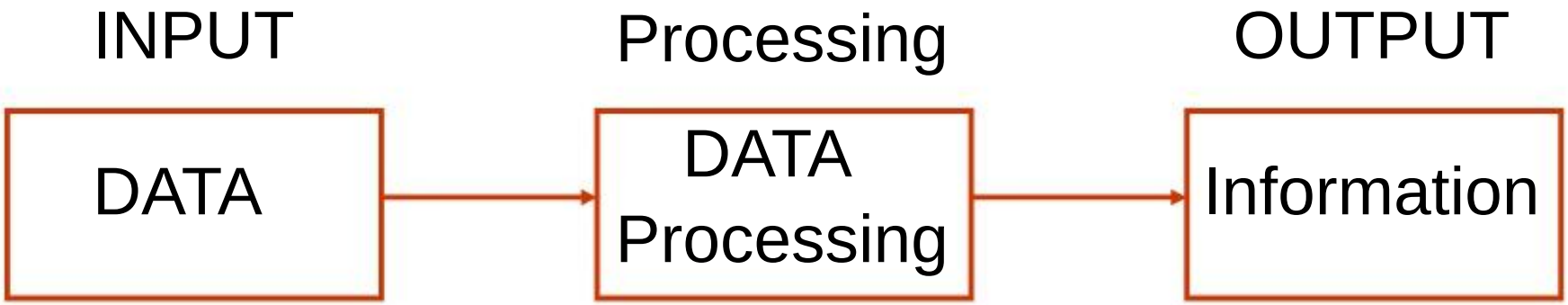
Information System

Prepared By: Hardeep Singh

Data Vs Information



Differences

Refers to details, facts about any event.	Refers to only those events which concerned with entity.
Disorganized & disintegrated in the form.	Properly arranged, classified & organized.
In raw form.	In finished form.
Can’t be understood or used by users.	Understood & used by the users.
Does not depend upon information.	Based upon & derived from data.

Classification Of Information

Action Vs No-action

Recurring Vs Non-recurring

Internal Vs External

Classification Of Information

Action: E.g. ‘No Stock’ report calling a Purchase Action

No-action: E.g. Stock Ledger showing Store Transactions

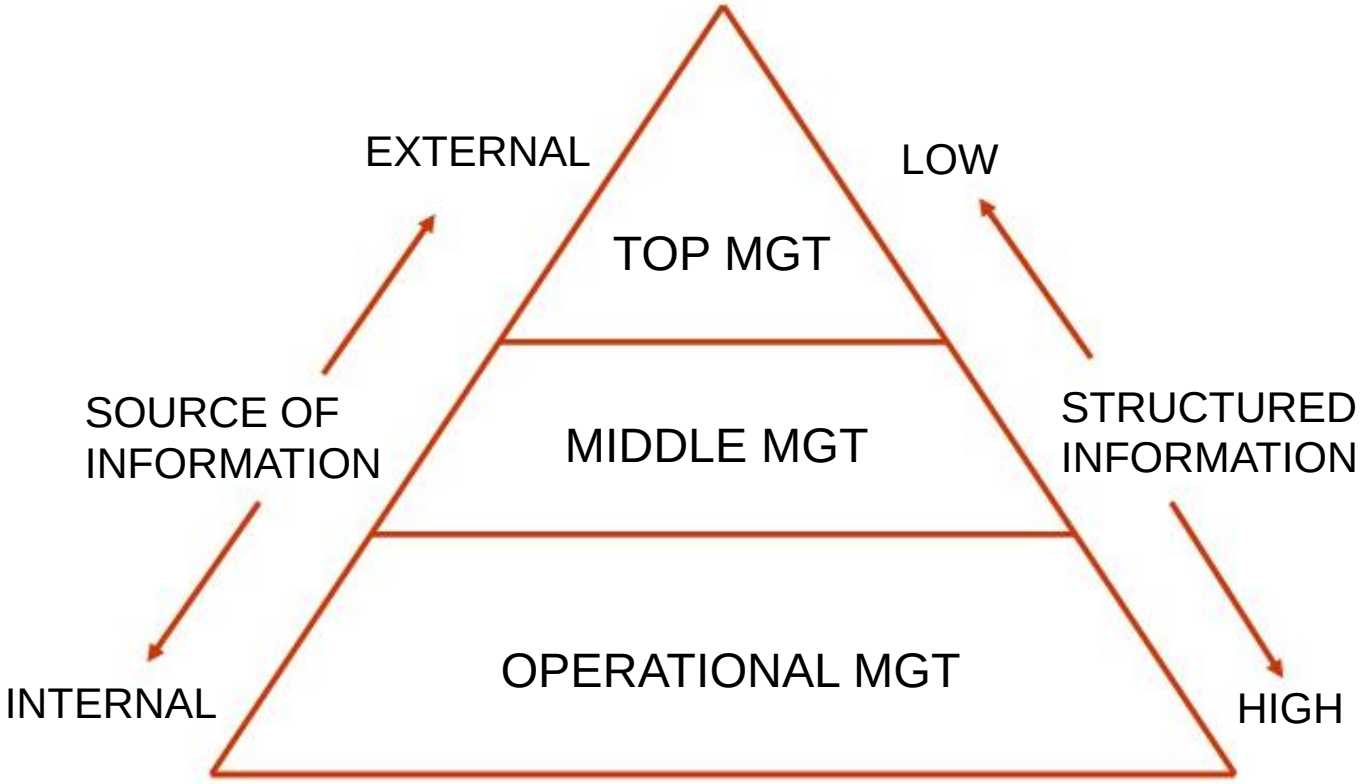
Recurring: E.g. Monthly Sales Report.

Non-recurring: E.g. Financial Analysis, Market Research Study.

Internal: E.g. Internal Sources of Org.

External: E.g. External Sources of Org. i.e. Government Reports, Industry Survey.

Organization & Information



ORGANIZATION STRUCTURE

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Classification Of Information-In Terms Of Application

Planning Information

Control Information

Knowledge Information

Organizational Information

Database Information

Functional/Operational Information

Classification Of Information-In Terms Of Application

Planning Inf.: E.g. Time or Design Standards.

Control Inf.: E.g. Reporting the status of an activity.

Knowledge Inf.: E.g. Knowledge base.

Organizational Inf.: E.g. Used by all in org.

Database Inf.: E.g. Multiple use information.

Functional/Operational Inf.: E.g. Information used in operations of a business.

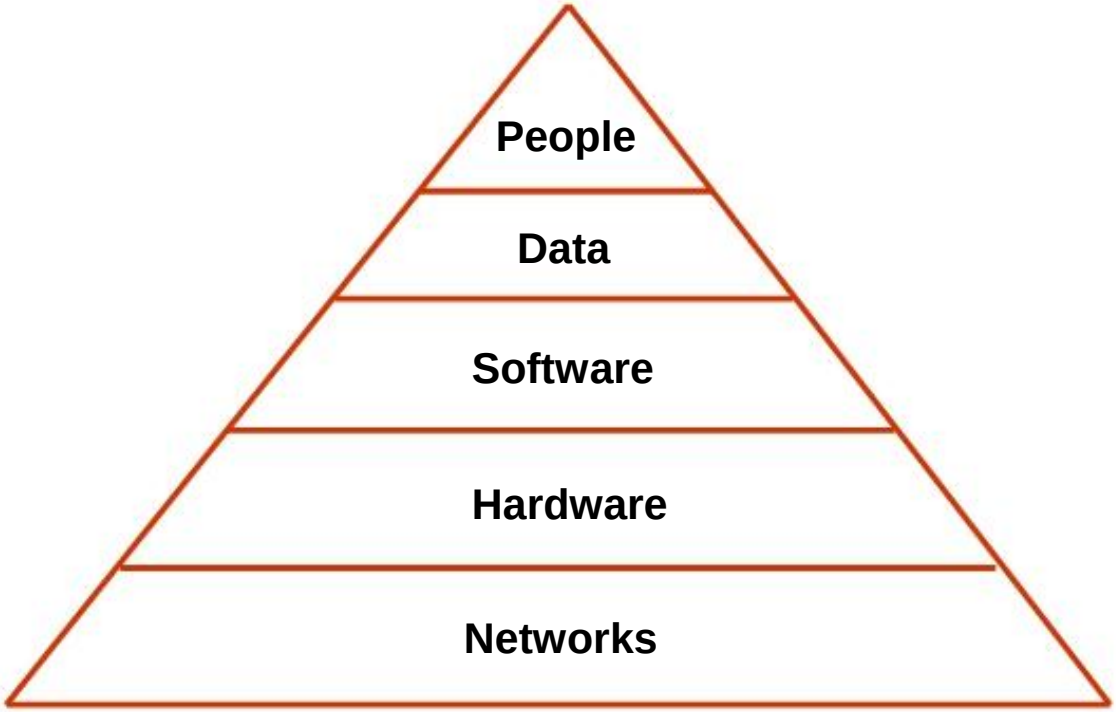
Why Information System Are Important

Information System Resources & Technologies

An End User Perspective

An Enterprise Perspective

A Global Society Perspective



Information Quality

- Timelines
- Accuracy
- Relevance
- Adequacy
- Completeness
- Explicitness
- Exception-based

Information Quality

Timelines: Information must reach recipient at right time.

Accuracy: Information free from mistakes and errors.

Relevance: Relevant to users, may be for one not for others.

Adequacy: Information sufficient in quantity.

Completeness: Information should be complete.

Explicitness: Information which doesn't require further analysis.

Exception-based: Only particular information to be used by manager. To the point.

Utilities Of Information

Form Utility: Form should match with user requirements.

Time Utility: Information available when needed.

Place Utility: More value of information if it can be accessed or delivered easily.

Possession Utility: Person who had the information influences its value.

Characteristics Of Information System

- Management Oriented/Directed
- Business Driven/Justified
- Integrated
- Common Data Flows
- Heavy Planning Element
- Subsystem Concept
- Flexibility & Ease Of Use
- Data Base
- Distributed Systems
- Information As A Resource

Characteristics Of Information System

Management Oriented/Directed: IS for all in organization.

Business Driven/Justified: Must be linked to business plan of org.

Integrated: Integration of IS Subsystems.

Common Data Flows: Because of Integration common data flows.

Heavy Planning Element: IS doesn't come overnight, 3-5 years.

Subsystem Concept: No. of departments = Subsystems.

Flexibility & Ease Of Use: For future modification & easy to use.

Data Base: It is the central objective.

Distributed Systems: E.g. Banking System.

Information As A Resource

Levels Of Management

Robert B. Anthony in 1965 described 3 Levels Of Business Activities Carried Out In Operating An Organization:

Top Management

(Strategic Planning)

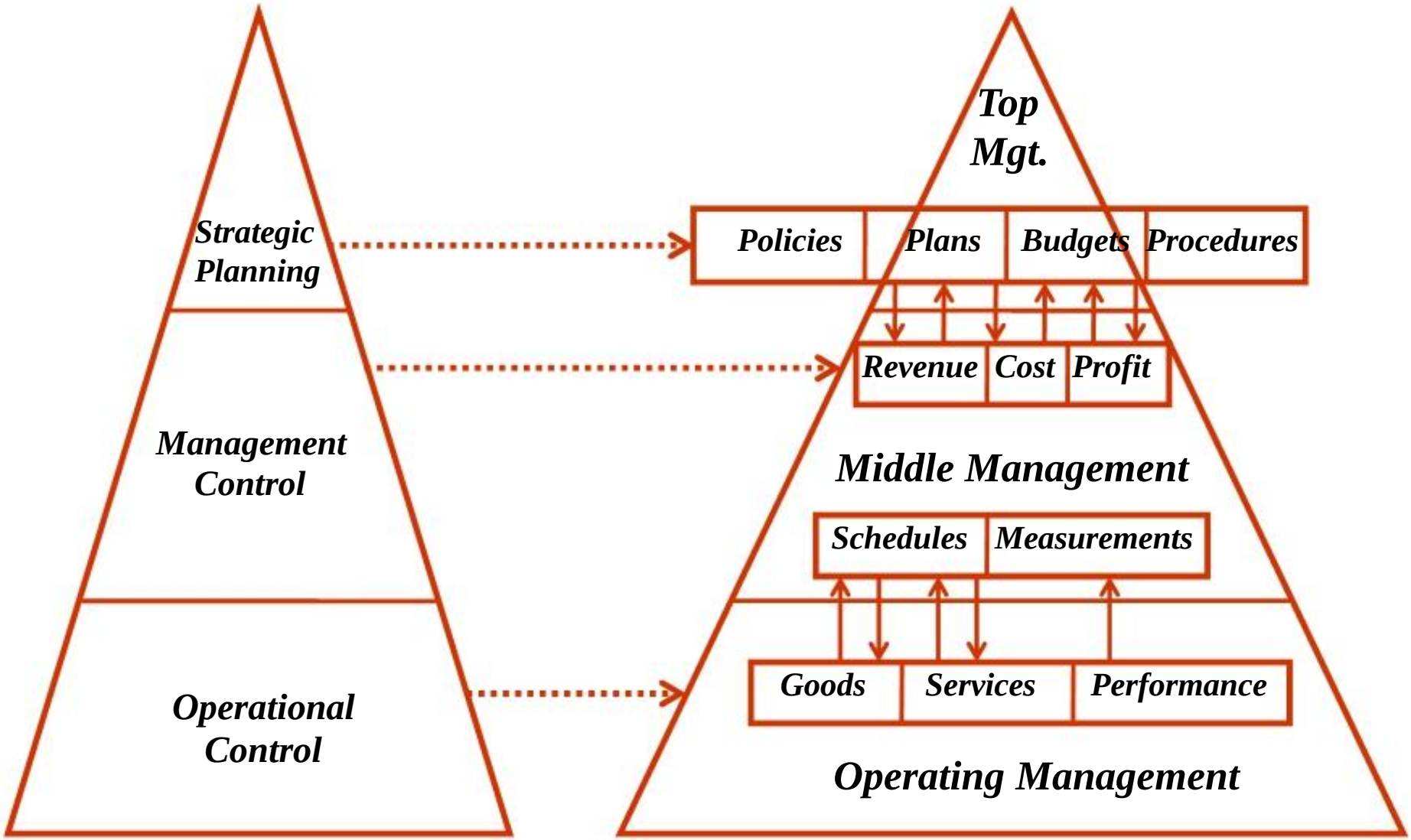
Middle Management

(Management Control)

Operational Management

(Operational Control)

Management Levels



Fundamental Role of IS

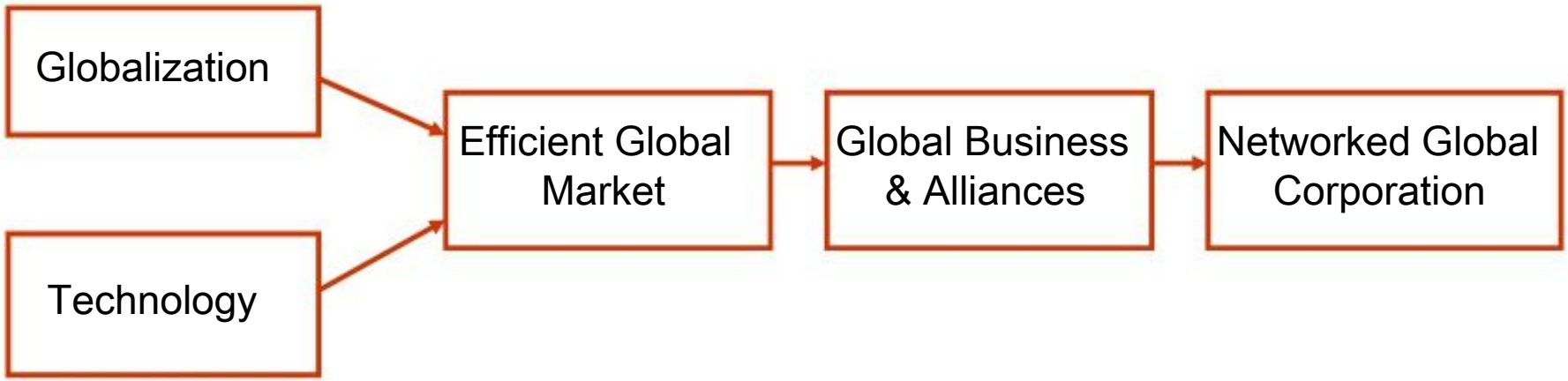
Support of business operations.

Support of managerial decision making.

Support of strategic competitive advantage.

Fundamental Roles of IS…

Globalization



Business process Reengineering

	IT Initiative	Process Changed	Business Benefit
Individual	Laptop System	Sales Call	Increased Sales
Work Group	Product Database	Product Distribution	Greater Customer Satisfaction
Business Unit	Product Mgt. System	Marketing Channel Communications	Improved Competitive Position

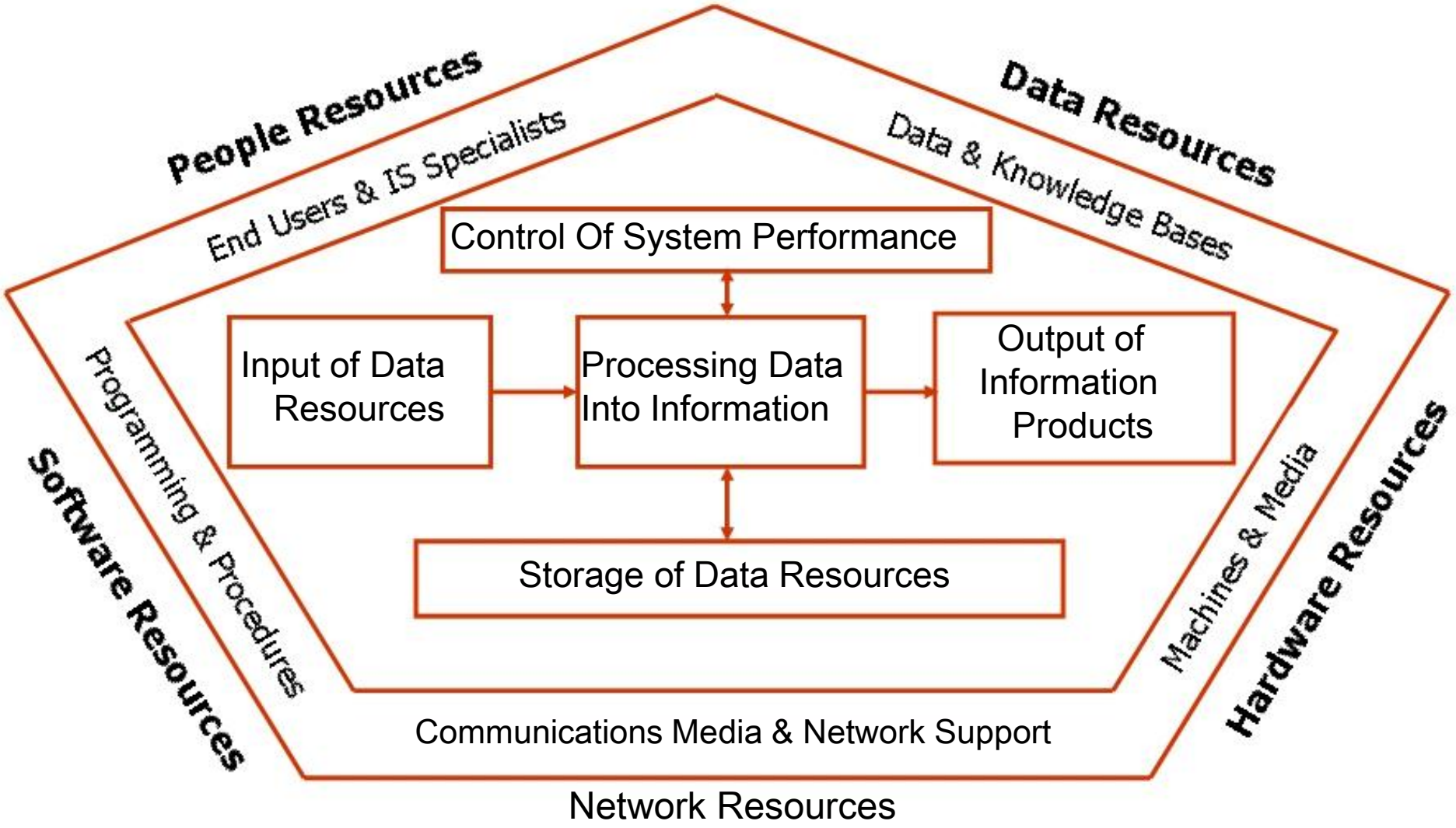
Competitive Advantage

Competitive Advantage = Using IT for Globalization and BPR

It includes:

- Cost Strategies
- Differentiation Strategies
- Innovation Strategies

Components Of An Information System



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Components Of An Information System...

- People Resources:
  - End Users
  - IS Specialist
- Hardware Resources:
  - Computer Systems
  - Computer Peripherals
- Software Resources:
  - Software System
  - Application Software
  - Procedures
- Data Resources:
  - Data Bases
  - Knowledge Bases
- Network Resources:
  - Communication Media
  - Network Support

Components Of An Information System...

People Resources:

- End Users: E.g. Accountants, Salesperson, Customers, Clerks etc.
- IS Specialist: E.g. System Analyst, Programmers, Computer Operators etc.

Hardware Resources:

- Computer Systems:
- Computer Peripherals:

Software Resources:

- Software System: E.g. Operating System.
- Application Software: E.g. Sales Analysis Program, Word Processing etc.
- Procedures: E.g. Operating Instructions for using a Software Package.

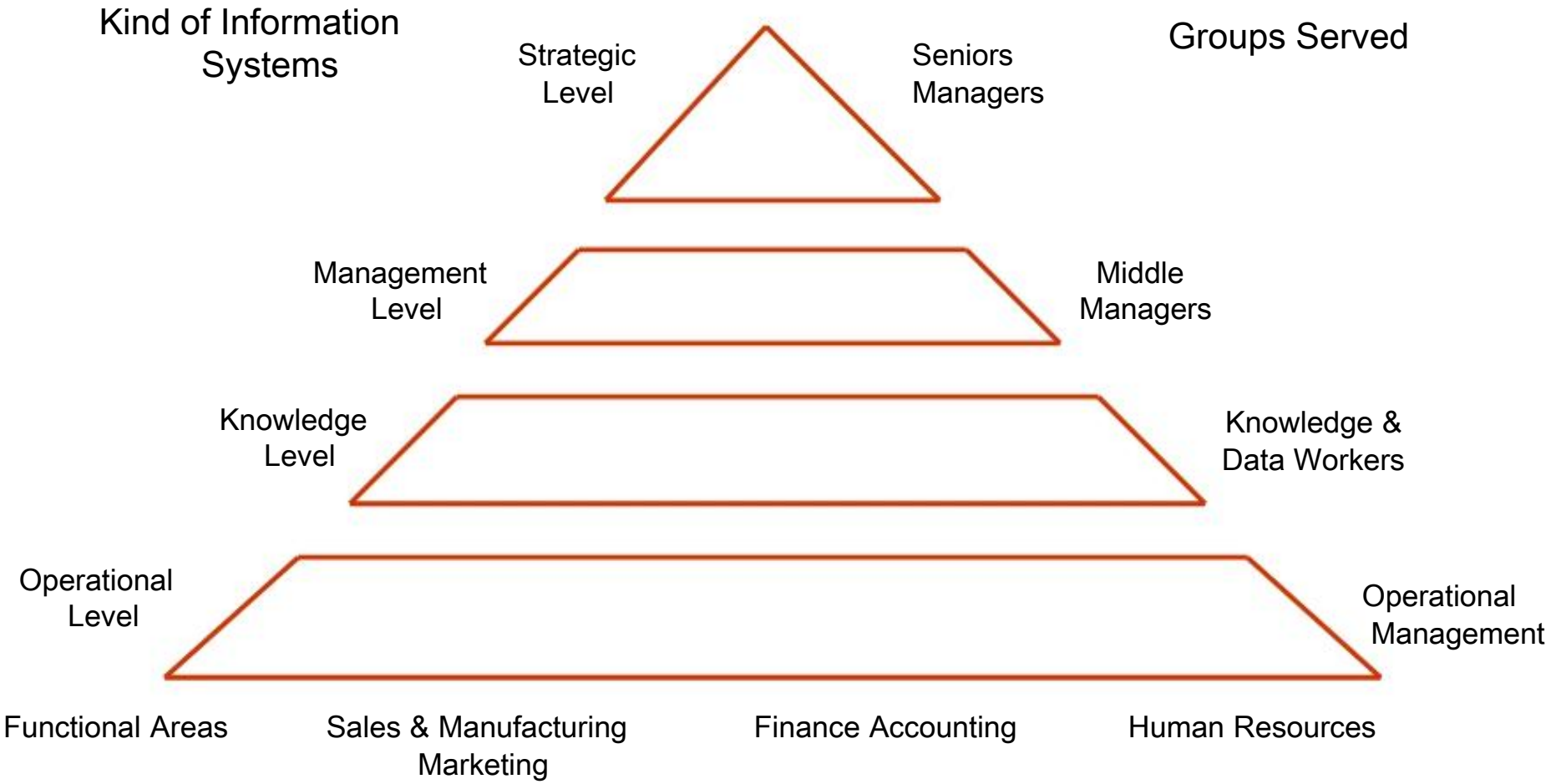
Data Resources:

- Data Bases: E.g. That hold Processed and Organized data.
- Knowledge Bases: E.g. That holds Knowledge in a variety of forms.

Network Resources:

- Communication Media: E.g. Twisted Pair Wire, Fiber Optics, Microwave etc
- Network Support: E.g. Modems, Internet Access Package etc.

Major Types of Systems in Organization



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Different Kinds Of Systems

Operational-Level Systems

Knowledge-Level Systems

Management-Level Systems

Strategic-Level Systems

Different Kinds Of Systems

Operational-Level Systems:

This system supports Operational manager by keeping track of the elementary activities and transactions of the organization, such as sales, receipts, flow of material in a factory.

E.g. ATM machine, System that track the no. of hours worked each day by employees on a factory floor.

Knowledge-Level Systems

The purpose of KLS is to help the business from integrate new knowledge into the business.

Different Kinds Of Systems

Management-Level Systems:

These system serve monitoring, controlling, decision making and administrative activities of middle manager.

They provide periodic report rather than instant information on operations.

Strategic-Level Systems:

These systems help senior management tackle and address strategic issues and long term trends.

An Example:

The *sales functional* generally has a sales system on the operational level to record daily sales figures and to process orders.

A *knowledge level system* designs promotional displays for the firm's products.

A *management level system* tracks monthly sales figures by sales territory and reports on territories where sales exceed or fall below the benchmark.

Six Major Types of Information Systems

ESS	-	Executive Support Systems
DSS	-	Decision Support Systems
MIS	-	Management Information Systems
KWS	-	Knowledge Work Systems
Office Systems		
TPS	-	Transaction Processing Systems

Characteristics of Information Processing Systems

Types of System	Information Inputs	Processing	Information Outputs	Users
ESS	**Aggregate data, External, Internal**	**Graphics, Simulations, Interactive**	**Projections, responses to Queries**	**Senior Managers**
DSS	**Low-Volume Data or massive databases optimized for data analysis, analytic models & data analysis tools**	**Interactive, Simulations, analysis**	**Special reports, Decision analysis, Responses to queries**	**Professional Staff Managers**
MIS	**Summary Transaction Data, High-volume data, Simple Models**	**Routine Reports, Simple Models, Low Level Analysis**	**Summary & Exception Reports**	**Middle Managers**
KWS	**Design Specifications, Knowledge Base**	**Modeling Simulations**	**Model Graphs**	**Professional Technical Staff**
Office System	**Documents, Schedules**	**Document management, Scheduling Communication**	**Documents Schedules, Mails**	**Clerical Workers**
TPS	**Transaction Events**	**Sorting, Listing, Merging, Updating**	**Detailed Reports, Lists, Summaries**	**Operations personnel, supervisors**

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