# *Operations Management - Definitions*

**Operations Management**

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| --- | --- | --- |
|  | *“Transformation of inputs to outputs.”* |  |
| **Input** | **🡪** | **Process** | **🡪** | **Output** |  |
| Resources\*Facilities\*Material\*Equipment\*Labor | **🡨** | Operations\*Design\*Manage\*Control | **🡨** | Products&Services |  |
|  |  |  |  |  |  |
| Functions\*Strategic\*Tactical\*Detailed |  | Industries\*Continuous\*Intermittent\*Service |  | Objectives\*Monetary\*Time\*Quality |  |
|  |  |

**Operations Strategy**

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| --- | --- | --- |
|  |  |  |
|  | **Product Design** |  |
|  | **\*Customized****\*Standardized** |  |
|  |  |  |
|  | **Process Design** |  |
|  | **Manufacturing****\*Product-Focused****\*Process-Focused** | **Service****\*Quasi-manufacturing****\*Customer-as-participant****\*Customer-as-product** |  |
|  |  |  |  |
|  | **Inventory Design** |  |
|  | **\*Make-to-Stock****\*Make-to-Order** |  |
|  |  |  |

# *Break-Even Analysis*

Three production processes, Automated (A), Cellular Manufacturing (C), and Job Shop (J), have the following cost structure. Which process is preferred?

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Definition**

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| --- | --- | --- |
| Process | Fixed Cost (FC)per Year | Variable Cost (VC)per unit |
| Automated (A) | $ 110,000 | $ 2 |
| Cellular Manufacturing (C) | $ 80,000 | $ 4 |
| Job Shop (J) | $ 75,000 | $ 5 |

 |
| **Solution**

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| --- | --- | --- | --- |
| Let X=Annual Production. |  |  |  |
| Break-even between (A) & (C) | For (A):FC + VC \* X |  | For (C):FC + VC \* X |
| $110,000 + $2X | = | $80,000 + $4X |
| Break-even = X = (110000–80000)/(4–2)=15000 |
|  |  |  |  |
| Break-even between (C) & (J) | For (C):FC + VC \* X |  | For (J):FC + VC \* X |
| $80,000 + $4X | = | $75,000 + $5X |
| Break-even = X = (80000–75000)/(5–4)=5000 |
|  |  |  |  |

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| **Presentation** |