

School of Mechanical Engineering

Course Code : MCDM5004

Course Name: Product Design and Life cycle Management

UNIT I

INTRODUCTION

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INTRODUCTION

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INTRODUCTION- PRODUCT DEVELOPMENT

- ❖ **New era of fundamental changes** in products, services and delivery of products - *Satellite phones, the Internet, intelligent machines, biotechnology, electronic commerce.*
- ❖ **Customer requirement** - customized products with more performance and options at a lower cost
- ❖ **Manufacturing Industries and business organizations** – need to remain competitive, react quickly to prevailing market conditions and maximize the utilization of resources.
- ❖ **Product development** - better strategies and methods that are flexible, fluid, and promote simplicity.
- ❖ **Key** - Systematic application of best practices that focus on reducing technical risk in a changing environment.

LIGHT SPEED CHANGE

- ❖ **Time** is a scarce resource. The future promises to be even more of a challenge.
- ❖ **Traditional approaches** that a company might use to remain competitive are no longer appropriate .
- ❖ **Focus on product development efforts** not only on a product's function, project schedules and deadlines, and cost, but also in **other life cycle issues** such as customization, technical risk, simplicity, producibility, quality, innovation and service.
- ❖ **Customer requirement - value**
- ❖ **Value** is expressed as the relative worth or perceived importance of a product to the customer . It can be measured by a series of critical marketing parameters such as innovation, styling, performance, cost, quality, reliability, service, and availability.

- ❖ **Creating innovative solutions** - greatest opportunity for distancing yourself from the competition.
- ❖ **Innovation**, however, does not come cheap. A company that is committed to innovation should have a high tolerance for many failures. A company has to be willing to put itself **at risk everyday** through innovation. Small, incremental changes of the past won't work in today's marketplace.
- ❖ **Goal of product development** - identify technical risks early in the development process and implement methods to minimize their potential occurrence and effect. Best practices provide the framework and systematic process for success.

NEW BUSINESS MODELS AND PRACTICES

- ❖ **CAD systems** - replace drawing tables.
- ❖ **Presentation software such as Powerpoint** - replaced the overhead transparency.
- ❖ **Technology** - enhanced a particular process without too much disruption, but the benefits are equally modest. Technology's true potential is realized when it is employed in innovative ways that change traditional business practices.
- ❖ **New Economy** - name for the future business environment consist of new business models using the Internet to interact with customers and suppliers. It will be a technology driven, knowledge rich, collaborative interactivity.
- ❖ **Computers and the appropriate software** - enhance collaborative product development through decision support systems, engineering analyses, intelligent databases, etc. Computers will improve collaboration independent of time and place.

❖ **Technology** - more new customized products to be introduced more rapidly resulting in shorter product lives. For example, every time a new microprocessor is introduced to the market, new laptops are designed with the new product.

❖ **The tremendous increase in information and the knowledge** - increasing the role of design specialists or experts. Thus, design team members will be selected for specific areas of expertise such as knowledge in circuit design, programming skills, composite materials, or electronic assembly, financial markets, supply chain.

❖ **Key** - Ensure effective collaboration between these many different specialists even though each has unique locations, objectives, methods, technologies and terminology.

References

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Thank you

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