

LEADERSHIP

Leadership is the capacity to release the collective intelligence and insight of groups and organisations. It helps people to find their own answers. There are things that leaders need to know in order to be credible but there are moments when leaders need to say 'I don't know' if others are to confront difficult issues and learn how to overcome them. Leadership – by each individual or as a group – has responsibility for creating both the vision to see beyond today's difficulties, and a culture which will sustain the organisation for the longer term.

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MANAGEMENT

Managers must understand, take responsibility for, and ensure implementation of the daily work of the organisation. Quality is determined by top management. It cannot be delegated. Make the work 'work'. Develop a system of management that will ensure pride in achievement for everyone. Give people joy in work. If organisations look after their people, those people will look after the customers

MISCONCEPTIONS

- We are all, in essence, Economic Man - yet underlying economic trade-off calculation is a judgement: short-term gains versus long-term gains to society.
- Corporations exist to maximise shareholder value - economic decisions create social consequences, damaging customers is the cardinal sin, an act of self-harm.
- Corporations require 'Heroic Leaders', but will they be around to pick up the pieces?
- The effective organisation is lean and mean, so where is the loyalty and security covenant?

Self-Examination: in your organisation:

- Describe the leadership style and culture in your organisation; what would you like to be different?
- Where is responsibility for designing 'the system', what influence do you have?
- Where might you help and how can you engage with and encourage others to do likewise?

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Exploration: inspiring stories around People, Culture, Leadership & Management

- Living Leadership – a practical guide for ordinary heroes, Binney, Wilke & Williams 2005 Prentice Hall
- What motivates people... really? (RSA Animate): http://www.youtube.com/watch?v=u6XAPnuFjJc
- Creating business culture (TEDx): http://www.youtube.com/watch?v=wzicXbnmllc
- https://www.linkedin.com/pulse/eradicate-victimitis-virus-new-definition-create-davis-balestracci/, Eradicate "Victimitis Virus": create a culture that yields results instead of excuses, tackling 'accountability'; David Balestracci
- https://bakerstreetpublishing.com/blog/2012/05/20/decision-coaching-3-0-what-happened-to-the-puritan-gift/, Decision Coaching 3.0: What Happened to the Puritan Gift; Dr Stephen Barrager
- https://www.reinventing.work/resources, resources for practitioners interested in progressive, new ways of working, organising and managing
- https://www.youtube.com/watch?v=uN2CQe7V61E, Vanguard Method
- http://simoncaulkin.com/, The Observer (newspaper) management column archive, Simon Caulkin
- https://www.toyotauk.com/how-we-manufacture/toyota-production-system.html, Toyota Production System (UK company web site)
- https://www.toyotauk.com/how-we-manufacture/quality.html, Toyota Production System; (global company TPS web site)
- https://youtu.be/vcG_Pmt_Ny4, "If Japan can, why can't we?"; 76-min, 1980 programme on Deming channel
- http://www.qla.com.au/papers/the-germ-theory-of-management/2112871002, Myron Tribus on "The Germ theory of management"; insightful paper on adopting Deming's work
- https://duxacademy.duxinaroe.com/courses/tps-handbook-1973, Translation of original Ohno TPS manual & OMCD in 1973, Mark Warren (ed.)

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Values

Values (including ethics) apply to actions, behaviours, and conduct; they are relevant to individuals and organisations. Values can be thought of as representing what the people in the organisation stand for.
Organisations may develop a set of values to provide guidance on what is good, desirable, or ethical behaviour. Organisations do not operate in a vacuum, but in a social and natural environment; so are duty bound to be accountable to that environment, irrespective of the demands and pressures upon them.

The need for, or efficacy of, values in an organisation is disputed. For example, Milton Friedman held that corporations are amoral and that CEOs have only one duty: to maximise profits. However, Peter Drucker observed that the ultimate responsibility of company directors is "to do no harm". Everybody is a member of society, so how can it be acceptable to behave in an ethical, principled way as a partner in a relationship, as a parent or in community, and then act in a selfish or immoral way when working for an organisation?

Some organisations use values to strengthen a corporate identity (values reflected in the brand), for compliance reasons, or to limit legal liability. A common problem is where organisations allow a disconnection between their published code of values and actual practices. This puts individuals in difficult situations, making them feel as though they have to choose between their conscience and a job or career. How can employees be held to, or be expected to apply, the stated values in such situations?

An effective values policy that employees can understand and perform would have:

- Unequivocal support of top management, by both word and example.
- Involvement of stakeholders, especially employees, in values development.
- Explanations in writing and orally, with periodic reinforcement.
- Monitoring for compliance and improvement.
- Clearly stated consequences in the case of non-compliance.
- Consistency in the long haul, even as markets, strategies and goals change.

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There are values that could be listed by most organisations, such as: honesty, integrity, trustworthiness and respect. However, our focus is to ask whether there are additional values specifically to support a 'sustainable organisation' and to articulate why. Some possible examples are listed below as a basis for discussion:

- Customers can count on us
- Openness to learning
- Transparency
- Sharing success equally
- Respect for the environment in which we live and work.

Self-Examination: in your organisation

- How are values developed, expressed and monitored in your organisation?
- To what extent do your organisation's values engender the policy defined above?
- Do the organisation's reward systems, e.g. targets and bonuses, put its values at risk?

Exploration: inspiring stories around Values

- Why we need core values, TEDx talk: https://www.youtube.com/watch?v=EtLY7dYAOpo
- Built to Last; successful habits of visionary companies, James C.Collins and Jerry I.Porras, Harper

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Societal Influences and Learning

Organisations of all sorts interact routinely and naturally with the societies within which they operate. Commercial and industrial enterprises are required by many countries to consider a much wider range of their interactions with the society and environment in which they operate than has been traditional. This interaction is often expressed through Corporate Social Responsibility activity, but smaller organisations still need to consider their societal influences, in order to remain sustainable. These considerations include not only risk of damage to the physical environment, but also the economic, cultural and educational components of the hosting society. However, the current major concern about effect on climate change is paramount when considering the physical environment.

An organisation that works with all of its stakeholders (from employees, suppliers and customers to environmental groups and the wider society) to take positive initiatives for the environment, workforce, community and market place, will help ensure that it is sustainable - whether in the public (government), private (business) or voluntary (charity) sector.

Yet there is more to consider. Technology change comes in waves that hit hard and fast at an ever increasing frequency and with increasing potential for societal impact. For example, product life-cycles are measured in months rather than years. This requires special attention to learning from the third element of the PDSA (Plan-Do-Study-Act) cycle, from events, and then applying the learning effectively. Controlling change and its effects, by learning in this way is usually crucial to long-term sustainability.

- Skills, individual and organisational, acquired over years, can become redundant overnight.
- Methods of working, including management, need to adapt to new realities in ways that combine constancy and responsiveness in balance.
- Rapid learning requires a revolution in thinking – from ‘Secrets’ to ‘Sharing’ – to ‘Openness to learn and change’; including learning from outside the present sector.

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- Societal learning is network learning or learning from the network of companies, customers, suppliers, and others who are trying to improve the ways their companies function.

The timeframe is also important. Reactive approaches often drive short-term initiatives that do harm in the long term but were seen as essential at the time. These may be political and linked with gaining and exercising power - many societies display relevant examples of short-termism and the subversion of higher goals for personal and immediate gratification - or economic with cash flow or cost control taking priority. Sustainable organisations can balance these concerns and consider societal effects.

Self-Examination: in your organisation:

- In our organisation, how have we defined 'society', its cultural and historic background, and the elements of 'societal infrastructure' relevant to our organisation?
- To what extent do we understand relevant regulatory frameworks, and how does our 'corporate governance' give us assurance about our operational impact on the societies in which we operate?
- How do we aim to make ourselves a 'learning organisation'? Who do we expect to learn from, and how? How does this affect our approach to change?

Exploration: inspiring stories around Societal Influences and Learning:

- Social learning theory http://en.wikipedia.org/wiki/Social_learning_theory
- RSA Animate - Changing Education Paradigms, http://www.youtube.com/watch?v=zDZFcDGpL4U
- Ted talks – social learning theory, http://www.youtube.com/watch?v=NIlwGYY0_AA
- https://www.youtube.com/watch?v=aY3ZfCurdjs, Curiosity, Learning, Knowledge, and Improvement

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The Environment

"Be still as a mountain, flow like a great river" **Lao Tse**

Most of us derive satisfaction from doing a good job in an enjoyable environment. Management's primary role is to create an environment that encourages personal development, freedom and innovation; developing a culture of trust. To achieve such a culture each organisation needs to become a systemic, wisdom-based entity; a living organism that responds to environmental factors, and adapts, while also maintaining stability.

Many organisations fail to achieve a balance, they confuse stability (values / intent) with innovation (feedback), leading to constantly changing short-term imperatives and the neglect of feedback. They prioritise money over people and employ rigid thinking that politicises information, creating a short-term, short sighted internal 'climate' which inevitably leads to self-destruction. Organisations need to evolve in response to external environments; social, cultural, economic and natural. If not their relationship with stakeholders becomes conflict driven, employees are stifled and they damage the people and planet.

Systems Thinking, in dealing with the connectivity of organisations, recognises that systems operate in a way that is greater than the sum of individual parts. This helps to eliminate chaotic, apparently random results, enabling forward-looking, predictive organisations that employ 'consciousness' - based on assumptions that can be brought to light, studied and tested. Deming's principles recognise dependency of an organisation on its external environment - forward planning becomes balanced, manageable and sustainable, with emphasis on appropriate and timely information that allows efficiency and costs to be optimised.

Environment, nature and human nature

Nature operates on systemic feedback; it senses environmental aspects and responds continually, to remain in balance. A typical organisational focus on maxima (sales, profits) leads to incoherent information, which means decision making loses context and is based on false assumptions. Politically-driven solutions ignore root

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causes: they disempower, undermine collaboration, innovation and creativity; leading to individuals and teams subverting the system instead of contributing to sustainable solutions, because they don't 'own' the solutions.

An organisation that discharges toxic waste devalues its community and may cause irrevocable damage, poisoning or death. In a world alarmed about pollution and extinction, reputational damage can have impact more directly, speedily and expensively than ever before; it can affect consumer choice, investor support, and share value, generate punitive fines or lead to prosecution/imprisonment. Cost of waste or failure never disappears, but is often driven by short-term thinking and behaviour. Who pays for this waste – your future customers!

Psychology and environment

Fashion tends to work in paradigms and assumptions; 'Us and Them' or 'everyone thinks that', yet such assumptions and labelling are non-thinking. Any 'new' thinking is framed as a problem, instead of golden opportunities for improvement, and people who question are often 'labelled'. This saps the energy and talent of those who are driven by learning and improvement, wasting a critical resource - creativity and new thinking.

Theory X vs. Theory Y: Professor McGregor

Theory X, the "traditional view of direction and control" is based on an erroneous assumption that human beings dislike responsibility and avoid work. Most of us prefer to be treated responsibly, so an organisation run along Theory Y lines assumes people are self-motivated and prefer to exercise self-control; they respond positively to responsibility. People want to be good at what they do and to be recognised for it, this is rewarding for most of us. Extrinsic targets and bonuses are now discredited as 'performance enhancers'.

Poor managers use Theory X for managing others whilst claiming they respond more positively to Theory Y for themselves! Unfair target-based planning and use of reviews and bonuses to underpin performance are a root cause of division, self-interest and suppressing knowledge sharing.

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Theory X fosters fear, secrecy, mistrust, disrespect and unfairness – it begets outcomes, but not the ones expected; the assumptions behind this paradigm are so powerful and prevalent that they're embedded in organisations. Driving out fear is essential, and this demands organisational change, to a paradigm of system-based organic growth and optimisation.

For this to happen we must understand process variation. Waste represents cost; we know from Shewhart's thinking about variation how and where systems can be optimised. Systems Thinking focuses on basics, i.e. "*is what we are doing having the effect intended?*", and this requires monitoring, measurement and prediction.

Internal environment; organisation culture

Strategy, leadership and organisation combine to create an internal environment that shapes attitudes and creates outcomes – either liberating creativity and co-operation, or fostering division and fear, which inhibits change and progress. Critical thinking is necessary for development, and without this, political environments replace dialogue with discord and division.

Systems Thinking can be unleashed via holistic, long term and stable objectives and a rational, measurement-based approach, to develop organically (homeostatic) stable systems. MoSO provides a self-sustaining model which devolves responsibilities, empowers people, and removes bureaucracy. 'Rational prediction' is based on theory and systemic modelling, as is all scientific knowledge. This is essential when dealing with any system.

Deming's 9 principles juxtapose 'political' organisation by emphasising:

1. 'Co-opetition' over competition.
2. Interdependence over compartmentalisation.
3. Interdependence over disparate self-interest.
4. Information intensity over energy intensity.
5. Transformational opportunity over the cost of change.
6. Human adjustment to the environment over attempts to engineer the climate.

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7. Value-based change over appointment of an individual to push sustainability (or quality).
8. Managing the unquantifiable over managing what you measure.
9. Profit as a consequence of good management, not a goal in itself.

Management principles must apply first to 'environmental limits' in our own minds, driven by unconscious (unquestioned) assumptions. We need to recognise the limits of belief systems and question fundamental, cherished assumptions if we are to optimise outputs and improve - everyone has blind spots, few are aware of them; a messenger delivering bad news carries a blessing; we must learn how to use information wisely.

Self-Examination: in your organisation

- How does management empower the organisation to eliminate waste and what are we doing to share approaches, reduce costs and address common environmental concerns, i.e. zero-waste?
- What are we doing to focus on improving the system, rather than focussing on maxima or minima?
- To what extent do we encourage creative thinking, innovation and adoption of new ideas?
- How do we encourage feedback from all our organisation; what's its quality and frequency?
- How is our relationship with 'community'; do we recognise common good and mutual benefit?
- To what extent does everyone in the organisation support our environment and sustainability?

Exploration: inspiring stories around Environment

- Theory X and theory Y: http://en.wikipedia.org/wiki/Theory_X_and_theory_Y
- Deming on intrinsic motivation: http://www.youtube.com/watch?v=67B1DZlDTF4
- Understanding variation: http://www.youtube.com/watch?v=-uzKXgZGkco

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Sustainability

We are living in unprecedented times; as the drive for profits at all costs becomes a dominant theme organisations experience more and more difficulty in retaining customers and meeting financial objectives. Silent killers emerge resulting in the loss of the vital spark of which the most serious is neglecting customers. It may seem obvious that customer needs and satisfaction come first but losing focus in this arena happens to the best of organisations.

Senior management are responsible for the fitness of the enterprise system and on this Deming was clear. The elements of the system and their capabilities, as a whole and individually, determine long term success. People can and do make a difference, but the system always wins if left unchecked and unmanaged.

Sustainability is a balancing act of three principal elements: social, economic and ecological. All these elements need to be in balance as long term success cannot be achieved in one area at the expense of the others.

Enterprises are finding customer retention to be a harder and harder task as customers seek more purpose and greater value in their purchases. Trading on price alone is not a solution. And it is the customer that determines quality and value for money, not the supplier. This can be expressed in the Kano model:

Kano Model

In order to grow, businesses need to have empathy with the way customers perceive, use and attribute value to their products and/or services.

Customers perceive products and services in ways not always envisaged by the producer.

Customer expectations of the Value/Price element of a product or service constantly rise.

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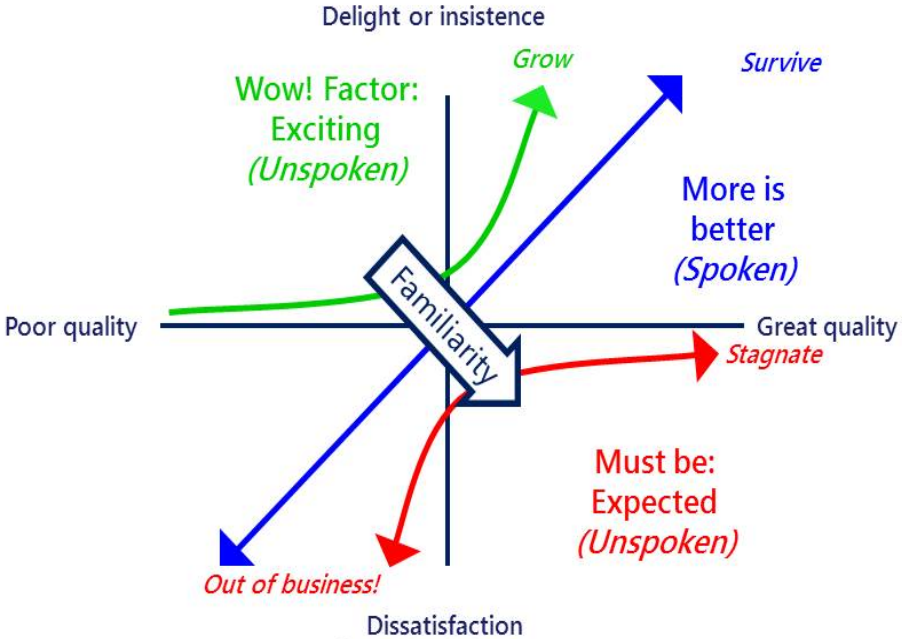
To grow the organisation top management must strive to deliver more and more real value to their customers at acceptable price points.



For more on this subject see **MoSO Customers**.

Sustainability is the ability to *"extend the useful life of an enterprise so that it contributes resources to achieve the enterprise's and society's environmental, social and economic goals".*

The elements of sustainability (and its opposing forces) can be described as:

- Fundamentals for sustainability
- Forces of Destruction
- Silent Killers
- Enterprise Fitness and Capabilities

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These elements can be detailed in the following table:

Fundamentals for Sustainability	Forces of Destruction	Silent Killers	Enterprise	
			Fitness	Capabilities
Putting customer first Quality is job No. 1 Devolution of leadership Avoidance of the forces of destruction Good enough is never enough in the search for the competitive edge. Keeping the culture agile and achieving constant renewal Maximising the enterprise's capabilities	Takeovers or 'buyouts' funded by large borrowings Asset stripping Bonus payments that are assumed to be the way to obtain performance Obsession with direct labour costs Obsession with costs whilst ignoring the underlying system and its effect on the organisation. Appraisal systems	Customer neglect Unclear strategy and/or conflicting priority An ineffective management team Command and control style of management Poor vertical communication Poor co-ordination across functions Insufficient leadership skills from top to bottom	Systems thinking Leadership team Vision, values and mission that crucially feature quality and quality management HR system focuses on "People at the heart of everything"	Co-ordination Human competences Innovation and continual improvement Capacity and delivery system Knowledge learning, transfer and management Training Education Self-improvement

Achieving these requires leadership throughout the organisation and particularly by top management. It also requires a management style transformed from the typical Western management style or at least the Anglo-American to one of customer-first, at all levels of the organisation.

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Self-Examination: in your organisation:

- How can you measure the viability of your organisation? If so what insights arise from that?
- How would you rate the fitness and capabilities of your organisation against the items above?
- Which, if any, silent killers, stalk your organisation, and what are you doing about them?

Exploration: inspiring stories around Sustainability

- The wisdom of Dr Deming: http://www.youtube.com/watch?v=8jc5fDsgVw0
- The humour of Dr Deming: http://www.youtube.com/watch?v=mCkTy-RUNbw
- Out of the Crisis, W.Edwards Deming, 1986
- Good to Great: Why Some Companies Make the Leap … and Others Don't, Jim Collins, 2001
- Breakthrough Management, Shoji Shiba and David Walden, 2006

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Systems Thinking

Today's complex and fast-changing global economy presents a challenge to managers of businesses and other organisations. Just to remain in existence in recent times has been a challenge with the average life of public companies dramatically reducing to little more than a decade.

Achieving sustainable success in these conditions requires a radically different way of managing compared with business-as-usual (BAU) thinking. The field of **Systems Thinking** has long been recognised by many leading management thinkers, including Deming, Senge, Ackoff and Beer, as providing a core part of that radically different way to think about managing.

Concepts

Any entity made up from component parts within a stated boundary is termed a **system**. The human body and motor vehicles are examples of systems as are all companies, public sector and not-for-profit organisations. A fundamental characteristic of a system is **it can do things that the component parts cannot do individually**. Systems thinking takes into account the complete organisation and the whole of its operating environment. It means stepping back from the detail and looking at the **bigger picture** of influences on and the consequences emerging from the organisation. Everything inside and outside **interacts** to a greater or lesser extent. Sometimes even very small interactions can have large effects on performance and consequences.

Managing an organisation systemically requires all the parts to be aligned and collaboratively **work together** to achieve a common **purpose**. That purpose is to serve customers, consumers, users, etc. with products or services that enable them to do the jobs they need to do. This goes beyond just supplying customer needs; it covers the end-to-end **Total Customer Experience** (TCE). Systems thinking encourages everyone to work together throughout the TCE to maximise their input to the value flow and minimise waste. **Profit** is a consequence of doing these things right; not an end in itself.

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The Competitive Advantages of Systems Thinking

Central Ideas - consistently managing and working using systems thinking in a business and any other type of organisation yields huge competitive advantages, including:

- Greater ability to be sustainably successful in a fast-changing world
- Ever-better total customer experience
- Ever-better product and service quality
- Faster delivery and response to customers, including shorter process end-to-end times
- Less cost, less energy, less raw material, less damage to the natural environment

Supporting Ideas

- Greater customer satisfaction leading to higher demand
- Better ability to continually improve and innovate
- Less waste of time, duplication, etc. hence lower costs
- Better financial performance and, where applicable, better shareholder returns
- Increased longevity of the business or any organisation
- Improved understanding and management of risks
- Foundation for an effective learning organisation
- More effective decision making and organisation design and development
- Greater resilience in the face of unpredictable changes in the operating environment
- Lower impact on the environment
- Better learning environment
- Greater fulfilment and happiness for everyone in the organisation

Key Quotes

"Systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static 'snapshots.' It is a set of general principles. During the last

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thirty years, these tools have been applied to understand a wide range of corporate, urban, regional, economic, political, ecological, and even psychological systems. And systems thinking is a sensibility - for the subtle interconnectedness that gives living systems their unique character."
Peter Senge, author of The Fifth Discipline

"A system is a whole made up of parts. Each part can affect the way other parts work and the way all parts work together will determine how well the system works. This is a fundamental challenge to traditional management thinking. Traditionally we have learned to manage an organisation by managing its separate pieces (sales, marketing, production, logistics, service, etc.). Managing in this way always causes sub-optimization; parts achieve their goals at the expense of the whole. Only changing the system solves the problem."
John Seddon, Vanguard...The Toyota System for Service Organisations

The Three Key Disciplines of Systems Thinking

In order to realise the benefits of thinking systemically, managers must work at three disciplines:

1. System Aims

Every organisation needs a clear basis for everyone to work together. These aims include written shared values in action, purpose and compelling vision of an ideal future. There must be a plan to move you closer to that ideal future.

2. Customer Focus

"The consumer is the most important part of the production line"
W Edwards Deming, Out of the Crisis, 1986, p5

At the heart of this is the end-to end TCE that delivers both customer needs and more practically enables them to do the jobs they need to be done. Critically this means building relationships that enable you to listen to the **Voice of the Customer** and accept feedback without denial.

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3. Managing a System

At its heart applying systems thinking means people working together – something like an orchestra or a soccer team. Structures and working practices must be in place that facilitate this. Visual descriptions are powerful ways to understand organisational relationships, interactions and the consequences that flow from these.

Ways to do this include MoSO itself at a meta-level, the Viable System Model, the Flow & Feedback Diagram and tools such as swim-lane process flowcharts.

Recognise these System Influences using MoSO

- Processes
- Culture - internal and external
- Policy
- Authority hierarchies
- People – particularly their beliefs
- Communications and information sub-systems
- Capital equipment and real estate (property)

Things to do to Get/Deliver the outcomes you want

- Co-operation – engagement autonomy
- Open up **two-way** communications – managers listening actively
- Avoiding judgement
- Use consumer/end user data … and in-process data
- Use charting techniques
- Control Charts/Process Behaviour Charts/iCharts
- Anyone may take the leadership role

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The Key Challenges, Practical Problems & Issues of Systems Thinking

The challenges for managers in all organisations are:

- overcoming the conditioning of "management myths" (ideas about what managers and those in their teams should do),
- being sucked into the detail so that they can step back to look at the bigger picture,
- using social and political "science", rational inquiry to obtain evidence that can reveal the underlying patterns at work.

Bottom Line

The complex and fast-changing global economy is a challenge for managers in every type of organisation. This means managing to provide customers with ever-better quality, faster, for less, which requires a plan to support daily work and improvement that will move you from where you are now towards your vision of a sustainably successful future.

Every organisation needs a clear basis for everyone to work together. A powerful way to do this is to clearly state a purpose that clarifies what it does, as well as what it does not do. Clearly stating the organisation's purpose builds a sound foundation for the Total Customer Experience.

A sound organisation sustains itself and grows intelligently.

The primary purpose of businesses for example is to CREATE CUSTOMERS for their products or services, and provide them with ever-better value throughout their total experience of the product or service.

PROFIT is an outcome from doing these things right. This means everything working together through the total customer experience so that value flows easily to customers.

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Self-Examination: in your organisation:

- What current challenge has brought you here?
- To what extent do senior management understand and apply systems thinking?
- Is there a written statement of systemic aims including shared values, purpose and compelling vision?
- Is there a strategic planning process that includes feedback from all levels of the organisation?
- What visual means do you use to understand the relationships and interactions in your organisation?

Exploration: inspiring stories around Systems Thinking

- Peter M. Senge (2006) The Fifth Discipline - The Art & Practice of The Learning Organisation: Second Edition. (Random House Business) ISBN-10: 1905211201 (Core text)
- Russell L. Ackoff (1999) Ackoff's Best: Classic Writings on Management. (Wiley) ISBN 0-471-31634-2
- Brian Wilson (2001) Soft Systems Methodology. (Wiley) ISBN 0-471-89489-3
- Stafford Beer (1994) Heart of Enterprise (Wiley) ISBN-10: 0471948373
- Alan Clark (2007) Picture Your Business: the way to extraordinary performance and quality. (Word4Word) ISBN 978-09551677-5-1
- John Seddon (2008) Systems Thinking in the Public Sector. (Triarchy Press) ISBN 978-0-9550081-8-4
- Patrick Hoverstadt, (2008) Fractal Organisation, (Wiley) ISBN 978-0-470-06056-8
- Systems Theory WIKI: http://en.wikipedia.org/wiki/Systems_thinking
- https://www.youtube.com/watch?v=EbLh7rZ3rhU&t=48s, Systems Thinking; Russell Ackoff
- https://www.youtube.com/watch?v=GcC4jISczjQ, Vanguard's John Seddon presenting "Systems Thinking for Service Organisations"
- https://youtu.be/IJxWoZJAD8k, Systems Thinking: Russell Ackoff on thinking about systems, at In2In in California

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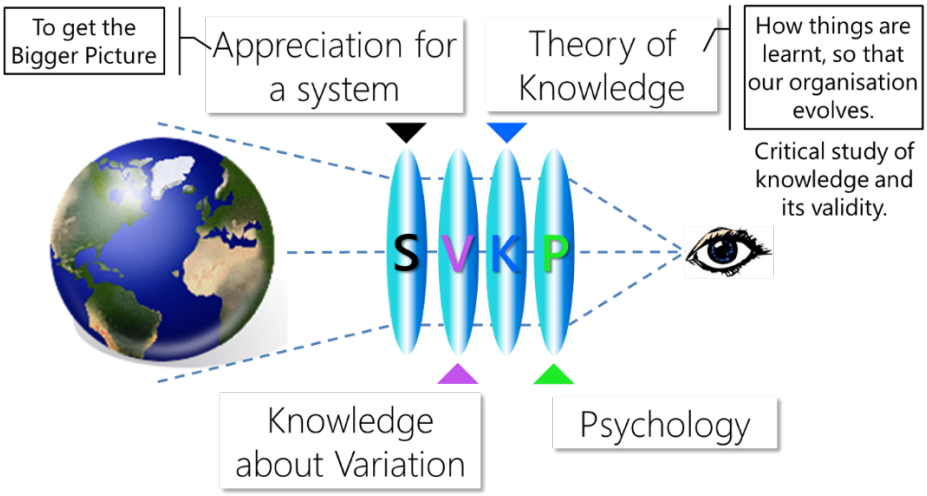
System of Profound Knowledge

The system of profound knowledge is a thought process we can use to help us understand: the world in which we live, the family to which we belong, as well as the organisation and team in which we work. It views organisations through four interactive lenses: system, variation, knowledge and psychology (SVKP).



Appreciation of a System

Organisational systems typically have an aim; or they produce negative, ineffectual action, or collapse. A system is a network of interdependent components working together, such as an orchestra. Lack of appreciation of a system leads to silo thinking and sub-optimisation of its elements. Failing to recognise a system can be described as “the law of unintended consequences”.

Appreciation of a system includes understanding relations between the organisation and its environment; it may be supported by process diagrams to raise awareness of how the organisation’s people, applications, machines, customers and suppliers contribute, interact or influence the achievement of the organisation.

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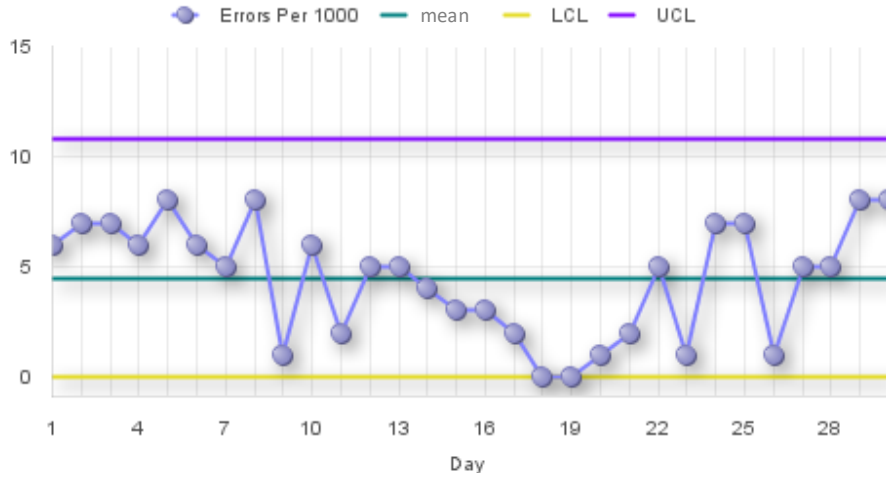
Knowledge of Variation

Knowledge of variation and measurement allows us to predict outcomes. Any process can be recorded and plotted on a process behaviour chart, to show changes over time to help identify what affected the process. By analysing the data, average (mean) and range results can be plotted and upper and lower control limits can be calculated. This is the voice of the process/system and can be used for a number of purposes:

- Points recorded within the process upper control limit (UCL) and lower control limit (LCL) indicate normal causes within a stable process.
- Points recorded outside process (control) limits indicate special causes, either localised in either time or sequence; these should be investigated and removed, to make the process stable and predictable.



Each next individual point cannot be predicted, but the average (mean) and 'range' between each data point and the next can. If plotted for a process behaving normally, the range stays within limits also. Results can be compared with what customers want, which may or may not be expressed as a specification. If a different average or smaller output range is required, your process has to be improved. Nothing else will help!

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Tampering (adjusting a stable process) can increase undesirable variability, and a lack of appreciation of the difference between special and common cause leads to incorrect and disruptive actions.

Theory of Knowledge

Theory is a necessary framework to apply reasoning, it must be tested for its ability to predict and its usefulness. The Plan-Do-Study-Act (PDSA) cycle is a short, focussed version of applied scientific method that can be used to test theory and data in stable systems. Be clear about meeting specified requirements. If a product or service fails to meet requirements, it must be corrected before a customer will accept it. You must also improve the process to prevent the problem recurring, or your system will never be stable.

Warning: common-sense can be counter-intuitive, or alternatively counter-productive. Operationally meaningful definitions can be written and used to test concepts against set criteria; reducing variety between people who have to use a concept. Where necessary, these definitions can be improved using PDSA.

Psychology

Humans can be motivated by any combination of extrinsic stimuli, e.g. reward, punishment, money, fear, but there can be unintended consequences. Intrinsic stimuli, such as self-regard, desire for learning, or pride in workmanship are more effective at driving better performance.

Interactions - the four aspects of the System of Profound Knowledge can interact in a number of ways that need to be recognised, and actively considered when designing or changing any organisational system, for example:

- **Psychology and System** – Failing to use strengths/opportunities arising from interdependence of people.
- **Psychology and Variation** - Ranking people without understanding variation. Setting performance targets without understanding differences between average and extreme values.

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- **Psychology and Theory of Knowledge** - People learn in different ways. In the absence of Operational Definitions, people ascribe different meanings to words (or situations).
- **Theory of Knowledge and System** – Failing to apply learning to a whole system; applying to one component only.
- **Theory of Knowledge and Variation** – Curtailing 'study' in PDSA, due to lack of appreciation of variation.
- **Variation and System** – Process charting only a part of a system, does not deliver full benefits. Failing to recognise that wrongly timed 'feedback' increases variability.

Self-Examination: in your organisation:

- To what extent do you your processes support the organisation's aims, or frustrate them?
- How do you measure variability in performance; which of your processes are stable and predictable?
- How do you solve problems, establish improvements and motivate your people?

Exploration: inspiring stories around System of Profound Knowledge

- Control charts and variation: http://www.youtube.com/watch?v=RYMIcEOh5M8
- Deming: http://en.wikipedia.org/wiki/W._Edwards_Deming
- Motivation: https://www.youtube.com/watch?v=HBW1_GhRKTA&list=PL8E522DD542C4CA69&index=1
- Profound Knowledge - understanding systems: http://www.youtube.com/watch?v=1CQgCGXUXD0
- https://www.youtube.com/watch?v=bu7JMAQggfo&t=2s, Implementing the Deming Philosophy. N.B. 1994 picture quality, but includes Russell Ackoff.

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