DOWNLOAD PDF QUALITY FUNCTION DEPLOYMENT (QFD)

Chapter 1 : Quality Function Deployment in Excel | Excel QFD Template

In QFD, quality is a measure of customer satisfaction with a product or a service. QFD is a structured method that uses the seven management and planning tools to identify and prioritize customers' expectations quickly and effectively.

Yet, it is a powerful tool to design processes or products according to customer requirements. Quality function deployment is abbreviated as QFD. Quality Function Deployment Definition Once information about customer expectations has been obtained, techniques such as quality function deployment can be used to link the voice of customer directly to internal processes. QFD is not only a quality tool but also an important planning tool. There is no single definition for quality function deployment, but a general basic concept of this method is as follows: Prior to this, quality control methods were primarily aimed at fixing a problem during or after production. A classic product design application is in the automotive industry. In fact, Clausing tells of an engineer who initially wanted to place the emergency hand brake of a sports car between the seat and the door. However, the voice of customer testing found that women drivers wearing skirts had difficulty with the new placement of the hand brake. The Quality Function Deployment highlighted potential dissatisfaction with the location of this feature, and the idea was scrapped. Quality Function Deployment is a customer-driven process for planning products and services. It starts with the voice of the customer, which becomes the basis for setting requirements. Quality Function Deployment provides documentation for the decision-making process. QFD helps you to: Quality Function Deployment is also a system for design of a product or service based on customer demands, a system that moves methodically from customer requirements to specifications for the product or service. QFD involves the entire company in the design and control activity. QFD matrices vary a great deal and may show such things as competitive targets and process priorities. The matrices are created by interdepartmental teams, thus overcoming some of the barriers which exist in functionally organized systems In this figure, we can see the QFD diagram. The What or Wants: Customer requirements, needs, and priorities that form the far left-wing of the house The Competitive Assessment: Compares customer priorities with appropriate marketplace offerings, across key competitive deployments, which forms the right-wing annex of the house The How: This forms the attic of the house The Design Relationships: Describes the interrelationship between the design features, which form the roof of the house The Foundation: Uses benchmarked target values as objective measurements to evaluate each characteristic, forming the basement of the house Quality Function Deployment Process Let us briefly have a look at the QFD approach; which is used for the purpose of designing an error free process or product. In this approach, design engineers typically start progressive drill-down approach with planning the development and go through four phases to reach a deeper understanding of the required process control and quality. The details are as follows: It helps identify service offerings characteristics, that best meet customer requirements, helps analyze competitive opportunities, and establishes critical target values too. It helps identify the critical parts and assembly components using the prioritized offering characteristics in QFD 1 and establishes critical target values. It helps determine critical process operational requirements and elements using the prioritized components in QFD 2 and establishes critical process parameters Quality Control QFD. It helps prioritize the process control methods and parameters and establishes production and inspection methods that best support the prioritized process elements of QFD 3 The diagram shown here will also help you understand the QFD methodology here. Each matrix in the four-step approach is related to the previous matrix. Once the matrices are completed, Six Sigma Black Belt practitioners can use the information to design their process or product according to critical target values and customer requirements. Six Sigma is all about producing products or services that deliver on customer demands. Quality function deployment is just another way to design processes that produce products or services that satisfy the customer.

DOWNLOAD PDF QUALITY FUNCTION DEPLOYMENT (QFD)

Chapter 2 : Quality Function Deployment | ASQ

What is Quality Function Deployment (QFD) Quality Function Deployment (QFD) is a process and set of tools used to effectively define customer requirements and convert them into detailed engineering specifications and plans to produce the products that fulfill those requirements.

Each of the four phases in a QFD process uses a matrix to translate customer requirements from initial planning stages through production control. Binary relationships between elements are evaluated for each phase. Only the most important aspects from each phase are deployed into the next matrix. Phase 1-Led by the marketing department, Phase 1, or product planning, is also called The House of Quality. Many organizations only get through this phase of a QFD process. Phase 1 documents customer requirements, warranty data, competitive opportunities, product measurements, competing product measures, and the technical ability of the organization to meet each customer requirement. Getting good data from the customer in Phase 1 is critical to the success of the entire QFD process. Phase 2- Phase 2 is led by the engineering department. Product design requires creativity and innovative team ideas. Product concepts are created during this phase and part specifications are documented. Parts that are determined to be most important to meeting customer needs are then deployed into process planning, or Phase 3. Phase 3-Process planning comes next and is led by manufacturing engineering. During process planning, manufacturing processes are flow charted and process parameters or target values are documented. Phase 4-And finally, in the production planning, performance indicators are created to monitor the production process, maintenance schedules, and skills training for operators. Also, in this phase decisions are made as to which process poses the most risk and controls are put in place to prevent failures. The quality assurance department in concert with manufacturing leads Phase 4. QFD is a systematic means of ensuring that customer requirements are accurately translated into relevant technical descriptors throughout each stage of product development. Meeting or exceeding customer demands means more than just maintaining or improving product performance. It means building products that delight customers and fulfill their unarticulated desires. Companies growing into the 21st century will be enterprises that foster the needed innovation to create new markets. We follow one of the most robust methodologies for product development: We provide exceptional product development team facilitation using QFD as a guiding methodology. We also teach workshops on QFD that are comprehensive, effective and concise. She has a comprehensive background with advanced QFD techniques, including technology deployment, cost deployment, and reliability deployment. Based on the needs of the customer, customized QFD models can be created. Vital information from the customer can be used for many different improvement activities. Needs that they may not even know they have and expectations that exceed their wildest dreams. Both time and money can be saved by carefully listening to what a customer says. Eighty percent of new products fail in the market place because no one paid attention to this most critical aspect - - the customer. For that reason, collecting the VOC is the first thing an organization should embark on when entering the market with a new product or service, or in the redesign of an existing product or service. Organization Development Change is the only constant in organizational growth Organizational development OD is an application of behavioral science to organizational change. We work with organizations to ensure that QFD Quality Function Deployment is introduced into your organization in a way that matches your corporate culture. OD encompasses a wide array of theories, processes, and activities, all of which are oriented toward the goal of creating positive organizational change. Working with executive management teams, we facilitate the groups understanding of the competition, assess the current environment, help design and facilitate executive management teams, build product development teams that will be leading the QFD Quality Function Deployment efforts, design customized focus groups with team members and customers and help to identify road blocks that could undermine change efforts. We provide cradle to grave project management for your product development efforts.

Chapter 3 : Quality Function Deployment (QFD): Applied Voice of the Customer (VOC)

What is Quality Function Deployment (QFD)? QFD is a systematic process to integrate customer requirements into every aspect of the design and delivery of products and services QFD is a collection of matrices used to facilitate group discussions and decision making.

On this course, you can get insight into what QFD is and how much inspiration it can actually give you and your organization. Based on customer requirements the basic requirements for features in products becomes clear â€" after this the actual production process can be designed. It is often the first step to get operationalized customer requirements â€" that is the first house in QFD. Target Group is anyone with an interest for quality Because QFD is one of the classic quality tools, this course is relevant to a very broad audience. Whether you come from the production, administration, service or development, the link between customers, specifications and processes is relevant. Everyone needs to be able to translate customer requirements into actual deliveries and the possibility of ensuring correct performance. If you work in a development function, being able to translate customer requirements may just be the decisive parameter for the new product or service initiatives actually becomes a success with your customers. What you will learn on the QFD course? Typically, the course consists of the following activities: Introduction to QFD â€" what is it? And why is it a strong quality tool? Here you have the opportunity to meet participants from our courses, hear a little about how they work with methods and tools and discuss your learnings from the day and the tasks that you gave yourself. Extended curriculum QFD is a typical tool in a development process. Are you up for more insight into customer focused development, you may benefit from participating in Design for Six Sigma DfSS â€" and possibly later take a formal education as a Design for Six Sigma Black Belt Contact us for more information. You can also use QFD insights into a more management-oriented journey. This means that a Business Process Management course could be an option. Here you can expand your understanding of the management perspective â€" and thus how to get customer requirements, metrics and processes into your daily operations. Finally, you might also like to know more about risk management in development projects. QFD helps shape the solution. With Design FMEA you can create insight into where there may be risks â€" and thus where you should be extra attentive to search for other solutions in both products and maybe new processes.

DOWNLOAD PDF QUALITY FUNCTION DEPLOYMENT (QFD)

Chapter 4 : QFD | iSixSigma

Quality Function Deployment is also a system for design of a product or service based on customer demands, a system that moves methodically from customer requirements to specifications for the product or service.

QFD is a way to assure the design quality while the product is still in the design stage Akao, [1]. QFD consists of two components which are deployed into the design process: The "function deployment" component links different organizational functions and units into to the design-to-manufacturing transition via the formation of design teams. Then later it was adopted and developed by other Japanese companies, notably Toyota and its suppliers. However, the uptake of QFD in the Western world appears to have been fairly slow. There is also some reluctance among users of QFD to publish and share information - much more so than with other quality-related methodologies. This may be because the data captured and the decisions made using QFD usually relate to future product plans, and are therefore sensitive, proprietary, and valuable to competitors. Hutton, [5] C. And the four phases of QFD are: It starts with customers and market research with leads to product plans, ideas, sketches, concept models, and marketing plans. Product development and specification. It would lead to the development to prototypes and tests. Manufacturing processes and production tools. They are designed based on the product and component specifications. Benefits of QFD According to Don Clausing, the author of Total Quality Development book, pointed out that the QFD has been evolved by product development people in response to the major problems in the traditional processes, which were: Disregard the voice of customer 2. Disregard the competition 3. Concentration on each specification in isolation 4. Little input from design and production people into product planning 6. Divergent interpretation of the specifications 7. Lack of structure 9. Weak commitment to previous decisions E. Tools of QFD Matrix diagrams, which are very useful to organize the data collected, help to facilitate the improvement process. They can be used to display information about the degree to which employee expectations are being met and the resources that exist to meet those expectations. Figure 1 shows the typical House of Quality. This House of Quality should be created by a team of people with first-hand knowledge of both company capabilities and the expectations of the employee. Effective use of QFD requires team participation and discipline inherent in the practice of QFD, which has proven to be an excellent team-building experience.

Chapter 5 : What is Quality Function Deployment (QFD)? | ASQ

Quality function deployment (QFD) is a method developed in Japan beginning in to help transform the voice of the customer into engineering characteristics for a product.

Chapter 6 : Quality Function Deployment (QFD)

Quality Function Deployment (QFD) was developed to bring this personal interface to modern manufacturing and business. In today's industrial society, where the growing distance between producers and users is a concern, QFD links the needs of the customer (end user) with design, development, engineering, manufacturing, and service functions.

Chapter 7 : Quality function deployment - Wikipedia

Quality Function Deployment, QFD QFD (Quality Function Deployment) is a classic - but still very overlooked - tool for building a robust design. On this course, you can get insight into what QFD is and how much inspiration it can actually give you and your organization.

Chapter 8 : Quality function deployment (QFD) â€“ ASQ Service Quality Divison

Quality Function Deployment is a planning process for products and services that starts with the voice of the customer.

DOWNLOAD PDF QUALITY FUNCTION DEPLOYMENT (QFD)

Basically, it enables people to think together. Using QFD allows the charting of customer wants and the technical hows which results in a better understanding of design relationships.

Chapter 9 : Quality Function Deployment (QFD) - Download free templates - Knowledge Hills

The following House of Quality (QFD) example gives a simple overview of the intended use of a House of Quality matrix and demonstrates how successive HOQs flow into one another, facilitating the Quality Function Deployment process.