

**PIACTOR®-method makes process flowcharts more accessible, gives more insight and is easy to apply**

# Complete process visualized in a single well-organized diagram

Flowcharts... Formerly almost exultant welcomed by quality managers because these helped to reduce the volume of the quality handbooks.

But, are these diagrams indeed so useful, so clear, so easy to understand as one wants us to believe..? No.., that is not the case. This is also the opinion of ing. A.W. Koffeman, at that time quality manager with BASF Nederland BV. He was looking for a method, more simple, clearer and easier to use. And he found it. More about his PIACTOR®-method and what one could achieve with it, is described in this article.

'What is going on with the procedure for Purchasing?' the manager asked the quality man. The quality man suddenly rightened his back, opened the doors of the filing cabinet and with the tip of his finger he went over the pile of thick handbooks. 'Ha,' he said. 'Here I've got it... It will certainly be contained in this book...'

*Ing. A. W. Koffeman*, director of the in Apeldoorn (Netherlands) located consultancy firm Prolity BV and before working as Quality Manager with BASF Nederland BV and ICI Holland BV, knows this kind of situation all too well.

'At BASF I started in 1992, together with two assistants, with the implementation of an ISO 9001 based quality system. It had to be applied to three locations: one sales office and two production locations. That system was set up the traditional way and based on the first ISO-norm which at that time was recently published,' he explains. 'Putting together the Quality Manual, preparing a procedures handbook and -- on the lowest level of the organisation -- writing workinstructions. Finally all that resulted in a huge pile of voluminous handbooks. At each location these were filed in cabinets and rarely came out of it.' That gave Bert Koffeman a bad feeling. He wondered what the added value of a quality system could be if dealt with this way. 'Actually it is alright. You have filled in the demands. But it doesn't work, it is not functional. Therefore, you have to ask yourself: What is actually the purpose of all this? Is it done to be able to convince the certification body? Or is it meant to prove that you fulfil the standards to which the certificate on the wall relates? Or is it intended for the user, the employees of the company? To make it possible for him to properly arrange the processflows between departments. To create insight in processes and to obtain an unambiguous way of working within an organisation?'

In fact there is only one good answer to this question: For an ISO based quality system the certificate is not important, but to have the business well-organized and structured, it is!

'So, this requirement was not really met by this "antique" system,' Koffeman says.

'Specific knowledge was required, you had to be a kind of technician to be able to work with a system like that. We worked with all kinds of flowcharts, but these were so complex, that it did not give the people who had to work with it, sufficient insight.'

In time Koffeman, who describes himself as 'someone always looking for methods to make things simpler or easier to perform' made an inventory of methods and techniques that could be used to make the quality manual, the documented quality system, more accessible, easier to work with and to give it added value

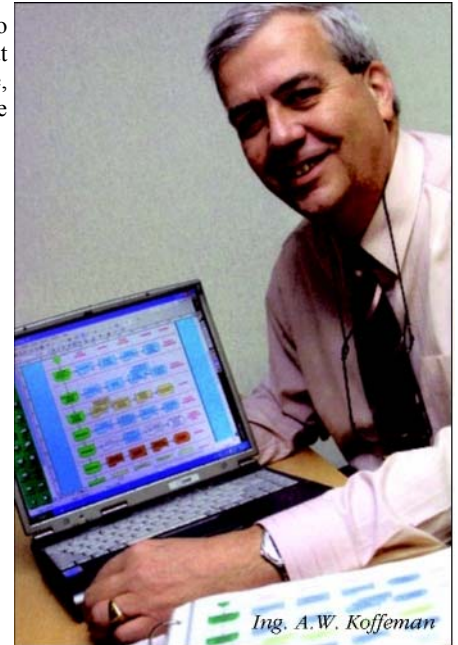
At that time there were only quality systems on paper,' he tells. 'The electronic facilities were not so far developed then. For instance, there was not yet a program available to distribute documents electronically within an organisation. Or if it already existed, that information was generally not widespread.'

## Accessible, providing insight and usefulness

At a given time, Koffeman was confronted with Lotus Notes. He studied this software tool and saw that this software could possibly help him to realize his ideal: an accessible, quality manual providing insight and usefulness.

First, he investigated the tools available on the market. Doing that, he asked himself again and again: What is available? What does it bring? Is that what we want? Is that what we need? What are the costs? And, what precisely do we have then, after purchasing it? Ultimately he decided to build his own automated system within Lotus Notes.

Koffeman: 'We defined our demands and wishes with respect to the content. These were translated and programmed by an external company. This way, our quality system already became a lot more accessible. It resulted in -- also by making use of function specific and department specific approaches -- a much better focus on the use. On basis of just a keyword one could find those results relevant to a person or for that process in



time.' Besides, it also saved a lot of work. The quality manager no longer needed to worry about copying updates multi times. He neither needed to check if one had the latest version available of the manual. Because the valid version was available on the intranet, wasn't it?

But did this approach help to give its user more insight into the quality system..? Still insufficient. This breakthrough came when Koffeman read a book about workflow-management. The contents of this book triggered him to think different about the subject. He realized that you can look at processflows in different ways and looked for an approach that made it easier to visualize processes. 'The same time the computer techniques improved quite a lot and colourjet printers became commonly used and the possibilities became clearer and clearer,' he explains. 'I then already applied the trick to connect to each line in a flowchart a separate subprocess and a responsible function. That on its own, was already a big improvement. In that time we positioned the main process in the middle of the diagram, with inputs on the left side and outputs on the right side of it.'

## This was not yet the optimum...

Users were enthusiastic, but Koffeman was not yet satisfied.

At a certain moment somebody said to me: Why is that main process column positioned in the middle?

Why not at the left? So, I gave it a try. Thought about it further... What's it all about in a process? What actually is a process? It's a sequence, a chain of subprocesses. And subprocesses can be assigned to persons, functions, departments maybe? Try to imagine that clearly inside your head. Then we positioned the main process at the leftside of the diagram, from up to down. That appeared to give better insight. Next question was: What is essential in that subprocess, what should one registrate? Well, a subprocess is nothing more then an activity that somebody has to carry out. And each activity has an input and an output. But there is more to that: How for instance do you know that such an activity is effective? And efficient? You have to clarify and visualize the result very well. So we added a column with results. And that became the PIACTOR®-diagram: Process - Input - ACTivity - Output - Result.'

In the mean time, Koffeman has further developed his PIACTOR®-method and had its name officially registered. The interest in this pragmatic and process orientated approach, that has proven itself in practice, is high. Simplicity is important and a PIACTOR®-diagram represents a primary or supporting process in a way that gives overview, including the composing subprocesses.

'The method also has various possibilities for appliance,' is the opinion of Koffeman. 'It is suited for process modelling, for setting up a documented quality system (required for ISO-certification) and it can also be used for process improvement projects. In the mean time the applied method appeared to be the ideal tool for translating a quality system to the new norm or to build a new quality system in compliance with this new norm.'

In every day life the application of the PIACTOR®-method, for instance for

certification reasons, appears to require only a few minor, textual additions in order to generate a procedure which conforms to all requirements dictated by the new ISO-norm. These additions relate to the purpose of the concerning process, a specified process owner for the total process and the performance indicators relevant for this specific process.

You need to have a very clear idea what the purpose of the exercise is. Why are you doing this? What is your aim? These are sensible questions. As a minimum the ISO-norm only requires six processes to be described. A description of the purchasing process for instance, is not mentioned as a prerequisite. I always say: You have to have a grip on the processes involving risks, where things can easily go wrong and that influence the quality as experienced by the customer. Record these processes. But please, do not record everything.'



Figure 1: Example of a PIACTOR®-diagram: customer's request for a quotation

When you look at the digital version of the handbook, you see on the monitor that a procedure starts with the purpose of the process. Then the process owner responsible for the process as a whole is registered. Next the process diagram follows. And always mention the performance indicators, to make it clear how to check if the process meets its specifications.

By using typical colors per department or per function, you might get more insight in where it can be applied and for whom. Also, the added colors make the process diagrams visually more attractive for the users, which is also rather important.

### De 'old' method versus the PIACTOR®-method

The usual flowcharts -- the 'old fashioned ones' -- were on its own already a big improvement compared to the textual descriptions that were used before. These 'old' flowcharts however appeared to be rather complex and for that reason giving reduced insight. By using decision symbols and reroutings to symbols earlier applied, it became difficult to obtain a sound overview of all the processes. Besides that, in certain applications -- for instance in the method applied for administrative organisations -- it was required to give each symbol a code and to connect them to each other. The PIACTOR®-method (see figure 1) does not know these limitations.

Looking at the PIACTOR®-method, we see as characteristics that:

- the main process is represented in a vertical column on the left side of the diagram. With that, the process diagram gives far more insight and is better to understand, without the necessity to have a detailed look at the diagram in total.
- each subprocess is represented in a single horizontal line.
- each subprocess describes an activity on its own, for which input is required and from which output is generated. The purpose (the result) of the subprocess has to be clearly defined. If that is not possible, one has to reconsider if this subprocess really is sensible.
- the method is using only six different symbols.
- the method does not use decision symbols. Whether or not an activity is carried out, is represented in the technique by adding a questionmark in the text of the subprocess symbol. Is the answer 'yes', then the subprocess has to be looked at. With 'no' one can omit this subprocess.
- at the moment where somewhere in the process another description is called for, this is visualized by using the unique symbol for another

### Symbol:

### Meaning:

### Color:

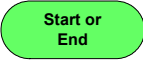

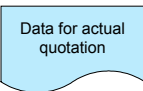
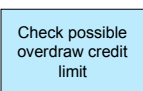
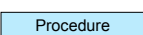



	Start or end of the process diagram	Always green
	Denotation for subprocess	Always green
	Input or output information carrier	Responsibility has own color
	Description of the activity	Responsibility has own color
	Reference to another document	Responsibility has own color
		
	Specific result of the subprocess	Responsibility has own color
	To connect two parts of diagrams (to be printed)	Always green

Figure 2: Symbols used in a PIACTOR®-diagram

description in place of the activity symbol.

- a subprocess is being represented by successively:
  - the symbol for a subprocess with a textual description;
  - the symbol for input information (the document symbol is being used for this) with a textual description;
  - the symbol for an activity with textual description. Instead of the activity symbol, the symbol for another description (procedure, instruction or suchlike) can be applied;
  - the symbol for output information with textual description;
  - the symbol for the result of the subprocess with a textual description of it;
  - a reference to the department or function responsible for the subprocess.

Whenever there are more sources for input or output to be applied in the subprocess, this can be shown in the diagram by applying stacked document symbols.

Concerning the colors being used: the symbols for the named subprocesses are always depicted in green. For the other symbols of a subprocess one can, to a certain degree, define the color himself. To a certain degree, because consistency in regard to the chosen colourcode is certainly important. A department or function should be represented in any process diagram with the same color. In this way the

relevant activities in each process diagram become clear in a glance.

Finally: Each diagram knows a startsymbol and an endsymbol. Additionally one can also use connectionsymbols in cases where the diagram takes up more than one page of a paper printout. See also figure 2.

### Composing a PIACTOR®-diagram

There are three ways in which to arrive at a composed PIACTOR®-diagram. The first way is the independant way. Each process owner independantly composes the processdiagram -- or diagrams -- relevant for him or her.

This approach has the disadvantage that each processowner should be trained in the application of the methodology. Also there is the fact, one definitely obtains differences in the details and logics that are being applied. However, an important advantage is that the acceptance of these diagrams will be high. Why? Because nobody will criticize a processdiagram composed by him- or herself...

The second approach is to appoint someone who should compose alle process diagrams for the whole organisation. Advantage of this approach is that there is less training required. A disadvantage however is that the basis for support within the organisation will be minimal and criticism maximum.

However, in applicability and advantages both these approaches are no match for the third method: the approach of forces working together. For this last approach, each process diagram will be composed by the concerning processowner, who is supported by an employee especially assigned for that. In such a situation the users will experience the produced process diagrams as 'own'. In this way, by the constant factor of a specially assigned functionary, consistency in details and logics can yet be realised. This last mentioned approach has proven itself to lead to the fastest and best results.

On basis of this third approach, the process to arrive at a very useable and well designed PIACTOR®-diagram, can be described as follows: The specially assigned functionary – a quality co-ordinator is preferred – gathers information about the process. With the concerning process owner and further functions involved at the process concerned. This allows him or her to prepare a rough diagram.

The functionary works out this rough design and discusses it with the colleagues involved in the process. Sensible remarks are being

implemented until finally everybody is satisfied with the result.

In order to complete the procedural description according to the PIACTOR®-methodology and to meet the demands from the ISO 9001:2000 norm, the diagram has to be supplemented with a short description for what purpose the process is designed. Additionally, relevant performance indicators should be defined.

Koffeman: 'It makes sense to study the process ones again by carrying out an audit. In such practical circumstances the activities can be analysed one after another and one can look at the sources for input and output. I can guarantee you that if anything is not completely o.k., it will come to the surface.'

### **Also suited for process improvements**

According to Koffeman the PIACTOR®-method also allows people to work on process improvements in a relatively simple way.

For instance, you could make a process more efficient by reducing the number of subprocesses. For example, by omitting certain subprocesses or by joining them.

Another possibility is to synchronise subprocesses (let the subprocesses run simultaneously or in another sequence), he says. 'Or by reducing throughput time cq. processing time (in time optimizing the subprocesses).' Execution of subprocesses by others (functionaries or departments) can lead to a benefit in synergy. Savings can be achieved because with using the PIACTOR®-diagram clarity will be created about which subprocesses could be automated. And as a final point, Koffeman mentions the possibility to allow in a more simple and robust way, the making of an analysis attaining optimisation of costs and necessary use of sources for a subprocess.

It appears that, with the PIACTOR®-method Koffeman discovered a niche in the market. Even companies from abroad are interested in this relatively simple method developed by this consultant, domiciled in Apeldoorn in The Netherlands. The PIACTOR®-method is clearly a method - as experience has shown – that has the possibility to improve the quality of the manager's life quit a bit. Q