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**THE TECHNICAL UNIVERSITY OF KENYA**

**BACHELOR OF SCIENCE IN INFORMATION SCIENCE**

**AIIQ3122: MANAGEMENT INFORMATION SYSTEMS**

**MIS CAT**

### 1. **Competitive Advantage in Organizations**

Competitive advantage can be achieved in three dimensions through Information Systems (IS):

**a) Strategic Dimension**  
IS helps organizations create long-term competitive advantages by enabling innovative business models and improving decision-making.

* Example: Amazon uses IS to analyze customer preferences, enabling personalized recommendations, which improves customer loyalty and drives sales growth.

**b) Tactical Dimension**  
IS supports medium-term planning and resource allocation to achieve organizational goals efficiently.

* Example: A company can use Enterprise Resource Planning (ERP) systems to streamline supply chain management, reducing costs and improving responsiveness to market changes.

**c) Operational Dimension**  
IS enhances day-to-day operations by automating routine processes and improving efficiency.

* Example: Banks use automated teller machines (ATMs) and online banking systems to provide 24/7 services, increasing customer convenience and satisfaction.

### 2. **The Value Chain Framework by Michael Porter**

The Value Chain framework identifies primary activities that create value and contribute to competitive advantage by exceeding the cost of providing goods or services.

**Primary Activities**:

1. **Inbound Logistics**: Receiving, storing, and managing raw materials.
2. **Operations**: Transforming inputs into finished products or services.
3. **Outbound Logistics**: Delivering products to customers.
4. **Marketing and Sales**: Promoting and selling products to customers.
5. **Service**: Providing after-sales support and maintenance.

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These activities collectively create value by ensuring high quality, low costs, and better customer experiences.

### 3. **The Emerging Fourth-Era of Information Systems (IS Capability)**

The fourth era of IS emphasizes the integration of digital technologies, such as artificial intelligence (AI), big data, and the Internet of Things (IoT), to drive innovation and organizational success.

**IS Capability**:

* The ability to harness data and analytics for informed decision-making.
* Real-time connectivity to improve operational efficiency.
* Enhanced adaptability to rapidly changing market conditions.

**Link to Organizational Performance**:  
IS capabilities enable organizations to innovate, improve agility, and increase productivity. For example, predictive analytics in retail helps optimize inventory levels, reducing waste and improving profitability.