

IPE 303 Product Design I

Standardization

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Standardization

- Standardization refers to the extent to which there is *absence of variety* in a product, service or process
- Standardized products are immediately available to customers



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Standardization

- Advantages of Standardization:
 - Fewer parts to deal with in inventory & manufacturing
 - Reduced training costs and time
 - Orders fillable from inventory
 - More routine purchasing, handling, and inspection procedures
 - Design costs are generally lower
 - Need for fewer parts justifies increased expenditures on perfecting designs and improving quality control procedures
 - Opportunities for long production runs and automation



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Standardization

- Disadvantages of Standardization:
 - Designs may be frozen with too many imperfections remaining
 - High cost of design changes increases resistance to improvements
 - Decreased variety results in less consumer appeal



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Designing for Mass Customization

- This is a strategy of producing basically *standardized* goods or services, but incorporating some degree of customization in the final product or service
- Two techniques:
 1. *Delayed differentiation*
 2. *Modular design*

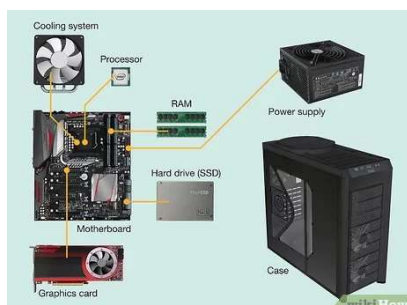
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Designing for Mass Customization

1. Delayed differentiation

- Delayed differentiation is the *process of producing but not quite completing a product* or service until customer preferences or specifications are known
- It is a postponement tactic (produce a piece of furniture, but do not stain it until the customer chooses the stain)



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Designing for Mass Customization

2. Modular Design

- Modular design is a form of standardization in which *component parts are subdivided into modules* that are easily replaced or interchanged.



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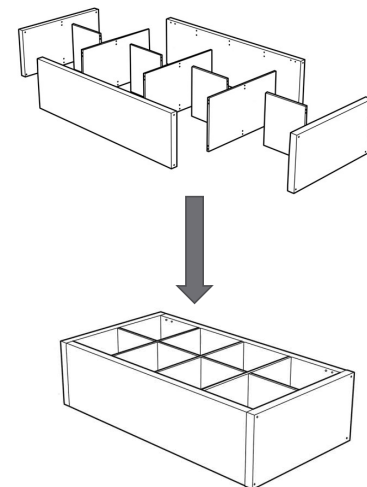
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Designing for Mass Customization

2. Modular Design

Advantages:

- Easier diagnosis and remedy of failures
- Easier repair and replacement
- Simplification of manufacturing, transportation and assembly



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Designing for Mass Customization

2. Modular Design

Disadvantages:

- Limited number of possible product configurations
- Limited ability to repair a faulty module; the entire module must be scrapped



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