

Ian ponders ... hot models, sausages and internal auditing

Recently the media launched into our Prime Minister for referring to a famous British actress and model as "hot". When the Leader of the Opposition concurred I was relieved, not only because I shared the PM's assertion. Notwithstanding their promotional hue it seemed blue blood was indeed flowing in the veins of our political left. Not only that, but it was a relief to see such a useless item being headlined amongst the usual fare of violence and once-a-century disasters. And, (here's the segue) it reminded me of Dr Deming's famous remark that "all models are wrong, some are useful!"

Why is modelling important to us?

In the contexts of designing, implementing, auditing, and improving a quality management system (QMS), I can think of two answers to this question. The first relates to focus and communication. If we can create a simple image of the QMS and what it's there for, we get a head start on 'buy-in' from those who have to implement it. After all, cooks who understand and take on board how cooking processes really work are much more likely to produce better meals than those who trudge through recipes. The second reason is meeting the first substantive requirement in ISO 9001, which remains the internationally agreed minimum specification for a QMS. ISO 9001/4.1 a) and b) say "The organisation shall determine the processes needed for the QMS, their application throughout and determine their sequence and interaction". Developing a model is a smart way to do this. Here are three models that I use at the moment.

1. ISO 9001

This model (Figure 1) is based on the assertion that customer satisfaction is the only outcome worthy of consideration in a QMS. It's easy to use as the basis for effective external assessment because ISO 9001's section headings are the ostensibly PDCA (plan, do, check, act)-based loop in the middle.

It suffers from difficulties in interpretation because it doesn't really show how business is done. Accordingly QMSs designed to meet only this model end up side-lined because ISO 9001 has always been about how to validate a delivery system. It's much more a test routine for a QMS than a full design spec. For example, it says nothing about meeting owner and staff expectations, both of which are the foundations upon which meeting customer expectations are built. Business owners are there to make a profit and staff are there to earn a living.

It's worthy of note here that ISO 9004:2009 addresses this shortcoming to some extent. However, it uses an amended (clumsy) version of Figure 1 but is an excellent resource on business sustainability.

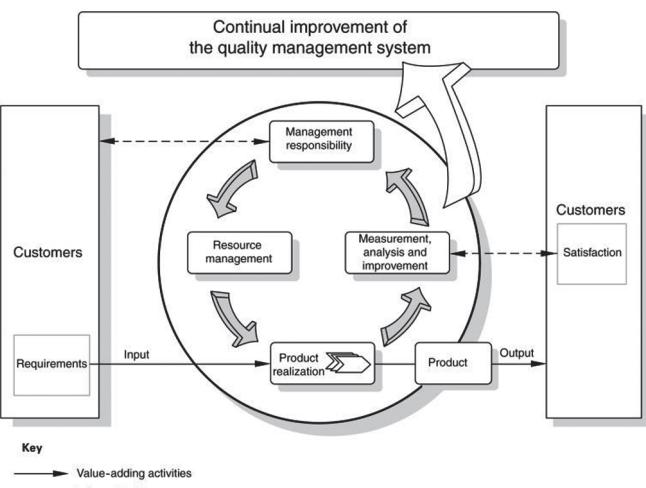


Figure 1: Model of ISO 9001.

Hence I don't accept that the ISO 9001 model is capable of satisfying its own requirements at clauses 4.1 a) and b).

2. The sausage machine



Figure 2: The sausage machine.

I developed this model (Figure 2) nearly 10 years ago in response to an organisation-wide dislike for the ISO 9001 model above and the need for a more holistic view.

This model capitalises on ISO 9001's claim to be based on Dr Deming's PDCA model and is all about how stakeholder expectations (customers, staff, owners) at top left are converted into deliverable services and products at bottom right. It's a sausage machine, a delivery model, in other words, a network of systems that reflect how business is done; or ought to be, anyway!

The model is business outcome driven, based on the contention that business performance is maximised when all three major stakeholders' expectations are met at the same time. It also recognises the role of 'Governance' and its inevitable constraints as a brake that affects planning.

Having said that, it asserts that when it comes to how an organisation works, reviewing what is required and making

decisions accordingly are the starting points. Hence it runs APDC rather than PDCA. It also illustrates that the continual improvement system impacts all the series systems in the loop simultaneously; a change in one corner has ramifications in all four or the overall system goes out of balance. ISO 9001 completely misses this point.

The sausage machine comes into its own when it is applied to a single product or service so that each box lists specific processes and procedures and there is data associated with each arrow. In this way the total QMS becomes layer on layer – each one dealing with a single deliverable, whether that's a product or service for a customer, pay and conditions for a staff member or a dividend for a shareholder. The model also sets up a great template for quality planning.

Whilst it makes a better fist of addressing ISO 9001/4.1 a) and b) than Figure 1, it suffers from having little to do with organisational structure and hierarchies. Although the purist QA nerds among us (like me) are content to separate outcome-biased systems from organisationally-biased systems, the reality is that it's devotees of the latter who hold both the tiller and the purse strings in most organisations, so there's a likelihood this model may be just outside their comfort zone.

3. Internal audit

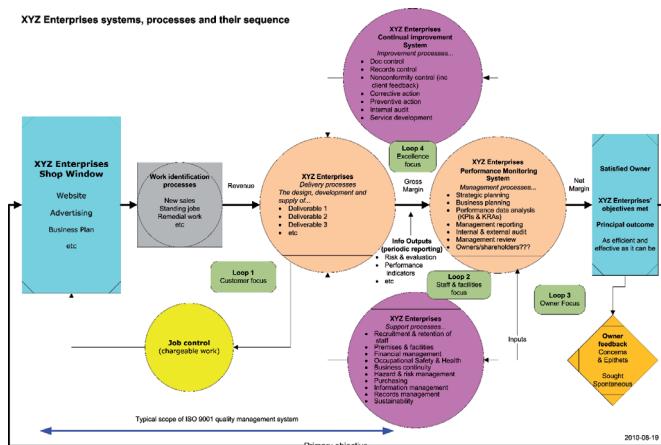


Figure 3: Internal Audit model .

I developed this model (Figure 3) about a year ago in search of a means to conveniently describe a quality system based on meeting the expectations of the three principal stakeholders. This model specifically addresses ISO 9001/4.1 a) and b) when viewed from within the organisation. It is an internal audit model in the first instance, showing how business was done.

Like the sausage machine, the model is outcome driven, with the focus on the owner, and where the organisation's deliverables are the means for satisfying the owner's expectations. It works well as both a model for internal auditing and as a template for developing or re-configuring an existing system. It acknowledges four feedback loops within a primary objective loop, so to some extent it backs away from customer satisfaction as the be-all and end-all. Granted, customer focus is paramount because, as the old saying goes, "all business problems are solved by increased sales". The point is that this holds good only for sales that include an adequate margin!

This model can be used as a template for a quality plan when specifics are entered deliverable by deliverable and data sets are developed for the linking arrows.

In summary ...

Models help with visualisation, communication and meeting ISO 9001's requirements for identification of processes, their sequence and interaction. Whilst ISO 9001 is a good external test protocol for customers to qualify their suppliers, it is insufficient for the scope of a full QMS because it does not deal with the expectations of other stakeholders. The sausage machine model is better because it includes governance constraints and can deal with meeting the expectations of all stakeholders, not just customers. As an aside, it also provides very clear lines of sight across the organisation. Finally, the internal audit model is closest when it comes to reflecting how business is done. It works well as an internal tool, as the basis for quality planning and indeed, for the configuration of whole quality systems. Which one do I prefer? Depends on the context! As The Man said, "All models are wrong, some are useful!"

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Binary cause model

Due to a technical error the Binary Cause model diagram was omitted from Ian's column in the November/December 2010 issue of QNewZ. We have printed it here and send our apologies to Ian and our readers for the oversight.

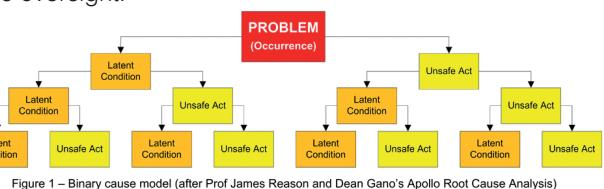


Figure 1 – Binary cause model (after Prof James Reason and Dean Gano's Apollo Root Cause Analysis)