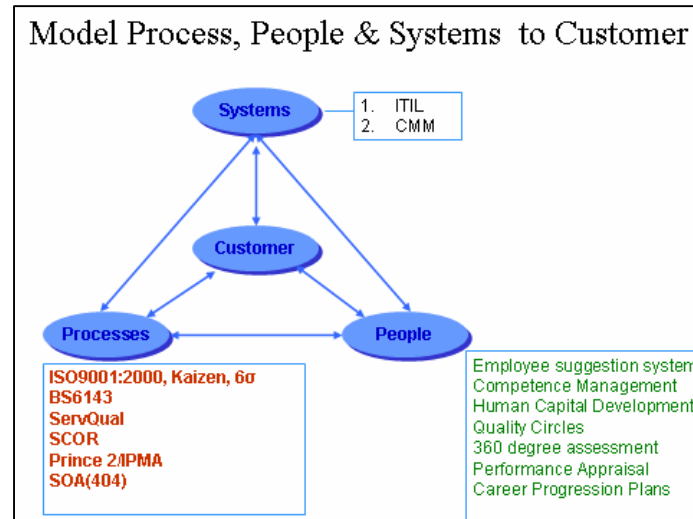


Introduction: The proposed model¹ as seen in Fig 1. can be viewed in relation to an Ishikawa² diagram to some extent. An Ishikawa diagram refers to the 5M's (Man, Machine, Material, Method, Measurement), and how they contribute as causes to finding the balance between quality, cost and delivery. The proposed model focuses on Man, Machine and Method, specifically related to how well they are tuned to the customer.



Systems refers to machines, whether they be production machines (time to delivery to customer) or computer systems (time to delivery of information to customer). When referring to systems I mean computer systems, which typically consist of hardware components, infrastructure (data networks), and software components (core business applications for internal use and business applications to display information to the customer). One could use standardized industry frameworks or methodologies like ITIL³ for the Infrastructure and Operations part of IT, and the Capability Maturity Model (CMM)⁴ for Application development. If well implemented and applied, this should certainly help to enhance this specific dimension.

Processes refers to normal business activities like selling, taking orders from customers, placing orders with vendors, receiving of goods, delivery of goods, charging customers for those goods, paying vendors for the goods they delivered, calculating the effect of such actions, and describing all this in clear text or diagrams (normally referred to as flow charts). The clear text or diagrams can then be translated into detailed work instructions. One could use standardized industry frameworks or methodologies like ISO9001:2000⁵, Kaizen⁶, 6σ⁷, BS6143⁸, ServQual⁹, SCOR⁹, Prince/2¹⁰, IPMA¹¹ or Sarbanes Oxley Act(SOA)¹² 404. If well implemented and applied, this should certainly help to enhance this specific dimension.

People refers to the human beings who define said processes, and the human beings who follow the work instructions in order to perform the daily activities in a company. Because people are human, they all have specific attributes like being motivated (or not), being healthy (or not), they are leaders (or not), they are knowledgeable (or not), they are skilled (or not). This means that there are many parameters that a human resource manager and the line managers need to take into account. If people are not functioning optimally because of any of these attributes, the processes might fail.

One could use standardized industry frameworks or methodologies like Employee Suggestion systems, Competence Management, Human Capital Development, Quality Circles, 360 degree assessments, Performance Appraisals, Career Progression Plans. If well implemented and applied, this should certainly help to enhance the specific dimension.

The Problem

The model is about finding a balance within each dimension and in parallel, finding a balance between the three dimensions. While doing so, one should ensure that whatever the balance might be in each individual dimension and the balance between dimensions, it should be well positioned so as to offer the customer good service, in terms of quality of product, price and delivery.

It is often quite difficult for a company to find a balance within 1 or more of the 3 dimensions, let alone balancing the three. Even if a company were to achieve a perfect balance between the three, it might still be internally focused, which is not to say that it puts the customer first, or that the customer will sense if the company's processes, systems and people are well in balance. This might have the effect that it reduces the company's cost structure due to higher efficiencies, but in the long run, it does not necessarily guarantee sustainable profitability.

The Solution(from a Process point of view, which is my focus area)

I believe a company faces several phases of process maturity and quality as illustrated in Fig.2 .



A smaller company typically starts out with distinct functions like Purchasing, Sales, Accounting and Logistics. While the company is still small, and not too complex, the founder is generally able to manage all these functions. Problems arise when a company starts to grow, and it becomes difficult to oversee all the various functional aspects. This is typically the right time for a company to move from a functionally driven approach to a process driven approach. ISO9001:2000 helps a company to identify its key processes and as a result to identify key projects or action plans to improve these processes. It can be applied as a framework, even if companies choose not to go for the certification. *To such companies, I offer my services - either providing advice, or leading projects to implement given advice; guiding the company to change from a functionally driven approach to a process driven approach.*

Even when companies have moved on to a process driven approach, e.g. companies that have implemented ISO9001:2000(or a similar quality management framework), processes could still be improved, optimized or re-designed. Kaizen(Japanese Quality Management Framework) can be used as a framework. In the classical 80/20 rule, this should take care of 80% of a company's processes.

To such companies, I offer my services advising them how to improve processes.

Companies typically reach a stage where, even if they are process driven and they have used all the techniques to improve their processes, there are still deviations in their processes (the 'other' 20%). The Six Sigma methods can be used to reduce process deviations.

To such companies, I offer my services of how to reduce /eliminate deviations in their processes.

Larger companies that are listed on the Stock Exchange in the USA, either directly, or indirectly (as a subsidiary), need to be compliant to the Sarbanes Oxley Act(SOA). Becoming compliant is an excellent start for companies to identify and describe their key business processes and associated business risks. Once they have reached the first year of compliancy, the dilemma they face is whether they want to earn back the benefits over the costs incurred, or whether they simply want to maintain compliance. For those companies that want to earn back the benefits, a logical choice could be to follow the steps as described under the path for smaller companies, i.e. ISO9001:2000, Kaizen and Six Sigma.

To summarize, depending on the maturity of the client (company) in terms of its processes, I have the knowledge and experience to advise clients how to go through the various phases, whether it be SOA, ISO, Kaizen or Six Sigma.

¹ Presented by Professor Peter Naude, from the Manchester Business School.

² A cause and effect diagram, also called a Fishbone diagram, it was first used by Professor Kaoru Ishikawa in the 1960's.

³ IT Infrastructure Library® (ITIL) is the most widely accepted approach to IT service management in the world. ITIL provides a cohesive set of best practice, drawn from the public and private sectors internationally. It is supported by a comprehensive qualifications scheme, accredited training organisations, and implementation and assessment tools. The best practice processes promoted in ITIL support and are supported by, the British Standards Institution's standard for IT Service Management (BS15000). ITIL was developed by the British OGC (Office of Government Commerce), which is an independent office of the Treasury

⁴ This maturity framework was adapted to the software process by Ron Radice and his colleagues, working under the direction of Watts Humphrey at IBM [Radice85]. Humphrey brought this maturity framework to the Software Engineering Institute in 1986, added the concept of maturity levels, and developed the foundation for its current use throughout the software industry. Early versions of Humphrey's maturity framework are described in SEI technical reports [Humphrey87a, Humphrey87b], papers [Humphrey88], and in his book, *Managing the Software Process* [Humphrey89]. A preliminary maturity questionnaire [Humphrey87b] was released in 1987 as a tool to provide organizations with a way to characterize the maturity of their software processes. Two methods, software process assessment and software capability evaluation, were developed to appraise software process maturity in 1987. Since 1990, the SEI, with the help of many people from government and industry, has further expanded and refined the model based on several years of experience in its application to software process improvement. The CMM provides a framework for organizing these evolutionary steps into five maturity levels that lay successive foundations for continuous process improvement.

⁵ The ISO 9000 family is primarily concerned with "quality management". This means what the organization does to fulfil: the customer's quality requirements, and applicable regulatory requirements, while aiming to enhance customer satisfaction, and achieve continual improvement of its performance in pursuit of these objectives.

⁶ Named by Masaaki Imai, a business philosophy of making continuous improvement and enhancements in business processes to cost effectively and reliably achieve incremental increases in productivity, quality and profit margin.

⁷ Six Sigma™ is a rigorous and disciplined methodology that uses data and statistical analysis to measure and improve a company's operational performance by identifying and eliminating "defects" in manufacturing and service-related processes. Commonly defined as 3.4 defects per million opportunities, Six Sigma can be defined and understood at three distinct levels: metric, methodology and philosophy. It was originally developed by a Motorola engineer named Bill Smith.

⁸ British Standards of Industry has standard 6143, which describes the economics of quality in a process, with specific reference to prevention costs, appraisal costs and failure costs.

⁹ Originally developed by the Supply Chain Council. SCOR is a management tool. It is a process reference model for supply-chain management, spanning from the supplier's supplier to the customer's customer. The SCOR-model has been developed to describe the business activities associated with all phases of satisfying a customer's demand. By describing supply chains using process building blocks, the Model can be used to describe supply chains that are very simple or very complex using a common set of definitions. As a result, disparate industries can be linked to describe the depth and breadth of virtually any supply chain.

¹⁰ PRINCE2 (like ITIL, developed by the British OGC) is a project management method designed to provide a framework covering the wide variety of disciplines and activities required within a project. The focus throughout PRINCE2 is on the Business Case, which describes the rationale and business justification for the project. The Business Case drives all the project management processes, from initial project set-up through to successful finish.

¹¹ The IPMA (International Project Management Association) is a non-profit Swiss registered organisation whose membership is comprised primarily of national project management associations throughout the world. Organizations continue to adopt, value and utilize project management.

¹² Named after sponsors Senator Paul Sarbanes (D-Md.) and Representative Michael G. Oxley (R-Oh.), A new act passed by the USA federal law. Section 404 describes a requirement that public companies evaluate and disclose the effectiveness of their internal controls as they relate to financial reporting, and that independent auditors for such companies "attest" (i.e., agree, or qualify) to such disclosure