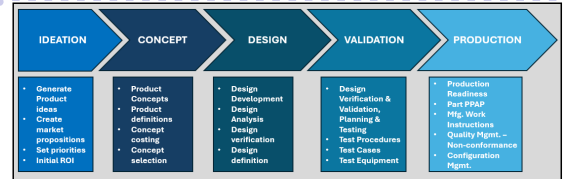




Managing the Company's Crown Jewels—Product Information

In today's world, organization's need to find their recipe for success to deliver great quality products that meet their customers' needs and exceeds their expectations. An organizations' capability to deliver, centers around developing the needed product information and configuring this information throughout the lifecycle of the product development process. The importance of the information that defines the concepts, the design intent, as well as the process information, provides the needed detail to manufacture and control the quality of the product through its manufacturing and delivery to market is key to overall success.



IDEATION

The Ideation process is centered around generating new product ideas. Typical methods of generating these ideas are:

- ◆ **Brainstorming:** A free-form approach to encourage coming up with as many ideas as possible.
- ◆ **User Research:** Collecting consumer data to understand the needs and pain points of your end customer.
- ◆ **Competitor Analysis:** The study of your competitors product in the marketplace and understand what different ideas that have incorporated in their product offering. Then comparing this to your product and identifying the gaps. Then coming with innovative solutions on how to solve these gaps.
- ◆ **Reverse engineering:** This involves taking apart a competitor's product to learn how it works. The key is to capture the information for all these ideas inclusive of their business cases, innovative concepts and prototypes so that they are readily available for use as they turn into product concepts.

CONCEPT

The Concept phase is the early phase of the development process where the product's feature sets have a few concept designs that incorporate the needed functionality into the product. It articulates the features and attributes that make the product solution unique and valuable. This is also when the final concept is selected that will continue into the Design phase. The product information consists of:

- ◆ **Product Concept Definition:** How this solution delivers on the customer's needs and expectations
- ◆ **Concept Design:** Typically defined through Computer Aided Design (CAD) models 2D and 3D, along with the specifications that highlight the method of tying the customer requirements to product attributes.

This data is the foundation for the detailed design phase that will complete the design of the product solution.

DESIGN

Product design is the process used that takes the selected Concept and develops the detailed design needed in order to develop prototypes both digitally and physically, needed to verify and validate the product design. This is truly the final step of completing the product solution. This typically is defined in CAD –3D and 2D models and assemblies to define how the product is going to be put together to fulfill the design intent.

VERIFICATION & VALIDATION

Validating the product design comes in two forms: Verification which involves the engineering review of designs, digital design analysis and hardware/software review as needed. Validation ensures that the product being built function as designed. The other aspect of validation is to validate that the process for manufacturing works as described and produces a quality product. This information is key to developing a closed loop.

PRODUCTION

Production data such as first article inspection, Production Part Approval Process (PPAP) for supplier parts is key to ensuring that the parts going into the product meet the needed specifications. Other key information is work instructions, non-conformance, etc.

I've broken down the product development process to highlight that it's a building block approach. The information from innovation to production—builds on one another. The need to control and manage this information is key to an efficient and predictable process that results in quality products.

If you'd like to talk about how we can help you architect this information within your company—give us a call!

Next Month: Capture Your Shop Floor Process to Create a Reusable Experience