Charting Your Quality Journey

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Introduction

Increasing numbers of organizations are implementing quality management systems with the belief that the quality of their products or services will improve. There are currently over 250,000 organizations worldwide registered to ISO 9000. Canada currently has approximately 7,200 registrations.

Documented procedures and work or job instructions are a key requirement to having a registered quality management system. However, much of the documented material is never used by the organization once registration has been achieved except during the internal and external audit processes. Why is this? There are various reasons given when individuals are surveyed as to why they do not use the procedures or instructions: they are not needed, they are too complex, they do not understand them, they have never seen them. Since the procedures document how work is being done, they may not "need" them. This notion of "not needed" is further reinforced by over documentation. Levels of documentation have been added to many systems when they simply are not required or useful. Much of the documentation written to support the quality systems is too complex and difficult to understand. In many cases it is written at university readability levels however the individuals who use this documentation may have less than a secondary school education. Increasingly external auditors are recommending simplification of the quality system by the use of flow charts.
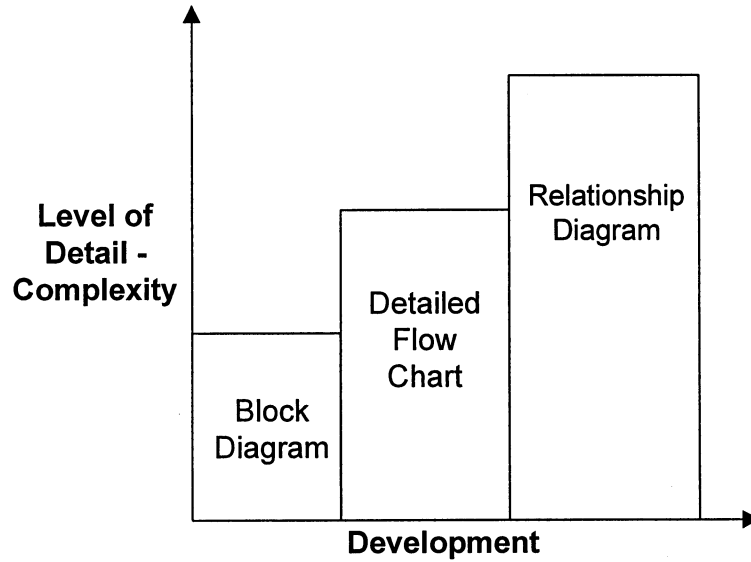
Figure 1: The Three Basic Types of Flow Charts

Flow Charts

Flow charts or process mapping tools have been identified as an important quality tool for many years.

However, they remain largely unused. There are three basic types of flow charts – block diagram, detailed

flow chart and relationship diagram (see Figure 1). The level of detail required determines which of the

three is the most appropriate to use.

Block Diagram

A block diagram is an excellent tool for mapping the basic requirements of a procedure. Each block

represents each of the individual procedure requirements. For example, let us look at the ISO 9001

requirement of 4.18 Training. A block diagram for the requirements might look like the following:
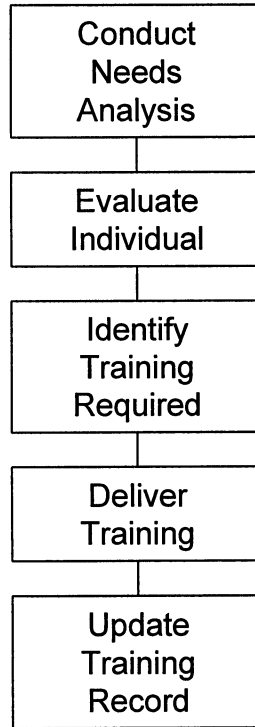
```
┌─────────────┐
│   Conduct   │
│    Needs    │
│  Analysis   │
└─────────────┘
       │
┌─────────────┐
│  Evaluate   │
│ Individual  │
└─────────────┘
       │
┌─────────────┐
│   Identify  │
│   Training  │
│  Required   │
└─────────────┘
       │
┌─────────────┐
│   Deliver   │
│   Training  │
└─────────────┘
       │
┌─────────────┐
│   Update    │
│   Training  │
│   Record    │
└─────────────┘
```

Figure 2: Block Diagram – Training

Developing process maps is an iterative process. It may take several cycles of development before the desired level of detail is achieved. If the chart is too detailed, it is overly complex and difficult to understand. However, if charts have insufficient detail key steps or information might be overlooked.

Detailed Flow Chart

Detailed flow charts are constructed using standard symbols. The symbol used in the chart describes the "what" and the "when" is shown by the sequence. Standard symbols might include the following:

Start/End	⬭	Operation	▭
Delay	○	Ship	⇨
Decision	◇	Document	▢

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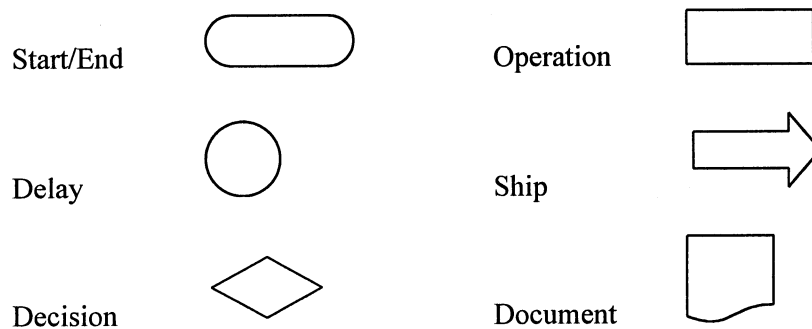
When developing flow charts it is sometimes very useful to use the block diagram as the initial step. If more detailed information is required then develop a detailed flow chart using the block diagram as the basis. It is possible to go directly to a detailed flow chart however, many find it useful to develop these process maps through a phased approach. This will also apply for relationship diagrams (see Figure 4). Figure 3 is an example of what a detailed flow chart might look like (we are continuing to use the 4.18 Training requirement as our example).
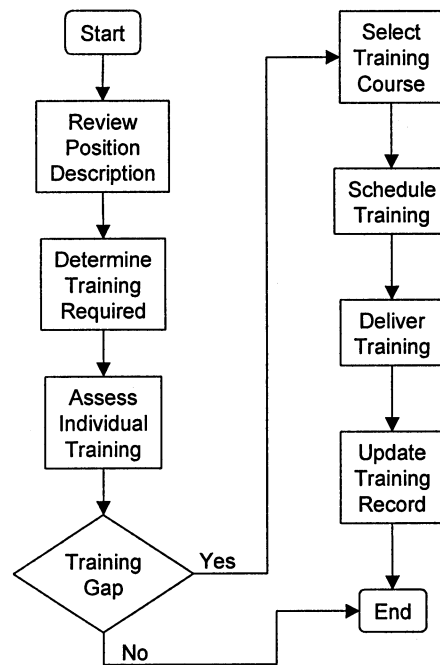

Figure 3: Detailed Flow Chart - Training

Relationship Diagram

The relationship diagram is an ideal chart to be used for describing processes when more than one function or department is involved. These diagrams show "who" does "what" and "when", which is the acid test for a well-written procedure. Relationship diagrams are created by using a detailed flow chart and assigning the responsibility, "who", to the individual steps. The map is then redrawn under the different functions or departments involved in the process. Building on the previous 4.18 Training example the relationship diagram would look like Figure 4.
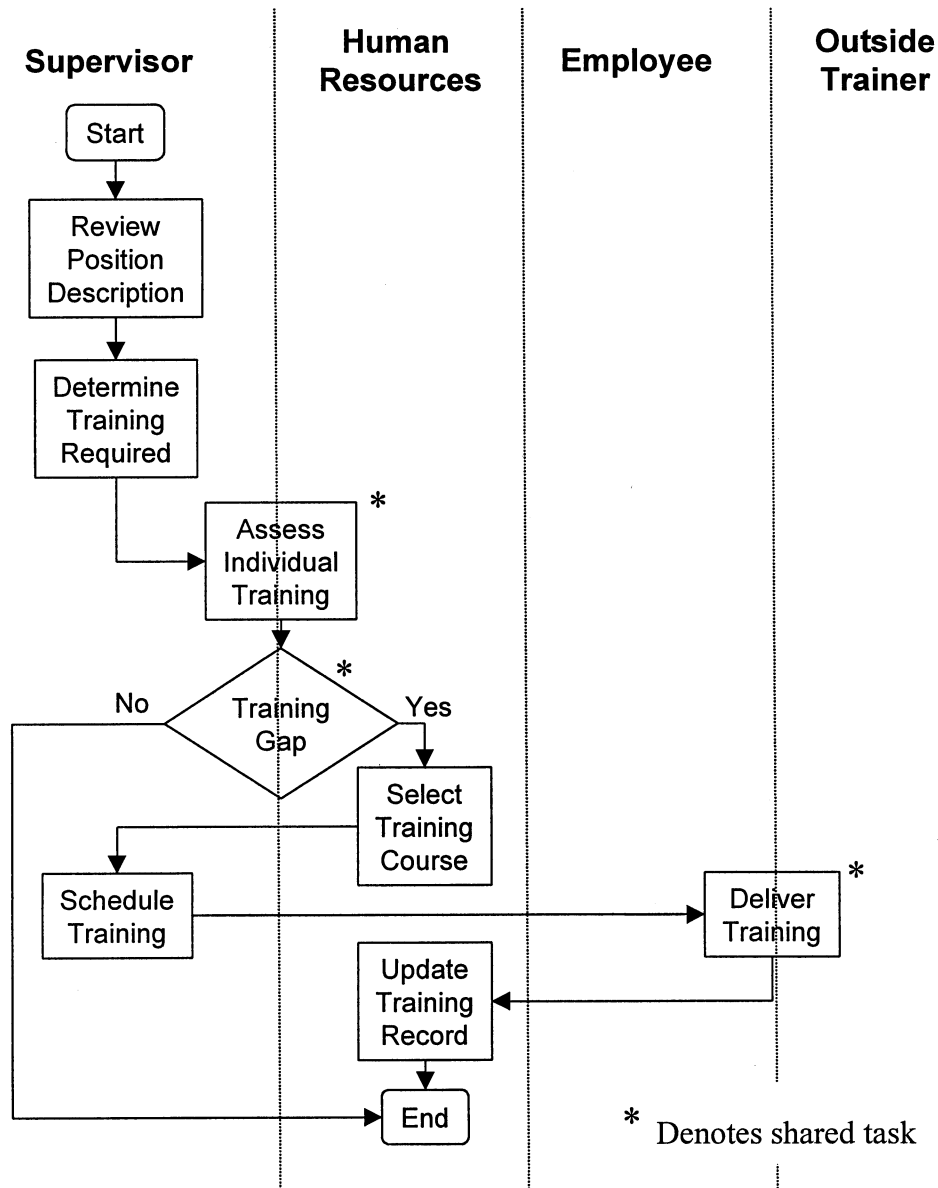
Figure 4: Relationship Diagram – Training

This process map is ideal for training of new procedures. Individuals will not only gain a good understand of the overall process but clearly see their role in it. It is also very useful for anyone auditing a process. They can immediately see whom they should audit and what their role is in the process.

Many organizations use only process maps or flow charts to document their quality system. A large percentage of the population are visually oriented thus the expression "a picture is worth a thousand words". However not everyone prefers pictures, some prefer the written text. Some organizations have

both, using the flow charts as an attachment to their written procedures or instructions. In these cases it is still easier to develop the written text after first creating the process maps.

Flow charts are excellent "discussion documents" for senior management to use to review and approve proposed procedures or changes. Management is used to charts and graphs and find them useful and efficient in understanding processes. One senior executive of a very successful multi-national explained that their organization had a requirement that any management presentation had to be one page and a maximum of 15 minutes. Using a process map it is very easy to add, delete or reassign an operation.

Conclusion

Process maps are easy to construct. Their use will simplify our quality management system documentation. Documentation will be more useful to the organization for training, auditing and reinforcing procedures. They can play a major role in assisting the quality management system in providing real value to the organization.