

Business Systems
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Interactions

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Notes & Commentary

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A Quality Management System? Elsmar.com

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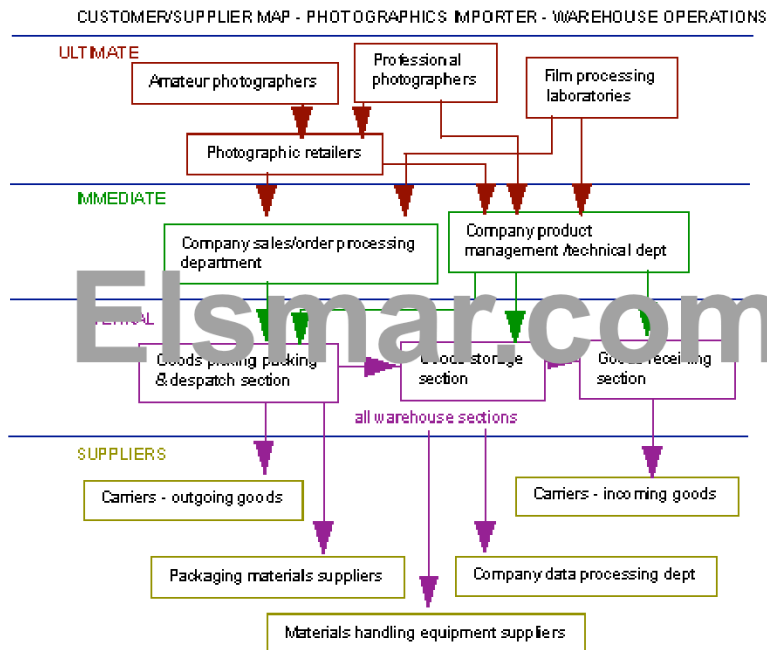
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Trade Relationships



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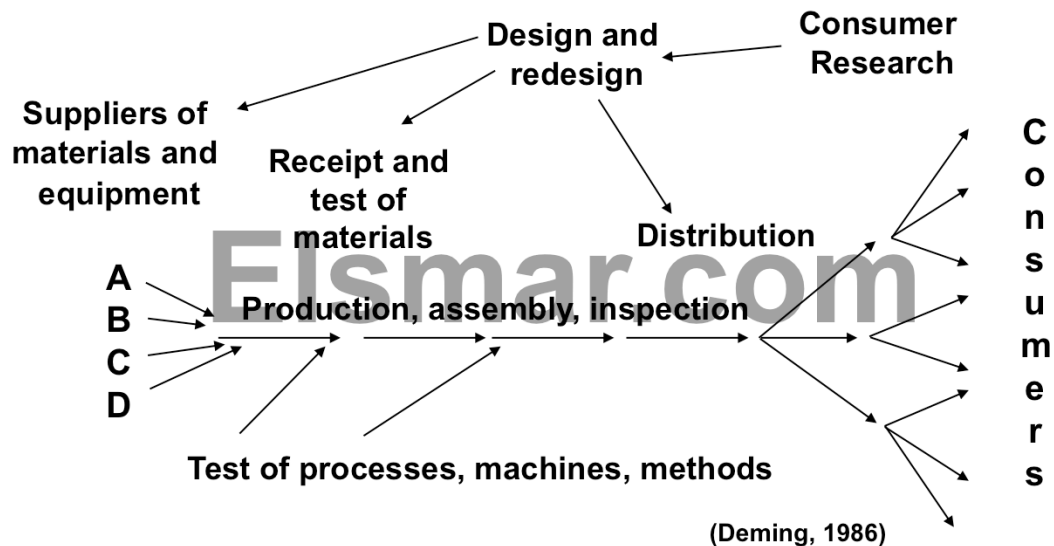
Notes & Commentary

On the highest level, you can look at your company in terms of how it fits into a trade scheme. Your company is a part of a complex relationship with many other companies and individuals. This is a simple diagram. It does not address issues such as feedback loops. Here we're interested in getting the high level flow. As you will see, we can take any high level system and break it down into its constituent parts.

With the rise in specialization throughout the centuries, the role any given company has, as with workers, increasingly specialized. If you map out your company and its interactions the implementation process will be very much easier.

If used correctly, these high level maps, like your process maps, can also be used as the backbones for problem solving. Use your maps to lay out the backbone for a cause-and-effects diagram any time trouble arises. While the discussion of cause-and-effects diagrams is beyond the scope of this guide, suffice it to say I personally see cause-and-effects diagrams to be a very important part of problem solving.

Organization As An Extended System



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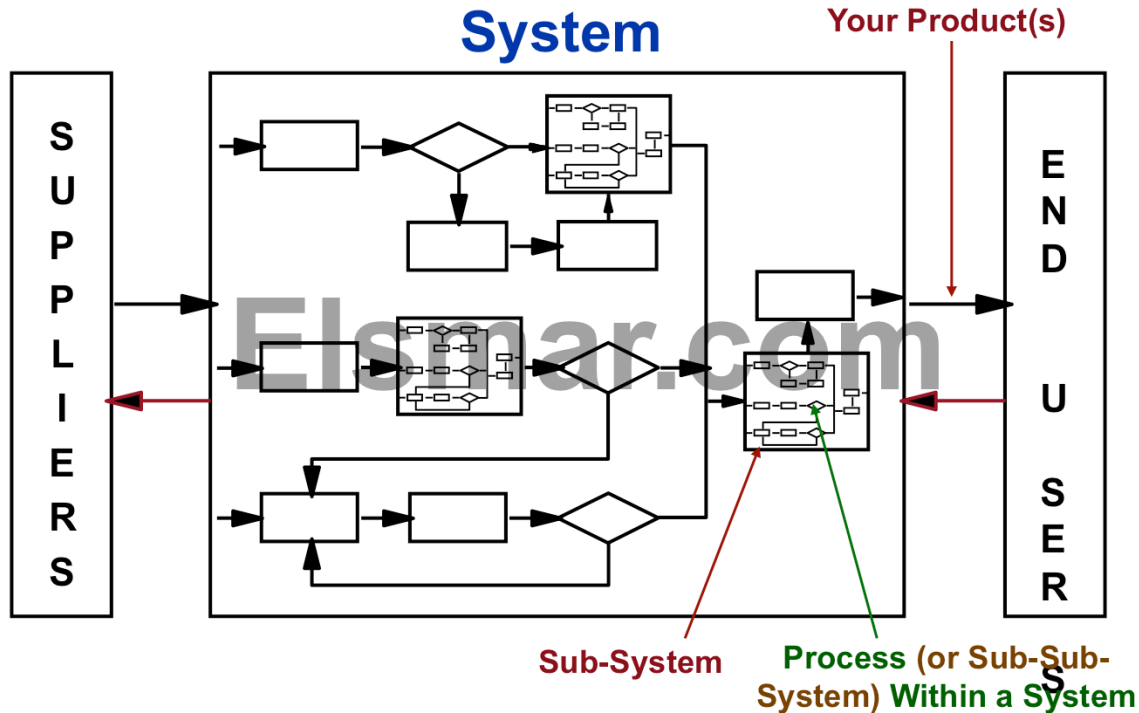
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Extending Outside the Organization



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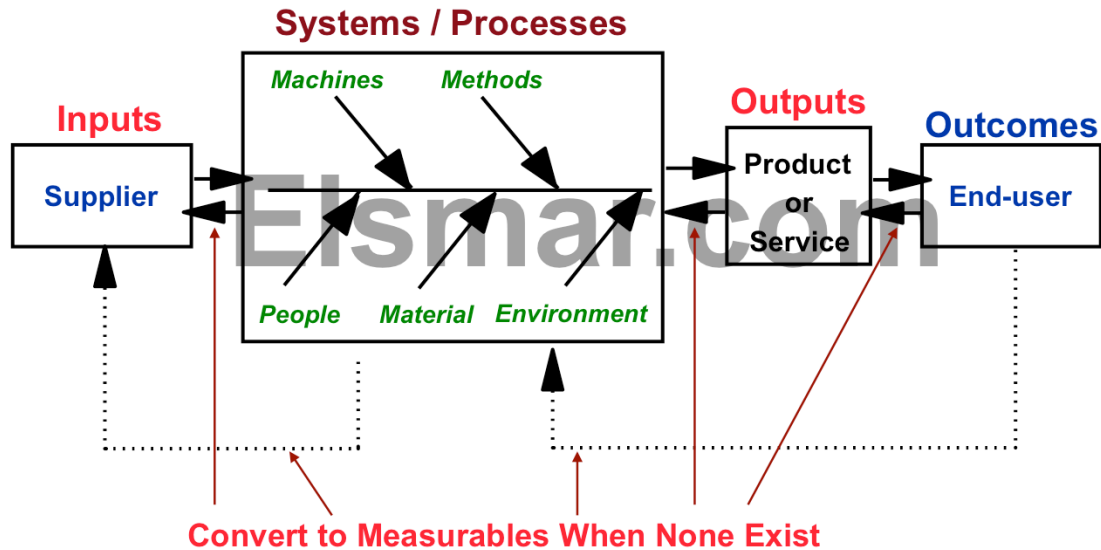
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This is another way of looking at the extended system with a focus on the details of your company and its internal systems and processes. You will soon see that this is approaching the ISO 9001:2000 'model'.

As is evident on the right side of the system, your end users are the product recipients. When defining what your products are, you should be looking here.

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Measures In The Extended System



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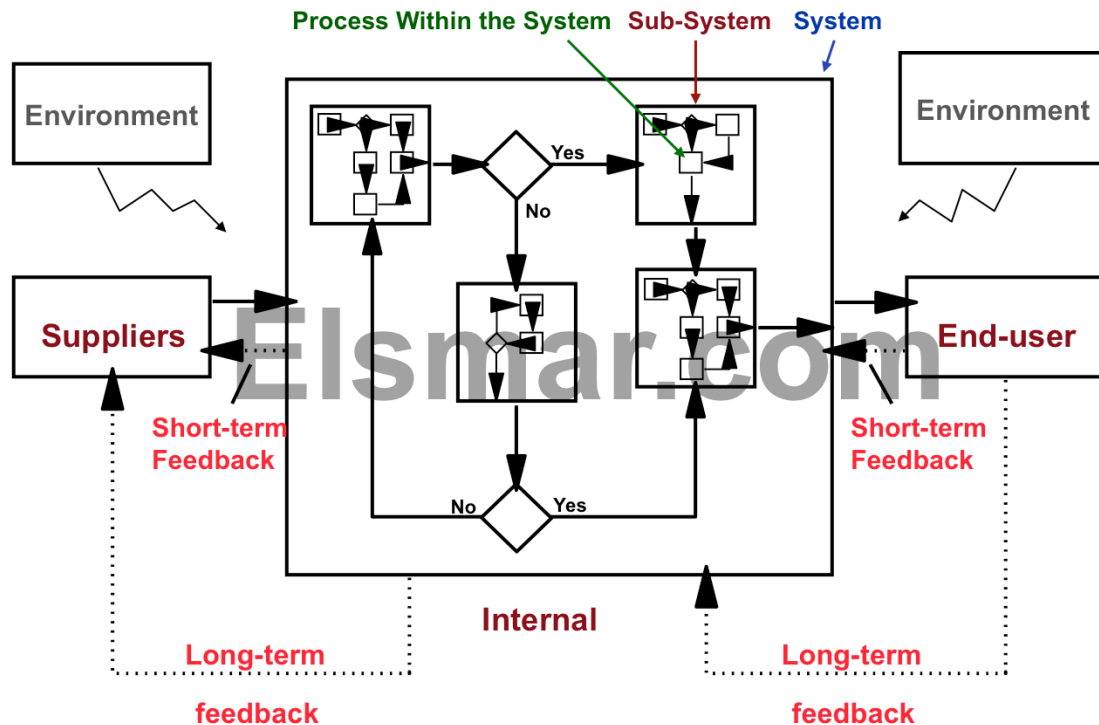
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No matter what extended systems exist in your company, it is important that it is understood that feedback has to be evaluated. To do that, in 99% of the cases, some type of measurables have to be evolved. For example, in your quality policy you are required to state quality objectives. In addition, they qualify their requirement by requiring that objectives must be measurable. The logic is simple. If they are not measurable you cannot know if you are meeting your goals.

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An Extended System



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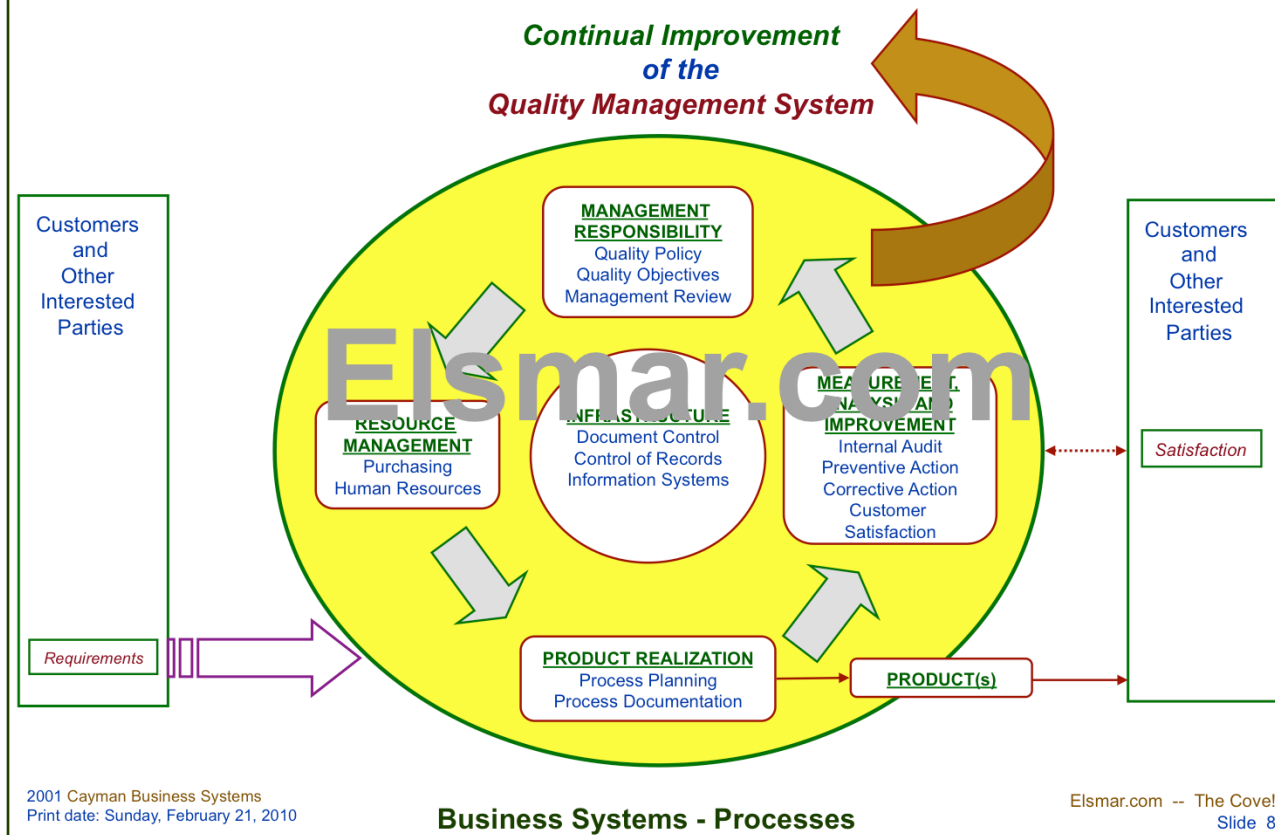
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Here we add several 'influences' on the company systems, including feedback loops. The feedback loops become important in ISO 9001. To most companies this is already a given. Feedback is historically important to most companies. While we can always cite examples of companies we believe do not care about any feedback (telecos, public utilities and government agencies are always being accused of not caring about customers), the truth is most companies are looking for and evaluating feedback. Sales is looking for information about their customers and what people want. Internally, manufacturing is always feeding back information to the design folks.

The biggest problem in the feedback loop is effectiveness of communications. As an internal example, I have seen very high walls between departments. Design and manufacturing and quality all often have very high walls. Manufacturing feeds back to design problems they have or are encountering where they think a design change should be evaluated and design says "Tough. We have our own problems." Sometimes this is the result of a lack of resources but typically it's a combination of that and a failure to work as a team. I believe this is one reason Japanese manufacturing works so well. My experiences with Mexican companies has also been that there is more of a team work atmosphere.

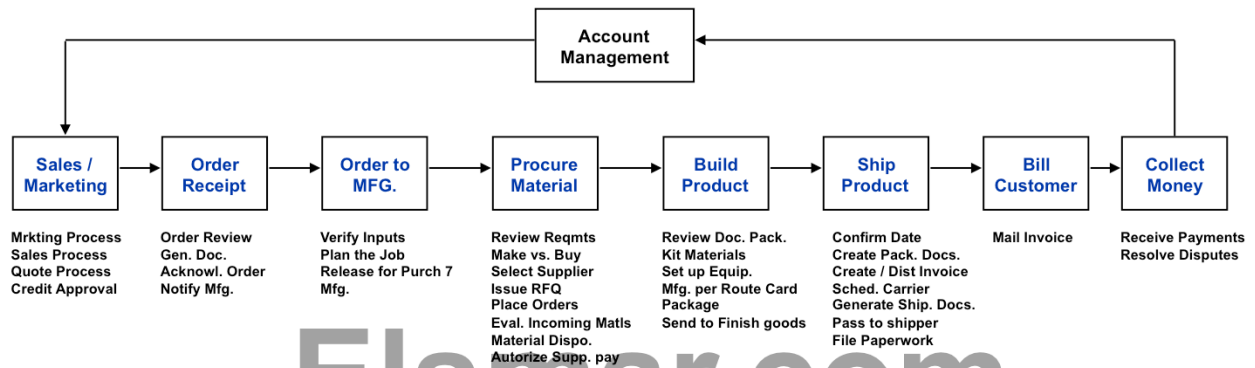
The ISO 9001:2000 'Process' Model



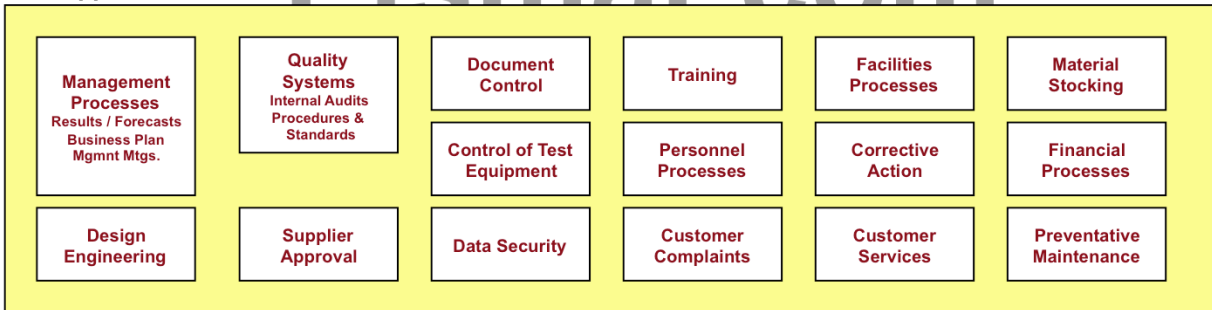
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Simple Top Level Operations Flowchart



Support Processes



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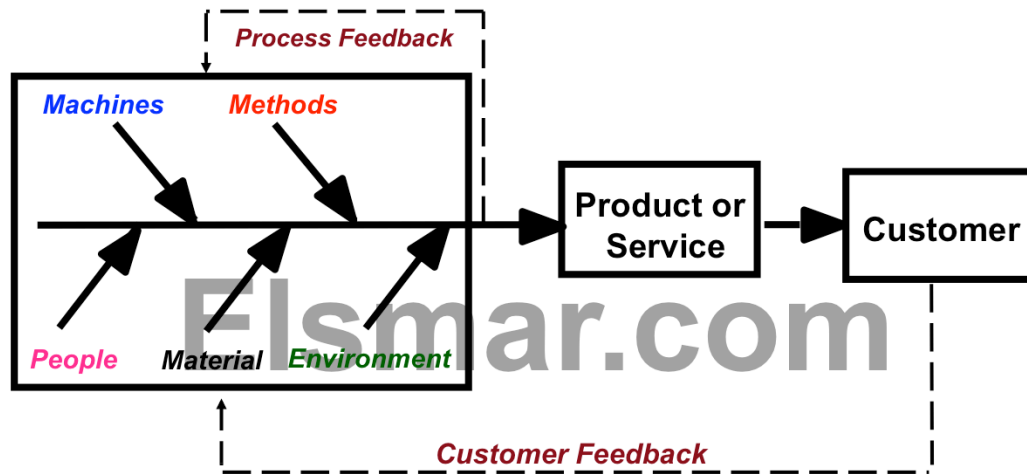
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Quality Through Process Improvement



Feedback is a cornerstone, so to speak, of ISO 9001. The implication throughout the standard is that you will manage with data.

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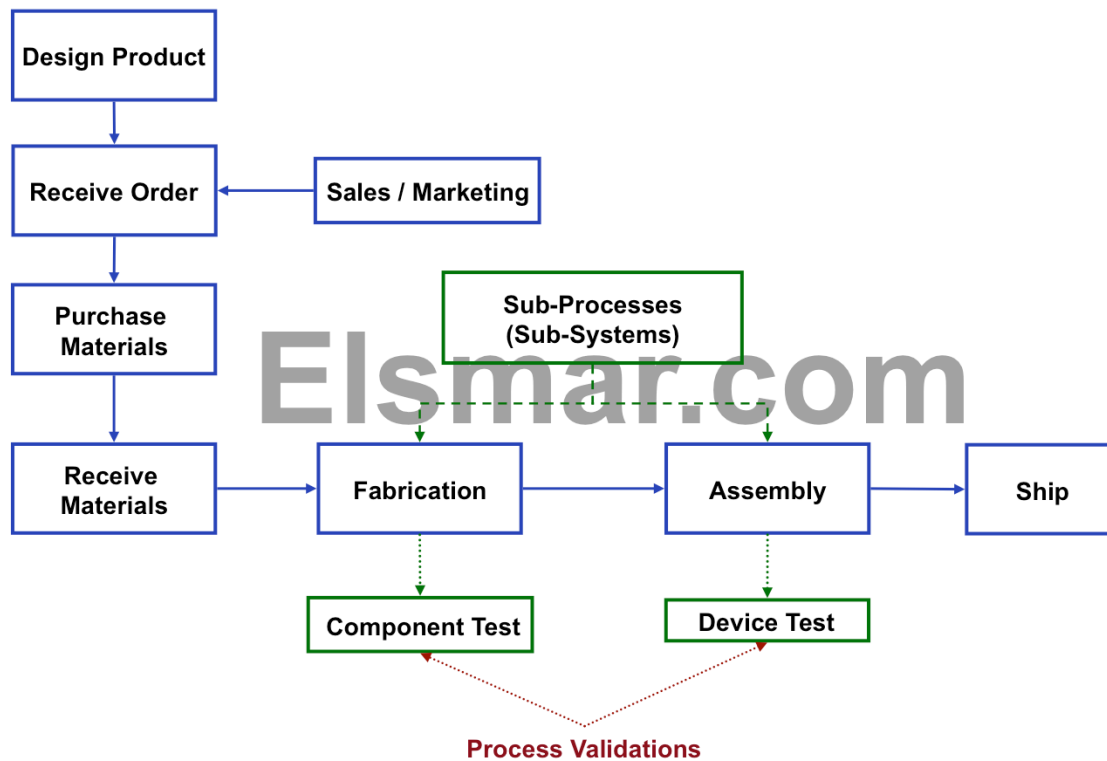
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Only through the evaluation of feedback can one learn and thus improve. Rarely does improvement come through chance. Evaluation requires measurables. No measurables, no evaluation. So - we need to think DATA!

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Business As A System (Process)



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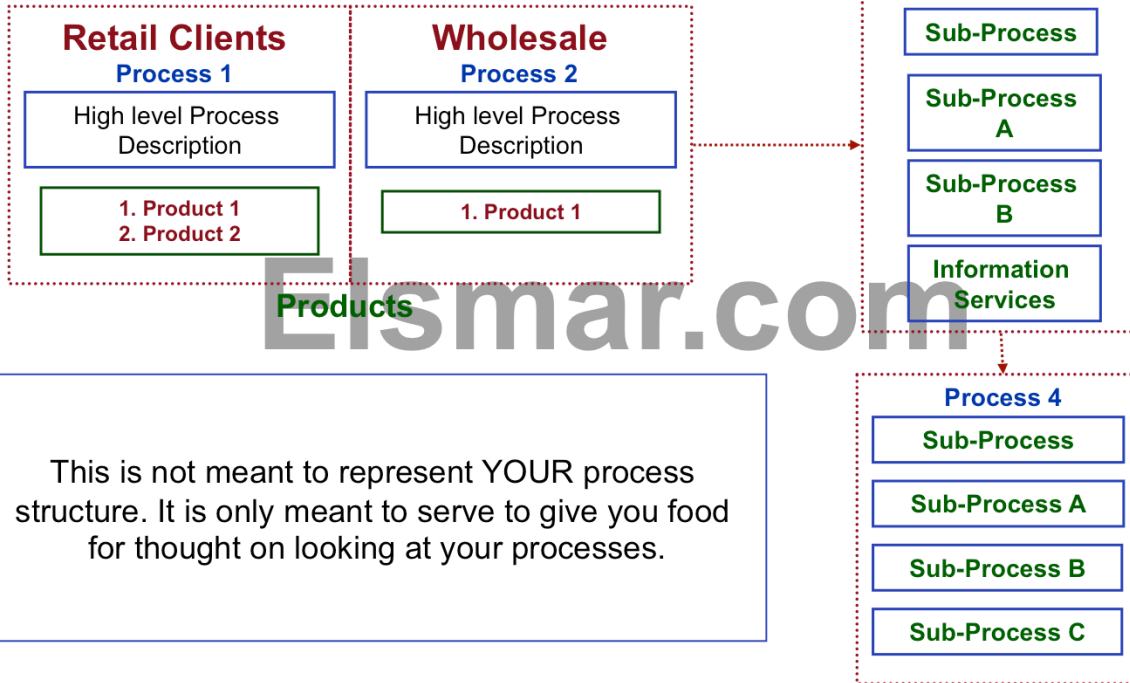
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An example of a manufacturing company defining and mapping its processes.

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Define Product and Base Processes

External Customers



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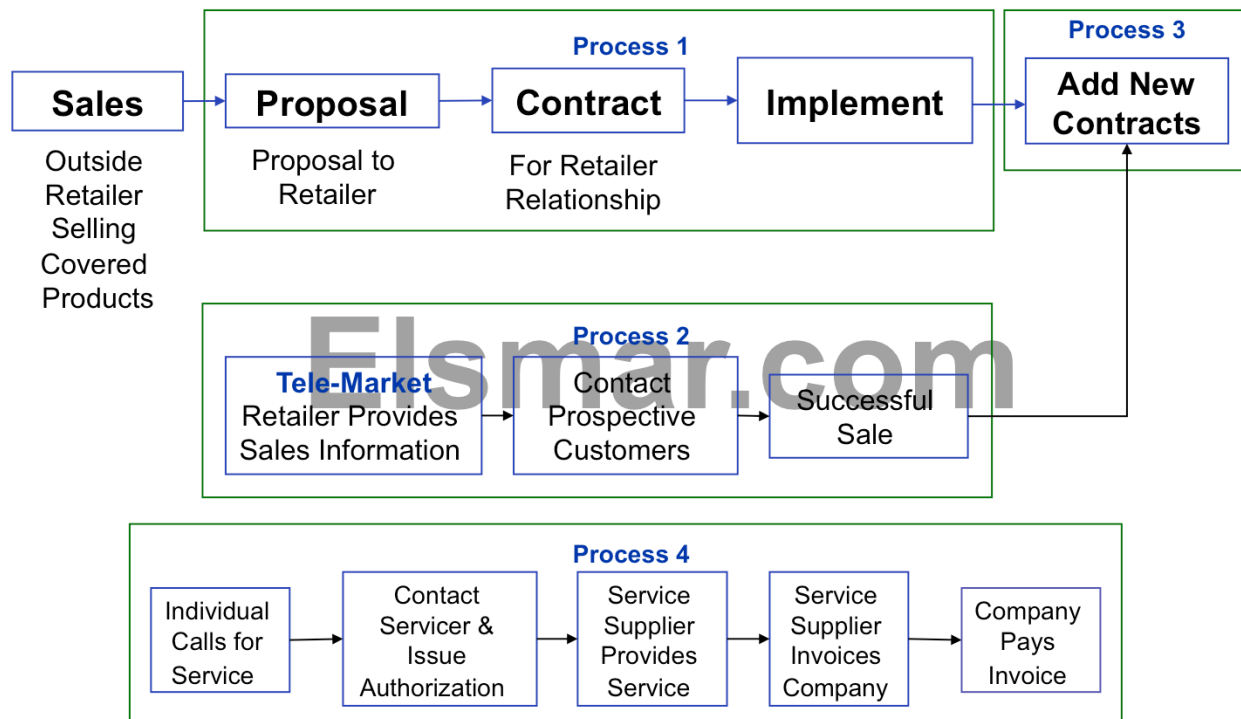
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An example of a service company defining and mapping its processes.

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Main Processes / Systems



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An example of a service company defining and mapping its processes.

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Miscellaneous Sub-Processes

Contracting & Compliance

- Contract Negotiation
- Compliance to State Regulations
- Maintenance of Fulfillment Process

Client Services

- Load client data electronically
- Dealer Set Up
- Table maintenance
- New client installations (implementations)

Data Entry

- Load client data manually
- Process Cancellations

Warranty Administration

- **Claims**
 - Review & Approve Payments
 - OTL authorizations for retail contracts
- **Customer Service**
 - Entitle & issue all initial authorizations
 - Inbound Sales Calls
 - Calculations for cash out
- **Service Recruitment**
 - Maintain Servicer Database
 - Satellite Customer Service
- **Compliance & Training**
 - New Employee Training
 - Quality audits of staff
 - QA Card review & reporting
- **PC Help Desk**
 - Entitle & issue all initial authorizations

Direct Marketing

- Campaign Planning
- Execute Direct Mail & Telemarketing campaigns
- Reporting for Client and management

Sales & Marketing Support

- Develop proposals
- Control collateral materials

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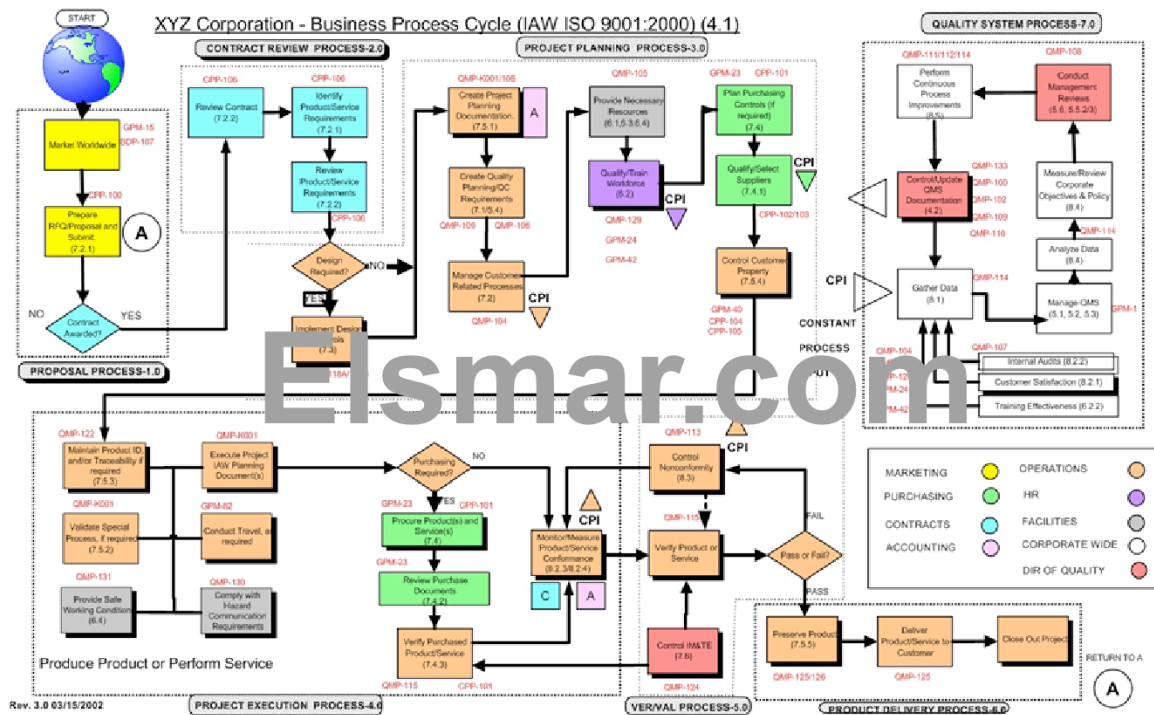
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An example of sub-processes in a service company.

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Integrated Process Overview Example



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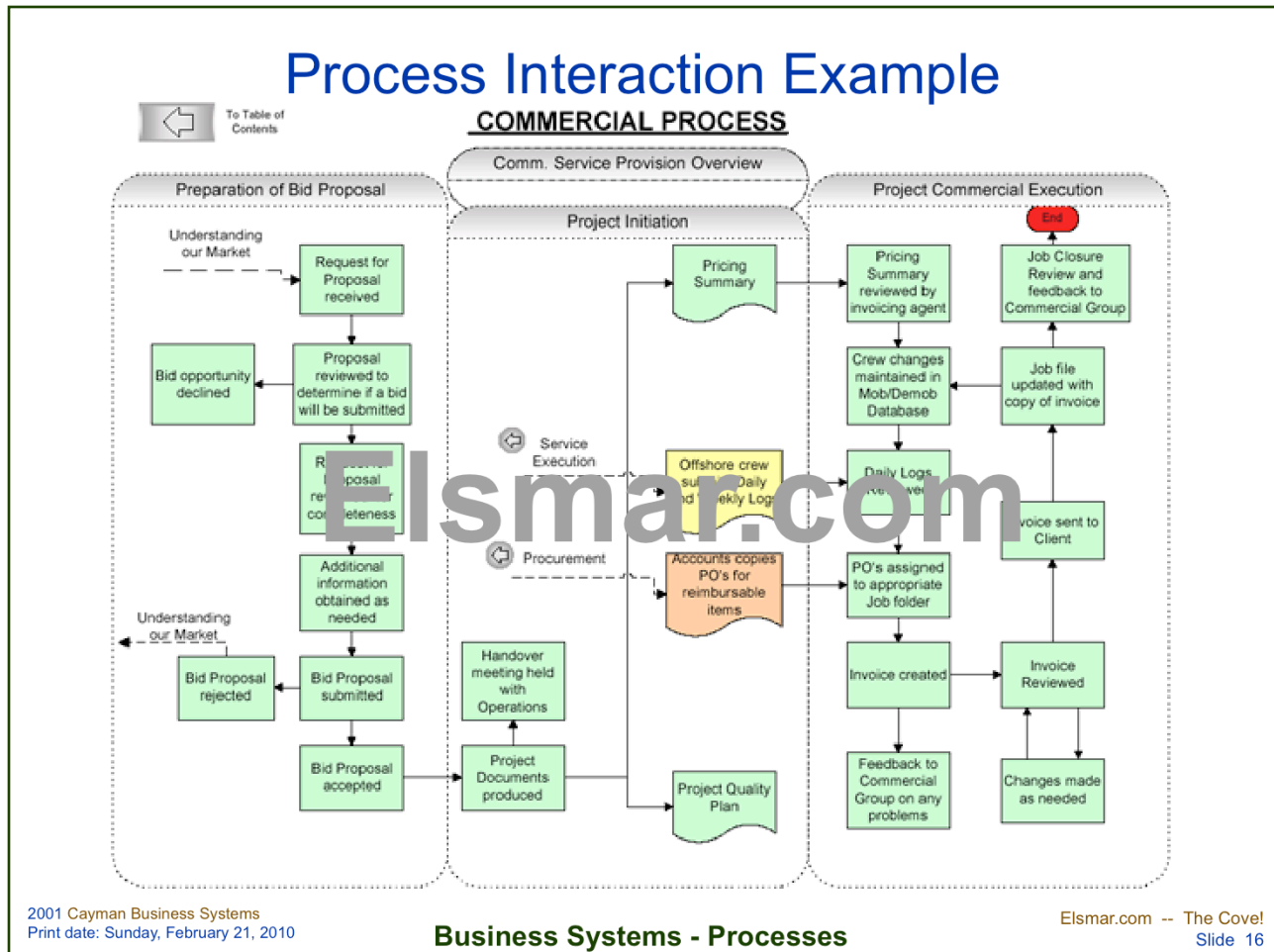
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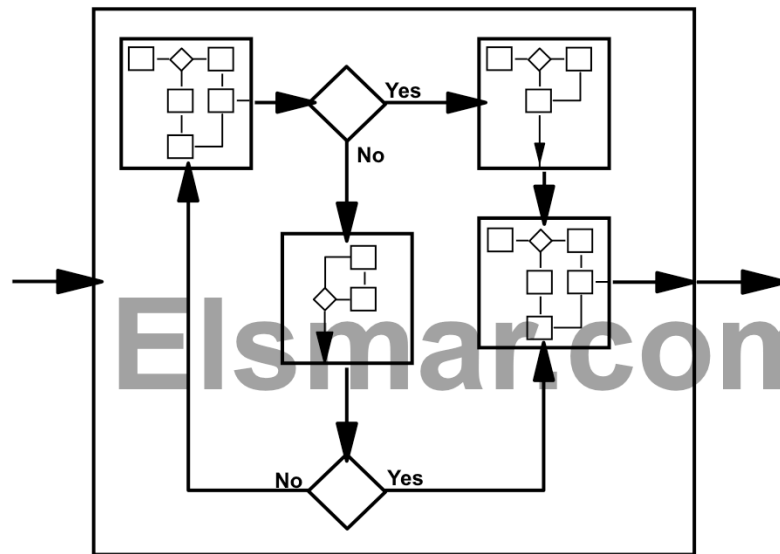
Process Interaction Example



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The Organization as a System, Subsystems, and Processes



Every company is made up of systems / processes. These interact. And they extend beyond the company 'walls'.

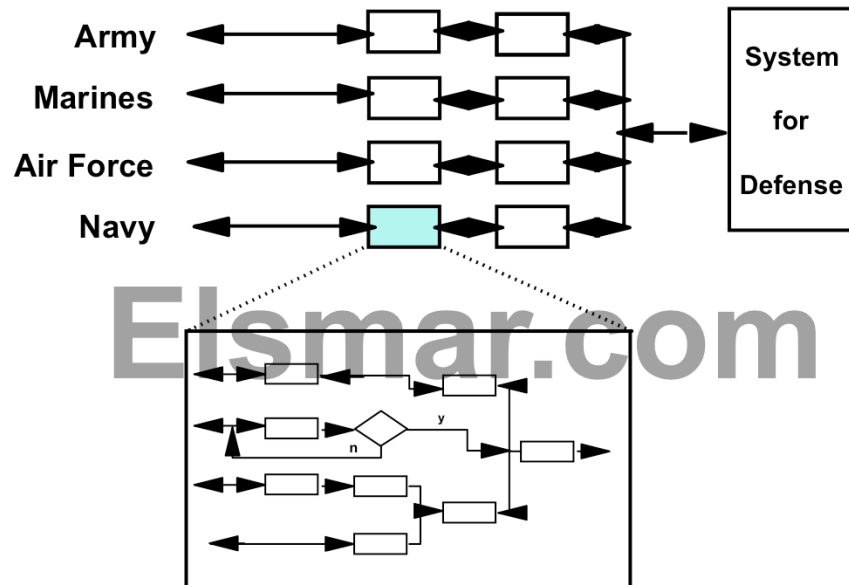
Notes & Commentary

Every high level system can be broken down into sub-systems. Soon we will talk about distinguishing between what is a system and what is a process. I want to warn you now that the distinction is as much a part of what resolution you are looking at as anything else. This is to say that if you are looking at a system and its sub-systems, often times those sub-systems are referred to as processes. If you go to the next detail level, what was referred to as a process now looks is the 'system' and ITS sub-systems are now the 'processes'.

My point here is to say do not get wrapped up in trying to label what is a system and what is a process. To some degree, they are the same thing.

We should also note that many peoples idea of a process is where something is being physically changed. For example, if I plate a part I am processing it. If I take a piece of metal plate and form it in a press I am processing it. This is a narrow interpretation of the word process. In English it is a verb: To process something.

Systems and Subsystems



There are high level systems and low level systems. High level systems are composed various sub-systems.

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This is a brief example of 'exploding' a sub-system for a more detailed look at the various interactions.

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Document Types / Classification & Controls

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graph TD; MS[Master Systems] --> SML[Systems Manual and Level IIs]; SML --> DMS[Departmental Master Systems]; DMS --> DWI[Departmental Work Instructions]; SML -.-> QR[Quality Records]; DMS -.-> QR; DWI -.-> QR; QR --> TR[Training Records]; TR --> DSTM[Department Specific Training Materials]; TR --> OTM[Orientation Training Materials]; SML -.-> CS[Control by: Quality Systems Manager]; DMS -.-> CS; DWI -.-> CS; QR -.-> CS; TR -.-> CS; DSTM -.-> CS; OTM -.-> CS;
```

The diagram illustrates the classification and control of document types in a business system. It is organized into two main columns. The left column, under the heading "Master Systems", contains three document types: "Systems Manual and Level IIs", "Departmental Master Systems", and "Departmental Work Instructions". The right column contains three document types: "Department Specific Training Materials", "Training Records", and "Orientation Training Materials". A central column contains "Quality Records". Arrows indicate the flow of information: "Systems Manual and Level IIs" points to "Departmental Master Systems", which points to "Departmental Work Instructions". "Systems Manual and Level IIs" also has a dashed arrow pointing to "Quality Records". "Departmental Master Systems" and "Departmental Work Instructions" also have dashed arrows pointing to "Quality Records". "Quality Records" points to "Training Records". "Training Records" points to both "Department Specific Training Materials" and "Orientation Training Materials". Control responsibilities are indicated by text and arrows: "Control by: Quality Systems Manager" points to "Systems Manual and Level IIs", "Departmental Master Systems", "Departmental Work Instructions", and "Quality Records". "Control by: Department Manager" points to "Departmental Master Systems" and "Departmental Work Instructions". "Control by: Department Manager" points to "Department Specific Training Materials" and "Training Records". "Control by: HR" points to "Orientation Training Materials".

Master Systems

Control by: Quality Systems Manager

Systems Manual and Level IIs

Departmental Master Systems

Control by: Department Manager

Departmental Work Instructions

Quality Records

Training Records

Control by: Department Manager

Department Specific Training Materials

Control by: Department Manager

Orientation Training Materials

Control by: HR

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Specific requirements are detailed in Clause_Interp_and_Upgrading.doc

Specific requirements are detailed in Clause_Interp_and_Upgrading.doc

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