Module-4

ERP Implementation and Project Management
ERP Life Cycle and Implementation Strategies Phases of ERP Implementation Life Cycle, Business Process
Reengineering (BPR) and Change Management, Implementation Methodologies (ASAP, AIM), ERP Project Planning,
Testing, Training, Go-Live & Support, Cost-Benefit Analysis, Vendor Selection, Risk Management, Failure Cases and
Lessons Learned.

1. ERP Life Cycle – Characteristics

Before implementation starts, ERP projects are evaluated using **key characteristics** that directly impact success.

1. Speed

- Time taken to implement ERP.
- Big Bang = fast, Phased = slow.
- Faster speed increases risk.

2. Scope

- Number of modules, departments, locations covered.
- Wider scope = higher complexity.

3. Resources

- Human resources, budget, infrastructure.
- ERP needs skilled consultants + internal team.

4. Risk

- Chances of failure during or after implementation.

- Higher in Big Bang, lower in Parallel.

5. Complexity

- Depends on business size, customization, integration.
- More customization = more complexity.

6. Benefits

- Integration, real-time data, process efficiency.
- Benefits are long-term, not immediate.

ERP Implementation Strategies (Detailed)

1. Big Bang Implementation Strategy

Core Idea

The organization **completely switches** from the legacy system to ERP **in a single cut-over** on a fixed date.

No old system is used after go-live.

Types of Big Bang Implementation

a) Mini Big Bang

Explanation:

ERP is implemented **simultaneously across all modules**, but **only within a single unit, plant, or location**.

Example:

ERP goes live for all modules in **one branch** of the company.

Advantages:

- Lower risk than full Big Bang
- Faster feedback and learning

- Easier issue isolation

Disadvantages:

- Still risky at unit level
- Requires strong preparation

Best suited for:

Large organizations starting ERP **location-wise**.

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b) Multi Big Bang

Explanation:

ERP is implemented **simultaneously across all modules and all locations** at the same time.

Example:

Entire enterprise (Finance, HR, SCM, Manufacturing) goes live on the same day.

Advantages:

- Fastest ERP deployment
- Immediate enterprise integration
- No cost of parallel systems

Disadvantages:

- Extremely high risk
- Any failure can halt business
- Heavy pressure on users and IT team

Best suited for:

Small or medium enterprises with simple processes.

Big Bang Summary

- Fast but risky
- Requires excellent training, testing, and data accuracy

- Poor planning leads to **ERP failure**

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2. Phased Implementation Strategy

Core Idea

ERP is implemented **step by step**, either:

- Module-wise (Finance → HR → SCM), or
- Department-wise (Accounts → Production → Sales)

Types of Phased Implementation

a) Module-Based Phasing

- Each ERP module is deployed separately.
- Integration complexity increases temporarily.

b) Location-Based Phasing

- ERP is rolled out site by site.
- Easier control and training.

Advantages

- Low risk
- Easier change management
- Gradual learning curve

Disadvantages

- Longer implementation period
- Higher cumulative cost

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3. Parallel Implementation Strategy

Core Idea

Both **legacy system and ERP system run together** for a defined period.

How It Works

- Same transactions are entered in both systems.
- Results are compared to verify accuracy.

Advantages

- Safest implementation strategy
- Strong fallback if ERP fails

Disadvantages

- Very expensive
- High manpower requirement
- Duplicate effort

Best for

- Banks
- Hospitals
- Government systems

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4. Process Line Implementation Strategy

Core Idea

ERP is implemented for **one business process or product line at a time**, while others continue on the old system.

Example

- ERP used only for **Product Line A**

- Other product lines remain unchanged initially

Advantages

- Minimal operational disruption
- Easy performance comparison
- Controlled rollout

Disadvantages

- Complex integration
- Slower full-scale adoption

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5. Hybrid Implementation Strategy

Core Idea

Combination of **two or more ERP implementation strategies**.

Common Hybrid Models

- Mini Big Bang + Phased
- Parallel + Phased
- Process Line + Big Bang

Advantages

- Flexible
- Balanced risk and speed
- Tailored to organization needs

Disadvantages

- Complex project management
- Requires experienced ERP consultants

Phases of ERP Implementation Life Cycle

According to **Alexis Leon**, ERP implementation is a **structured, multi-phase process** that ensures smooth transition from legacy systems to an integrated ERP environment.

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1. Pre-Evaluation Screening

Explanation:

Initial assessment to check whether ERP is required and feasible for the organization.

Activities:

- Identify business problems
- Define ERP objectives
- Estimate cost and benefits

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2. Package Evaluation

Explanation:

Selection of the most suitable ERP package for the organization.

Activities:

- Compare vendors (SAP, Oracle, etc.)
- Evaluate functionality, cost, and scalability
- Shortlist ERP solution

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3. Project Planning Phase

Explanation:

A detailed implementation roadmap is prepared.

Activities:

- Form ERP implementation team
- Define timeline, budget, and milestones
- Allocate resources

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4. Gap Analysis

Explanation:

Identifies gaps between **existing business processes** and **ERP standard processes**.

Activities:

- Study current processes
- Compare with ERP processes
- Decide changes or customization

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5. Business Process Reengineering (BPR)

Explanation:

Existing business processes are redesigned to align with ERP best practices.

Activities:

- Eliminate redundant steps
- Improve efficiency
- Standardize workflows

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6. Customization

Explanation:

ERP software is modified (only if necessary) to meet specific business needs.

Note (Alexis Leon):

Excessive customization increases cost and risk.

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7. Implementation Team Training

Explanation:

Core project team is trained on ERP functionality.

Purpose:

- Ensure correct configuration
- Enable internal support

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8. Testing

Explanation:

ERP system is tested to ensure accuracy and reliability.

Types of Testing:

- Unit testing
- Integration testing
- User acceptance testing (UAT)

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9. Going Live

Explanation:

ERP system is officially launched for real-time operations.

Key Focus:

- Data migration
- System stability
- Immediate support

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10. End-User Training

Explanation:

Employees are trained to use the ERP system effectively.

Importance:

- Reduces resistance to change

- Improves user confidence

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11. Post-Implementation

Explanation:

Continuous monitoring and improvement after go-live.

Activities:

- Performance evaluation
- Bug fixing
- System upgrades

Business Process Reengineering (BPR) and Change Management

ERP implementation is not just a technical activity; it requires **redesigning business processes and managing people-related changes**. BPR and Change Management play a crucial role in ERP success.

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1. Business Process Reengineering (BPR)

Definition

Business Process Reengineering is the **fundamental rethinking and radical redesign of business processes** to achieve dramatic improvements in performance such as **cost, quality, service, and speed**.

Need for BPR in ERP

- ERP systems follow **best-practice processes**
- Existing processes may not fit ERP standards
- BPR aligns business processes with ERP workflows

Objectives of BPR

- Eliminate redundant activities
- Improve efficiency and productivity

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- Reduce process cycle time
- Enhance customer satisfaction

BPR Activities

- Identify existing processes
- Analyze inefficiencies
- Redesign processes
- Implement new workflows

Approaches to BPR

1. **ERP-Driven BPR** – Business processes are changed to match ERP.
2. **Customization-Driven BPR** – ERP is customized to match business (not preferred).

Advantages of BPR

- Standardized processes
- Improved data accuracy
- Better inter-department coordination

Disadvantages of BPR

- High resistance from employees

- Requires cultural change
- Time-consuming

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2. Change Management

Definition

Change Management is a **systematic approach to handling organizational change**, focusing on **people, culture, and behavior** during ERP implementation.

Why Change Management is Critical in ERP

- ERP changes job roles and responsibilities
- Employees fear job loss or increased workload
- Resistance can cause ERP failure

Objectives of Change Management

- Reduce employee resistance
- Increase user acceptance
- Ensure smooth ERP adoption

Elements of Change Management

- Communication
- Training
- Leadership support
- Employee involvement

Strategies for Effective Change Management

- Early user involvement
- Continuous communication

- Proper training programs
- Strong top-management support

Impact of Poor Change Management

- Low system usage
- Data errors
- Project delays
- ERP failure

Relationship Between BPR and Change Management

BPR	Change Management
Focuses on processes	Focuses on people
Redesigns workflows	Manages resistance
Technical + operational	Behavioral + cultural

ERP Implementation Methodologies

ASAP and AIM

ERP vendors provide **standard implementation methodologies** to reduce risk, control time and cost, and ensure successful ERP deployment. Two widely used methodologies are **ASAP (SAP)** and **AIM (Oracle)**.

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1. ASAP – Accelerated SAP

Meaning

ASAP (Accelerated SAP) is **SAP's structured implementation methodology** designed to **speed up ERP implementation** while minimizing risk.

Objectives of ASAP

- Reduce implementation time
- Lower project risk
- Ensure standard SAP best practices
- Improve project control

Phases of ASAP Methodology

1. Project Preparation

- Define project goals and scope
- Form implementation team
- Prepare project plan and budget

2. Business Blueprint

- Analyze current business processes
- Define future SAP processes
- Document business requirements

3. Realization

- Configure SAP system
- Develop required programs and reports
- Perform unit and integration testing

4. Final Preparation

- End-user training

- Data migration
- User Acceptance Testing (UAT)

5. Go-Live and Support

- ERP system goes live
- Monitor system performance
- Provide post-implementation support

Advantages of ASAP

- Well-defined structure
- Faster implementation
- Proven best practices

Limitations of ASAP

- Limited flexibility
- Best suited for SAP environments only

2. AIM – Application Implementation Method (Oracle)

Meaning

AIM is **Oracle's ERP implementation methodology** that provides a **detailed and flexible framework** for deploying Oracle ERP systems.

Objectives of AIM

- Reduce implementation risks
- Ensure proper system design
- Support customization and integration

Phases of AIM Methodology

1. Definition Phase

- Define project scope and objectives
- Identify business needs

2. Operations Analysis

- Study existing business processes
- Identify process gaps

3. Solution Design

- Design future business processes
- Define ERP architecture and modules

4. Build Phase

- Configure Oracle ERP system
- Develop custom components

5. Transition Phase

- Data conversion
- System testing
- User training

6. Production Phase

- Go-live
- Post-implementation support and maintenance

Advantages of AIM

- Highly detailed documentation
- Flexible approach

- Supports complex customization

Limitations of AIM

- Time-consuming
- Requires experienced consultants

ASAP vs AIM (Comparison)

Aspect	ASAP	AIM
Vendor	SAP	Oracle
Focus	Speed & best practices	Detailed design & flexibility
Phases	5	6
Customization	Limited	High
Complexity	Medium	High

1. ERP Project Planning

ERP Project Planning defines **how, when, and with what resources** the ERP system will be implemented.

Key Activities in ERP Project Planning

- Define project scope and objectives
- Form ERP project team
- Allocate budget and resources
- Set timelines and milestones
- Risk and communication planning

Importance

- Prevents scope creep

- Controls cost and time
- Improves coordination

Key Point: Poor planning is a major cause of ERP failure.

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2. ERP Testing

Testing ensures the ERP system works **accurately and reliably** before go-live.

Types of ERP Testing

- **Unit Testing:** Individual modules tested
- **Integration Testing:** Data flow between modules tested
- **User Acceptance Testing (UAT):** End users validate system

Importance

- Detects errors early
- Ensures data accuracy
- Reduces go-live risk

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3. ERP Training

Training prepares users to **effectively use ERP**.

Types of Training

- **Implementation Team Training** – deep technical knowledge
- **End-User Training** – day-to-day operations

Benefits

- Reduces user resistance
- Improves productivity
- Ensures proper system usage

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4. Go-Live & Support

Go-Live

- ERP system starts real business operations
- Legacy system is discontinued or reduced

Support (Post Go-Live)

- Bug fixing
- Performance monitoring
- System upgrades
- Helpdesk support

Critical Phase: Most issues appear immediately after go-live.

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5. Cost–Benefit Analysis (CBA)

Cost–Benefit Analysis evaluates whether ERP implementation is **financially justified**.

Costs

- Software licenses
- Hardware and infrastructure
- Consultants
- Training
- Maintenance

Benefits

- Process integration
- Reduced cycle time
- Better decision-making
- Improved customer service

Note: ERP benefits are mostly **long-term and strategic**.

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6. Vendor Selection

Vendor selection is choosing the **right ERP provider**.

Selection Criteria

- Industry experience
- Functional fit
- Scalability
- Post-implementation support
- Cost and reputation

Wrong vendor choice = High risk of ERP failure

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7. Risk Management in ERP

Risk management involves **identifying, analyzing, and controlling risks**.

Common ERP Risks

- Scope creep
- Poor data quality
- Inadequate training
- User resistance
- Over-customization

Risk Mitigation

- Proper planning
- Strong leadership
- Continuous monitoring

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8. ERP Failure Cases

Common Reasons for ERP Failure

- Lack of top management support
- Poor project planning
- Weak change management
- Unrealistic expectations
- Insufficient training

Examples (Generic)

- Delayed go-live
- Budget overruns
- System rejection by users

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9. Lessons Learned from ERP Failures

Key Lessons

- ERP is a **business transformation**, not just software
- People and processes matter more than technology
- Change management is critical
- Proper training ensures success