# *Operations Management - Definitions*

**Operations Management**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | *“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**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | |  |
|  | **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**   |  |  |  | | --- | --- | --- | | 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**   |  |  |  |  | | --- | --- | --- | --- | | 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 | | | |  |  |  |  | |
| **Presentation** |