Summary

During this step, you will be introduced to the fundamentals of process mapping. You will then identify your organisation's core processes and appoint process owners who will be responsible for their functioning. Once you have identified your core processes, you will prepare for and facilitate process mapping workshops to document and analyse them. After the process mapping has been completed, you will review, streamline and standardise them.

What is a process map?

A process map is a diagram that uses graphic symbols to depict the nature and flow of the steps in a process. Another name for this tool is a "flow diagram" or "flowchart". Process maps are diagrams that show – in varying levels of detail – what an organisation does, and how it delivers products or services. A process map shows the major processes in place, the key activities that make up each process, the sequencing of those activities, the inputs and resources required and the outputs produced by each activity. The output may be a physical product, a service, information, or a combination thereof. Process maps are a way of ensuring that the activities making up a particular process are properly understood and properly managed in order to ensure that the products or services that they produce adhere to customer requirements.

Among the benefits of using process maps are that they:

Promote understanding of a process.

People may have different ideas about how a particular process works. A process map allows everyone to develop a better understanding of the process as a whole. People involved in a specific process often find that while each of them possesses detailed knowledge about his or her segment of the process, few people are fully knowledgeable about the complete process. A process map often provides this missing knowledge. If a process map is constructed properly and reflects the process as it actually operates, everyone will possess a common, accurate knowledge of the workings of the process.

Provide a tool for training employees.

Because of the way they visually lay out the sequence of process steps, process maps can be very helpful in training employees to perform the process according to standardised procedures. Process maps promote understanding by explaining the steps pictorially in a way that written procedures cannot do. One good process map can replace pages of words.

Identify problem areas and opportunities for process improvement.

Once you break down the process steps and diagram them, problems, bottlenecks in the system and unnecessary steps are uncovered. It is easy to spot opportunities for simplifying and refining your process by analysing decision points, redundant steps, and rework loops. With knowledge of the complete process, everyone can participate more effectively in problem-solving efforts.

Depict customer-supplier relationships.

Process maps can help employees to understand who their customers are, and how they may sometimes act as suppliers and sometimes as customers in relation to other people, both within and outside the organisation.

ISO requires that you determine the sequence and interaction of your organisation's processes. In mapping out your organisation's processes you will fulfil this requirement and also implement the process approach to quality management in your organisation. Mapping your processes can also help you to analyse and improve them, resulting in improved effectiveness and efficiency.

Symbols Used in Process Mapping

Process maps are a graphical representation of a process, and standardised symbols have been developed to represent the various components found in most processes. While there are literally dozens of specialised symbols used in process maps, most process maps are built from the following set of basic symbols.
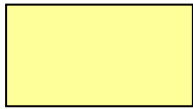
The *activity symbol* is a rectangle that indicates a single step in the process. The entity (person, department, team etc.) responsible for completing the activity and a brief description of the activity is shown inside the rectangle.
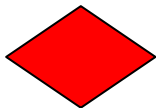
The *decision symbol* is a diamond that designates a decision or branch point in the process. The description of the decision or branch is written inside the symbol, usually in the form of a question. The answer to the question determines the path that will be taken out of the decision symbol. Each path is labelled to correspond to an answer. Decision symbols can result in the process branching back and repeating an earlier step.

The *interfacing process symbol* is a rectangle that identifies interaction with another process. The name of the interfacing process is included inside the block.

Flow lines are used to represent the progression and sequence of the steps in the process. The arrowhead on the flow line indicates the direction of the process flow.
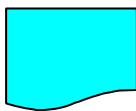
The *document symbol* represents written information related to the process. The name or description of the document is shown inside the symbol.
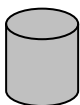
The *database symbol* represents electronically stored information relevant to the process. The title or description of the database is shown inside or alongside the symbol.

The *connector* is a circle used to indicate a continuation of the process map when a process runs over more than one page, or must be split up for some reason. A letter or number is shown inside the circle. This same letter or number is used in a connector symbol on the continued process map to indicate how the processes are connected.
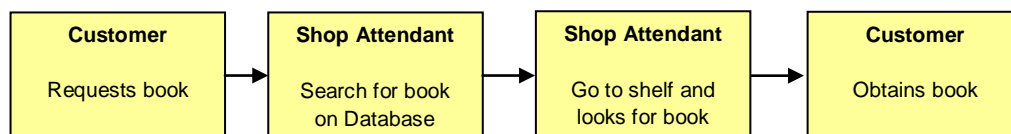
The *filing* symbol is a small triangle used to indicate that a document or a copy of a document should be filed, or retrieved from a file.
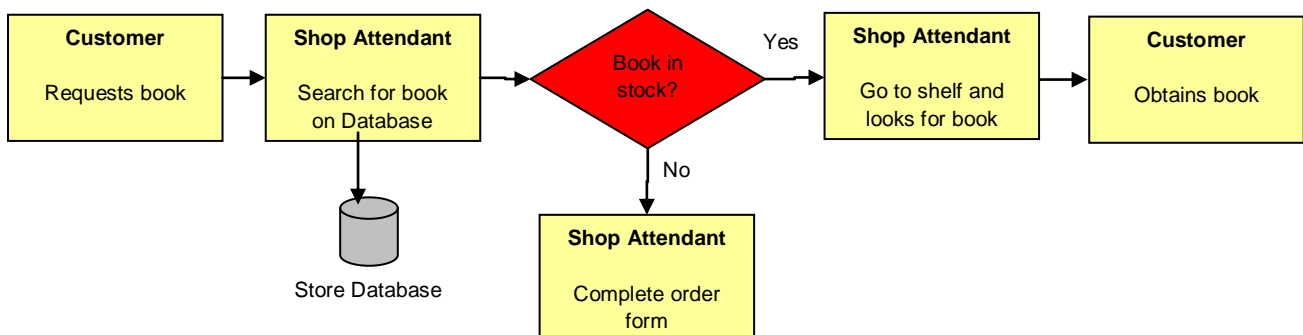
Mapping a process

The best way to illustrate how to map out a process is to use an example. Suppose you are looking for a book on ISO 9001, so you go to your local Book Shop. You find a shop attendant and ask him if they have the book you're looking for. The shop attendant searches the store database to see if they have any in stock. The attendant says that there is a copy in stock, he goes to the shelf and retrieves the book. He then points you in the direction of the till. Now, let's say that you want to map the process of how the Book Shop provides a customer with the book they are looking for. So, in this example, we will map out the 'Customer Request' process of the Book Shop.

Customer Requests book	→	**Customer** Obtains book
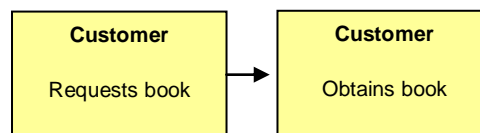
The first thing you need to do when mapping a process is to define its **boundaries**. The easiest way to define the boundaries of a process is to write down the first and last step of the process. Since we are interested in the process of how the Book Shop provides a customer with the book they are looking for, the first step is the customer walking into the store and requesting the book, and the last step is when the customer has the book in his hands. These two steps are placed onto activity symbols and connected with flow lines.
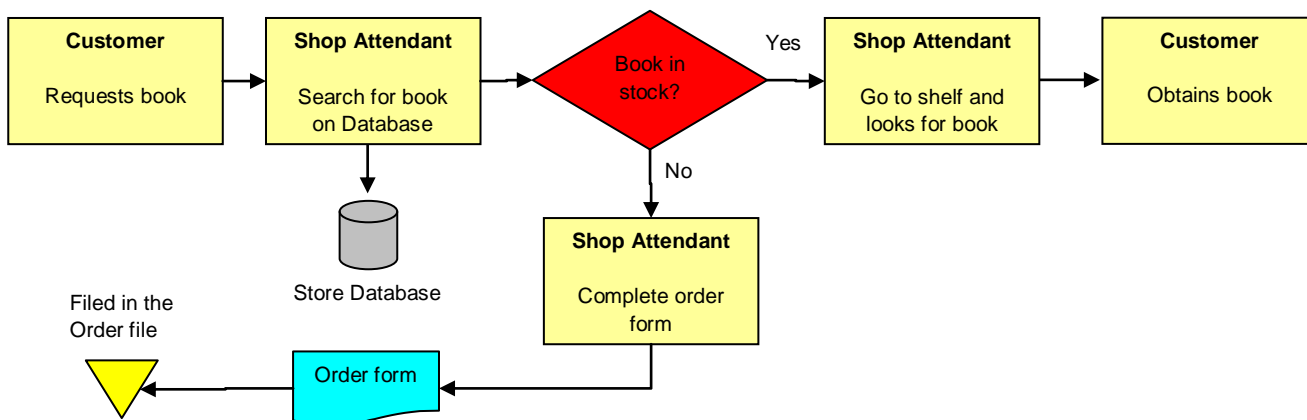
Customer	**Shop Attendant**	**Shop Attendant**	**Customer**
Requests book	Search for book on Database	Go to shelf and looks for book	Obtains book

A process map must describe the sequence of activities involved in reaching the final step. After the customer requests the Shop Attendant searches the store database to see if the book is in stock. An activity symbol is added to indicate this step. A database symbol labelled 'Store Database' is also added and attached by a flow line. The Shop Attendant then goes to the shelf and fetches the book. We now fill in the steps between the first and last activities and put them into a sequence of activities joined by connecting flow lines.

Customer	**Shop Attendant**	Book in stock?	**Shop Attendant**	**Customer**
Requests book	Search for book on Database		Go to shelf and looks for book	Obtains book

Store Database

Yes

No

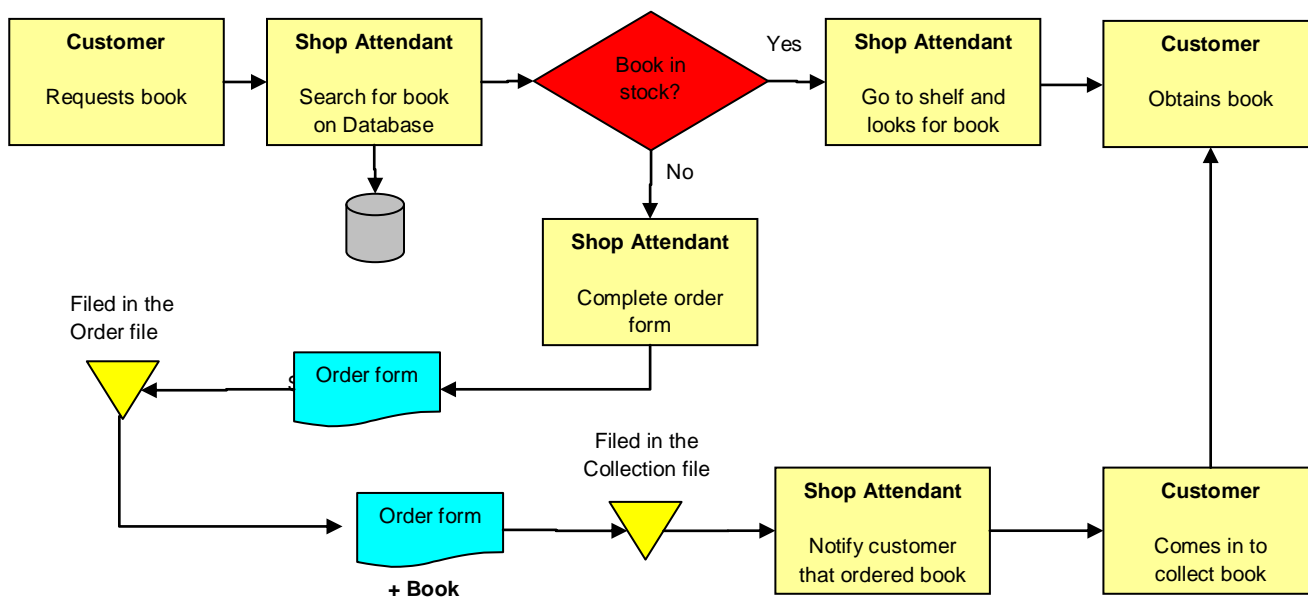| **Shop Attendant** |
|---|
| Complete order form |

We have now mapped out the 'backbone' of the process, but what if the book is not in stock? We need to be able to make provision for this possibility. We need to expand the process map to include a course of action to be followed if the book is not in stock. To determine whether or not the book is in stock, we make use of a *decision symbol.* If the book is in stock, the process continues as before, but if it is not the Shop Attendant will have to complete an Order form to order it.

First Process Map

Customer	Shop Attendant	Book in stock?	Shop Attendant	Customer
Requests book	Search for book on Database		Go to shelf and looks for book	Obtains book

Store Database

Filed in the Order file

Order form

Shop Attendant — Complete order form

Once the Shop Attendant has taken the customer's details down and filled in the Order form, it must be placed in the Order file so that the Purchasing department can place the order. The Order form is placed on a *documentation symbol*, and the Order file is indicated by a *filing symbol*.

Second Process Map

Customer	Shop Attendant	Book in stock?	Shop Attendant	Customer
Requests book	Search for book on Database		Go to shelf and looks for book	Obtains book

Filed in the Order file

Order form

Shop Attendant — Complete order form

Order form
+ Book

Filed in the Collection file

Shop Attendant — Notify customer that ordered book

Customer — Comes in to collect book

Once the book has arrived from the Purchasing department, the Order form is updated and placed in the Collection file along with the book. The Shop Attendant then notifies the customer that the order has arrived, and retrieves it from the Collection file when the customer comes in to collect the book. We have now mapped the process followed when the book is not in stock.
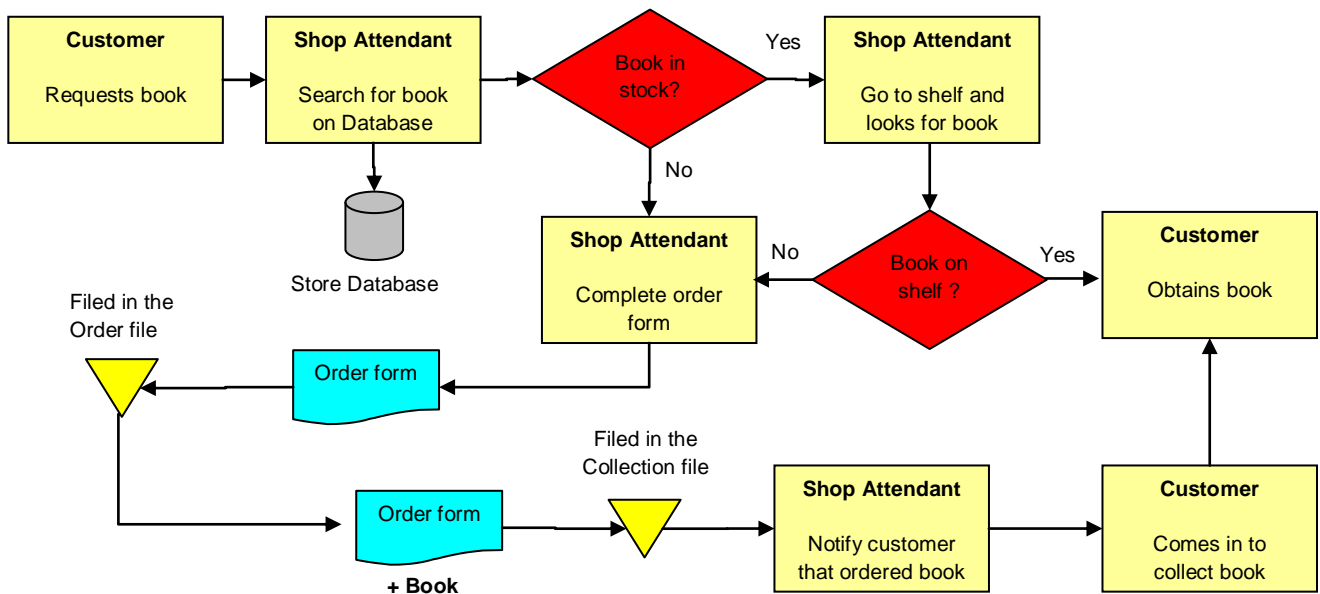
But there is also another possible problem, just because the book is indicated as being in stock on the system, it does not mean that the Shop Attendant will be able to find it on the shelf. Perhaps it has been shelved in the wrong place or is missing. If the book cannot be found on the shelf, it must also be ordered. Another decision diamond is added to allow for this possibility.
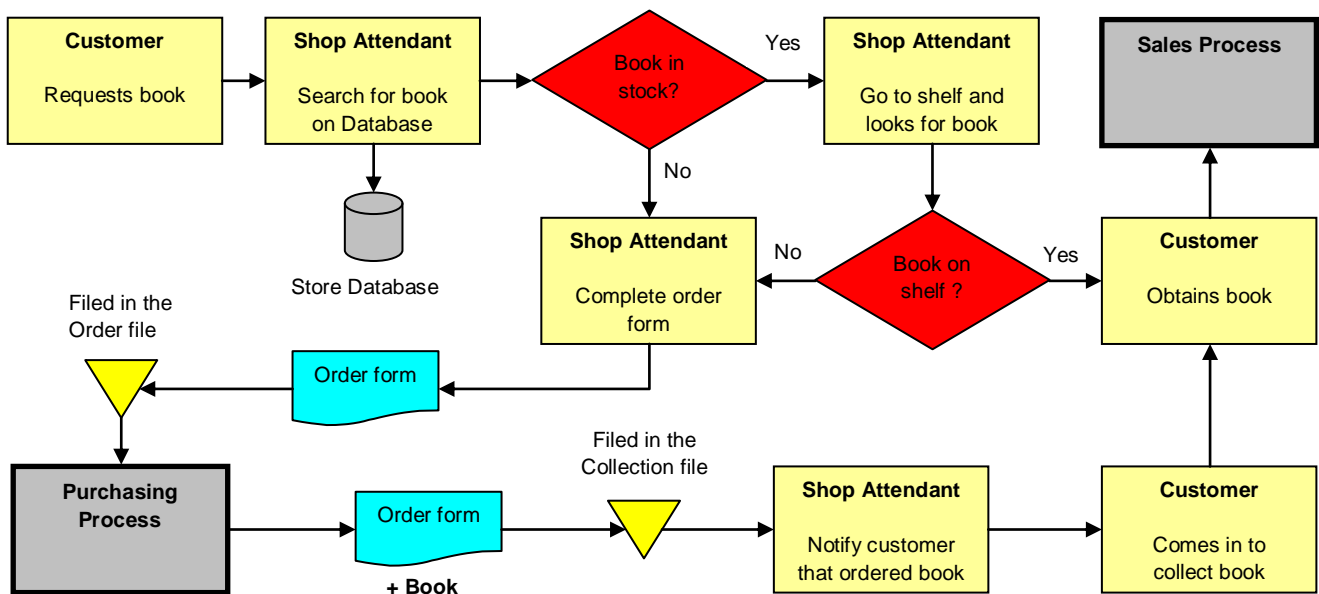
The process map is almost complete, but we still need to indicate how this process **interacts** with the other processes in the Book Store. After the Order form has been placed in the Order file, the book must still be sourced, ordered, dispatched and received. Only then can it be placed in the Collection file along with the completed Order form. However, this would entail adding an entire section of activities that would fall under a separate process, namely the Purchasing process. Showing the way each process interacts with other processes eliminates unnecessary repetition of steps in different process maps. If we look at the final step in our example, we can see that the process does not simply stop when the customer obtains the book, he or she still has to pay for it. However, that is also outside of the scope for this process map, so we connect a flow line to the Sales process.