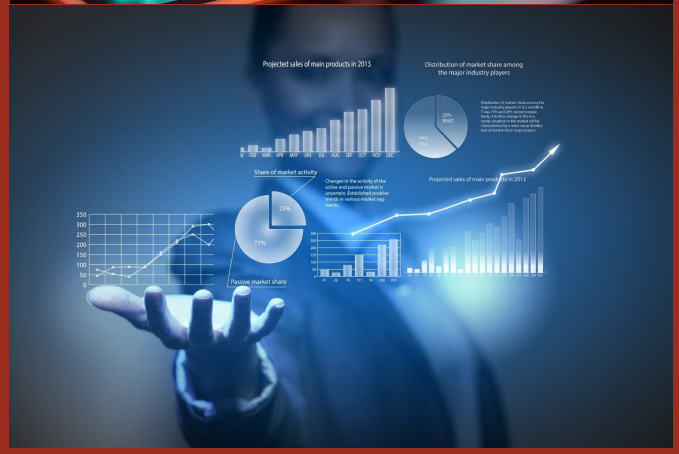
ASPIRE
KNOWLEDGE & SKILLS

Unit 4

Business Requirements Analysts

AI - Business Intelligence Analyst

Table of Content



- ✔*Outline the process of collecting business requirements and technical capabilities of client*
- ✔*Distinguish between the various types of requirements that different teams and organizations have*
- ✔*Discuss the ways to map the requirements with team capabilities*
- ✔*Define the process of Documentation of requirements and validation by the stakeholders*
- ✔*Apply different approaches to gather business requirements from relevant stakeholders*
- ✔*Apply different approaches to map requirements to the capabilities of the delivery team*

Individuals at this job are responsible for performing different aspects of Business Analysis. S/he will be responsible for importing and preprocessing data and perform exploratory analysis to derive actionable insights. A BI analyst needs to have strong analytical skills and problem solving ability. S/he needs to have good communication skills to work with stakeholders across multiple teams such as marketing, sales, product development, etc.

Collecting Business Requirements - "Navigating the Landscape of Data Needs"

Subtitle: A Strategic Approach to Gathering Business Requirements

Understanding Business Requirements:

- Crucial Step: Gathering comprehensive business requirements is the cornerstone of effective AI and Business Intelligence (BI) analysis.
- Definition: Business requirements are the specific needs, goals, and expectations of an organization that drive the implementation of AI and BI solutions.

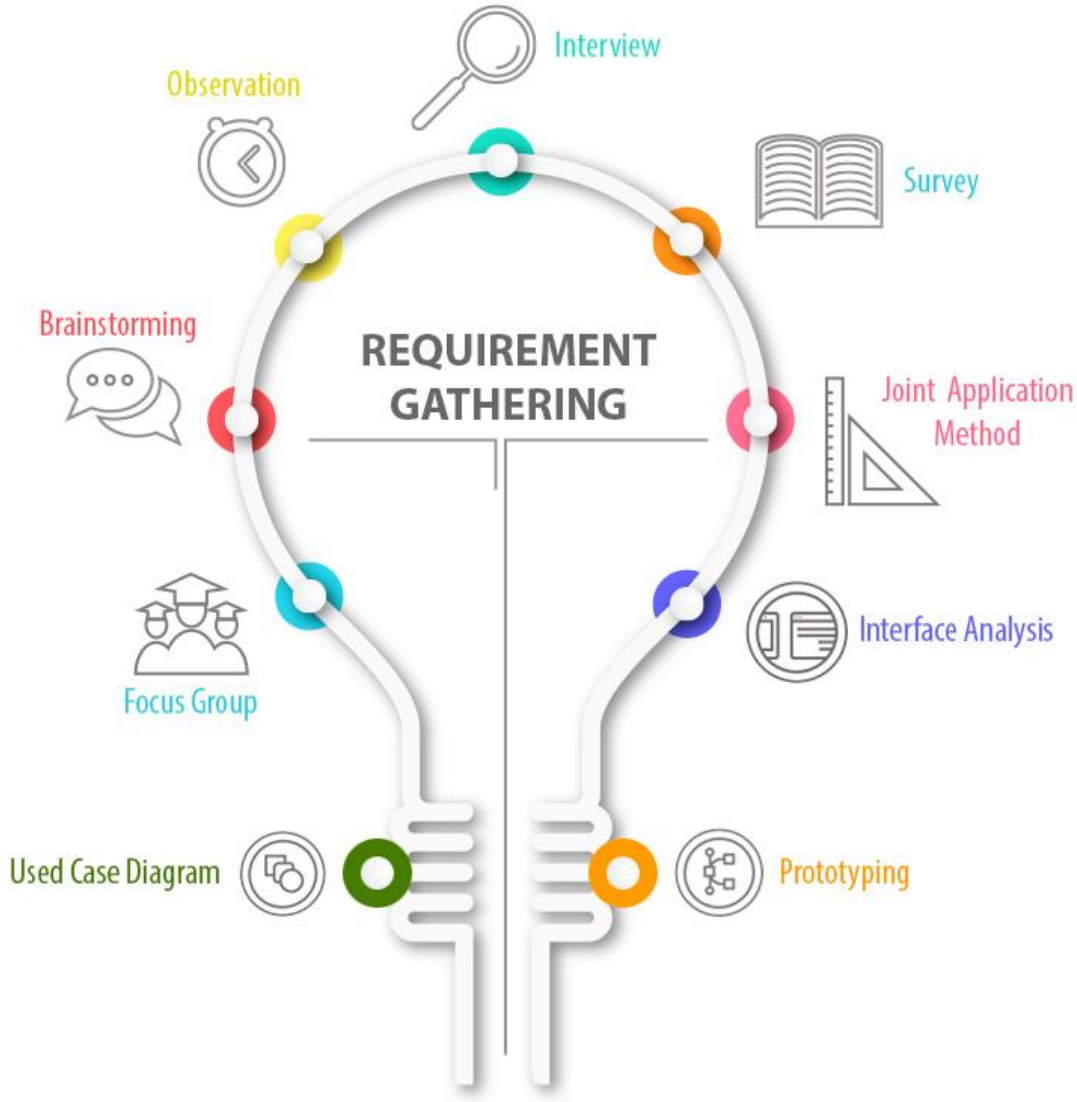
Strategic Steps in Collecting Business Requirements:

- Engaging Stakeholders: Collaboration with key stakeholders, including executives, managers, and end-users, to understand their needs and expectations.
- Needs Assessment: Identifying and prioritizing business goals, challenges, and opportunities that can be addressed through AI and BI solutions.
- Documenting Requirements: Clearly documenting the identified needs, ensuring alignment with organizational objectives.

Techniques for Requirement Elicitation:

- Interviews: Direct discussions with stakeholders to gather insights into their expectations and challenges.
- Surveys and Questionnaires: Distributed to a wider audience to collect diverse perspectives.
- Observation: Analyzing how users currently interact with data and identifying pain points.
- Prototyping: Creating initial models to gather feedback and refine requirements iteratively.


network


REQUIREMENT GATHERING
Interview
Observation
Survey
Brainstorming
Joint Application Method
Focus Group
Interface Analysis
Used Case Diagram
Prototyping

Technical Capabilities of Clients - "Bridging Business Needs with Technical Realities"

Subtitle: Unveiling the Technical Landscape for AI Implementation

Understanding Technical Capabilities:

- Essential Insight: Assessing the technical capabilities of clients is vital for aligning AI and BI solutions with existing infrastructure.
- Scope: Involves evaluating hardware, software, data architecture, security protocols, and IT governance.

Key Aspects of Technical Capability Assessment:

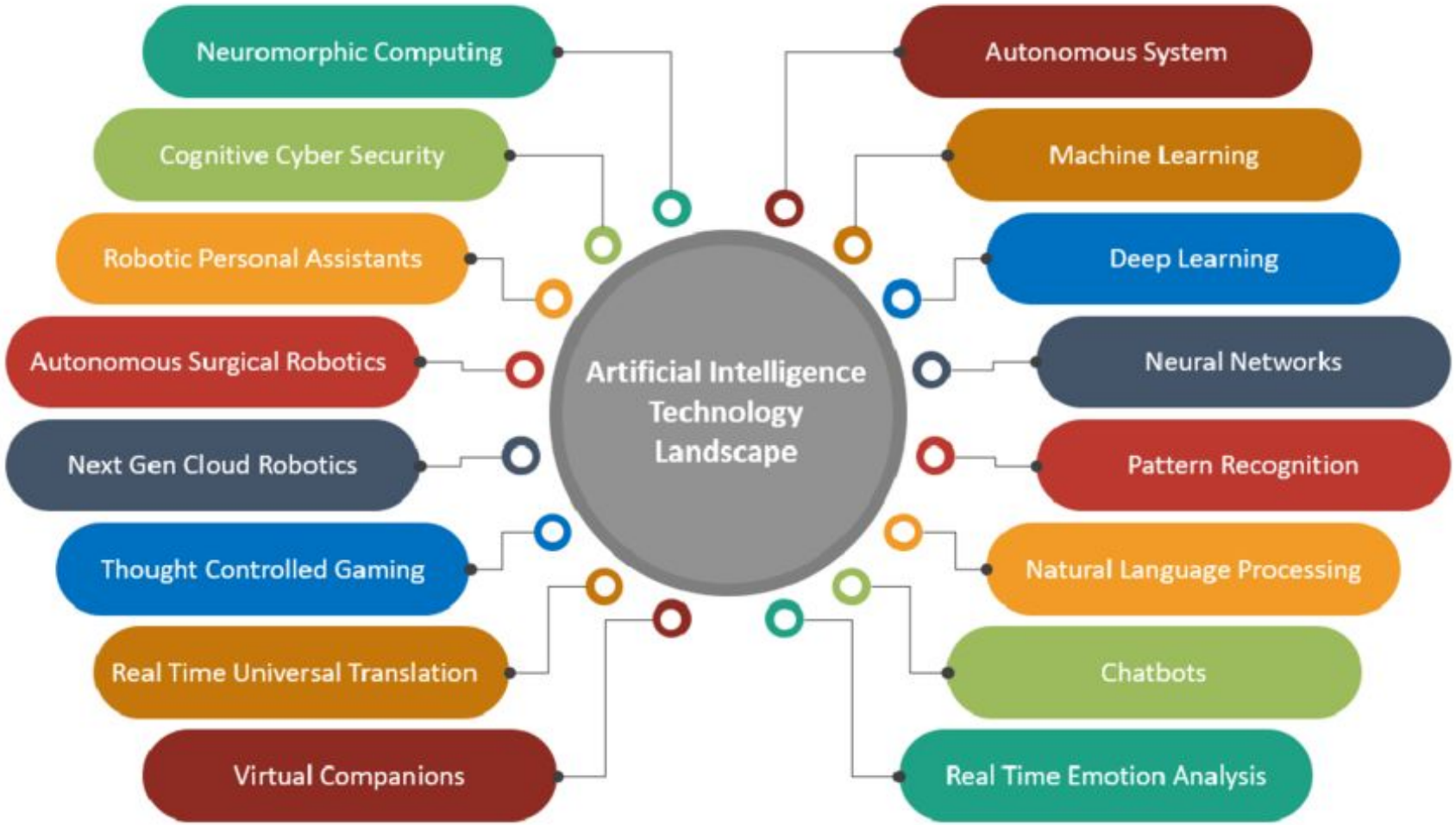
- Data Infrastructure: Examining the current state of data storage, accessibility, and data quality.
- Software Stack: Assessing the compatibility of existing software with AI and BI tools.
- Security Measures: Understanding the security protocols in place for data handling and storage.
- Integration Challenges: Identifying potential challenges in integrating AI and BI solutions into the existing technical ecosystem.

Collaboration with IT Teams:

- Engagement with IT Professionals: Working closely with IT teams to understand their constraints, preferences, and capabilities.
- Communication: Bridging the gap between business requirements and technical realities through effective communication.
- Mutual Understanding: Establishing a collaborative environment where business analysts and IT professionals share insights and expertise.

Mitigating Technical Risks:

- Risk Assessment: Identifying potential technical challenges early in the project lifecycle.
- Technical Feasibility Analysis: Evaluating the feasibility of implementing AI and BI solutions within the existing technical landscape.
- Adaptation Strategies: Developing strategies to adapt or enhance technical capabilities to meet the demands of AI implementation.


Artificial Intelligence Technology Landscape
Neuromorphic Computing
Cognitive Cyber Security
Robotic Personal Assistants
Autonomous Surgical Robotics
Next Gen Cloud Robotics
Thought Controlled Gaming
Real Time Universal Translation
Virtual Companions
Autonomous System
Machine Learning
Deep Learning
Neural Networks
Pattern Recognition
Natural Language Processing
Chatbots
Real Time Emotion Analysis

Types Of Requirements That Different Teams And Organizations Have

Types of Requirements - "Navigating the Mosaic of Business Needs"

Subtitle: Unraveling the Diversity in Requirement Types

Business Requirements:

- Business requirements represent the high-level needs and objectives of an organization, outlining what the business aims to achieve.
- Characteristics:
  - Broad and strategic in nature.
  - Typically expressed in non-technical terms.
  - Focus on overall business goals and outcomes.

Functional Requirements:

- Functional requirements define specific functionalities and features that a system or solution must deliver to meet business needs.
- Characteristics:
  - More detailed and granular than business requirements.
  - Detail the specific actions and processes the system should perform.
  - Form the basis for system design and development.

Non-Functional Requirements:

- Non-functional requirements specify criteria that describe the operational characteristics and constraints of a system.
- Characteristics:
  - Address aspects like performance, security, usability, and reliability.
  - Focus on how the system should perform rather than what it should do.
  - Critical for ensuring a system meets the expected standards.

Tailoring Requirements to Team and Organizational Needs

Subtitle: Customizing Requirement Types for Effective Collaboration

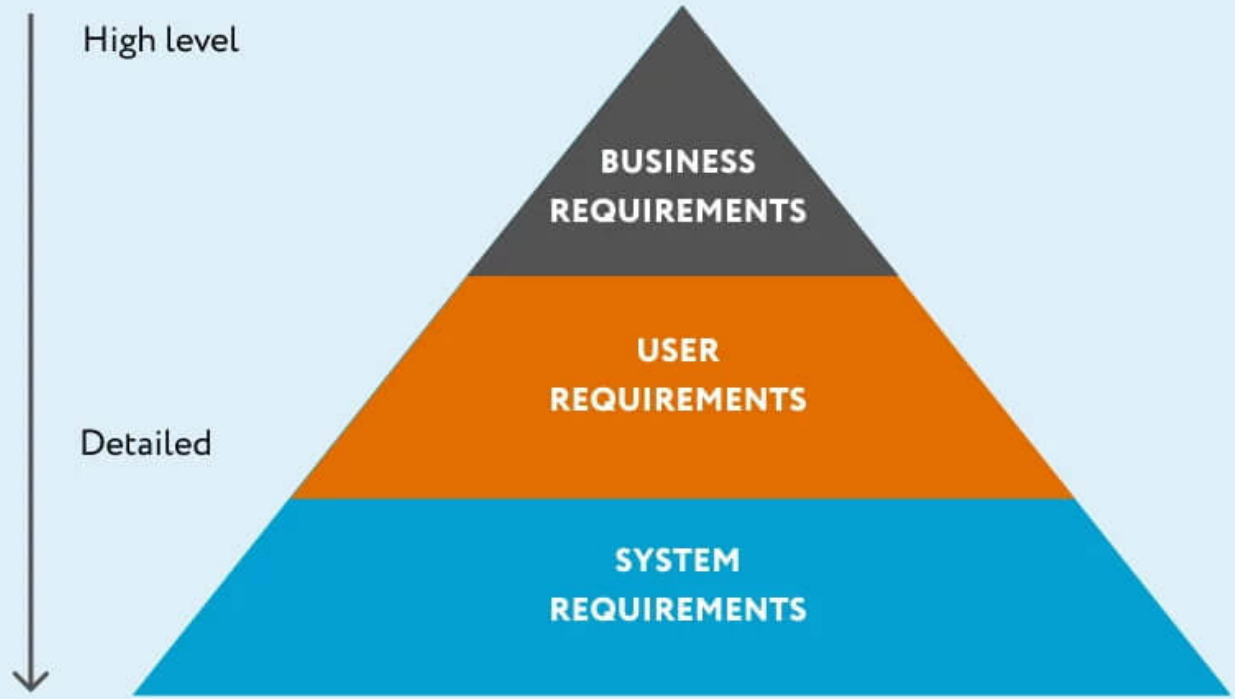
Team-Specific Requirements:

- Marketing Requirements:
  - Focus: Marketing teams may prioritize requirements related to customer engagement, brand promotion, and market analysis.
  - Examples: Integration with marketing automation tools, data-driven campaign analytics.

- Sales Requirements:
  - Focus: Sales teams may emphasize requirements related to lead generation, customer relationship management (CRM), and sales forecasting.
  - Examples: Integration with CRM systems, real-time sales performance dashboards.

- IT Requirements:
  - Focus: IT teams often prioritize technical aspects, such as system architecture, data security, and scalability.
  - Examples: Data encryption protocols, server infrastructure specifications.

TYPES OF REQUIREMENTS



- Sponsor point of view
- Scope of the project
- Business objectives

- User point of view
- User goals
- User input and output

- Functional Requirements. What the system does
- Non-Functional Requirements. How well the system does it

Industry-Specific Requirements:

- Healthcare Requirements:
  - Focus: Healthcare organizations may have specific compliance and privacy requirements.
  - Examples: HIPAA compliance, patient data security measures. HIPAA (Health Insurance Portability and Accountability Act) compliance refers to the adherence to regulations set forth by the U.S. Department of Health and Human Services (HHS) to protect the privacy, security, and integrity of sensitive patient data, known as Protected Health Information (PHI).

- Finance Requirements:
  - Focus: Financial institutions may prioritize requirements related to regulatory compliance, risk management, and fraud detection.
  - Examples: Compliance with financial regulations, real-time fraud detection algorithms.

- Manufacturing Requirements:
  - Focus: Manufacturing companies may emphasize requirements related to production efficiency, supply chain optimization, and quality control.
  - Examples: Integration with IoT devices for real-time monitoring, quality control algorithms.

Organizational Requirements:

- Scalability Requirements:
  - Focus: Organizations experiencing growth may prioritize scalability to accommodate increased data volumes and user demands.
  - Examples: Scalable infrastructure, efficient data processing algorithms.

- Agility Requirements:
  - Focus: Agile organizations may prioritize flexibility and adaptability in their requirements.
  - Examples: Modular system design, rapid deployment capabilities.

- Cost-Efficiency Requirements:
  - Focus: Cost-conscious organizations may emphasize requirements that optimize resource utilization and reduce operational expenses.
  - Examples: Efficient algorithms, cloud-based cost management strategies.

Mapping Business Requirements to Team Capabilities - "Aligning Visions for Success"

Subtitle: Navigating the Path from Business Needs to Team Competencies

Understanding Team Capabilities:

- Holistic Assessment: Begin by conducting a thorough evaluation of the skills, expertise, and capacities of the involved teams, including IT, development, and data science.
- Competency Matrix: Develop a competency matrix to identify strengths, areas for improvement, and specialized skills within each team.

Mapping Business Requirements:

- Granular Analysis: Break down business requirements into specific functionalities, features, and technical aspects.
- Prioritization: Assign priorities to each requirement based on business impact and criticality.
- Categorization: Group requirements into functional, non-functional, and industry-specific categories.

Aligning Requirements with Team Competencies:

- Matching Skill Sets: Identify which team possesses the necessary skills to address each requirement.
- Collaborative Planning: Facilitate collaboration between teams with complementary skills to collectively address complex requirements.
- Resource Optimization: Allocate tasks to teams based on their strengths, ensuring efficient resource utilization.

Strategies for Effective Mapping - "Striking the Balance for Successful Execution"

Subtitle: Navigating the Path from Business Needs to Team Competencies

Communication and Collaboration:

- Regular Meetings: Organize regular meetings between business analysts, project managers, and team leads to discuss requirements and team capabilities.
- Open Communication: Encourage open communication to address any gaps or misunderstandings in the mapping process.
- Feedback Loop: Establish a feedback loop to iterate and refine the mapping as the project progresses.

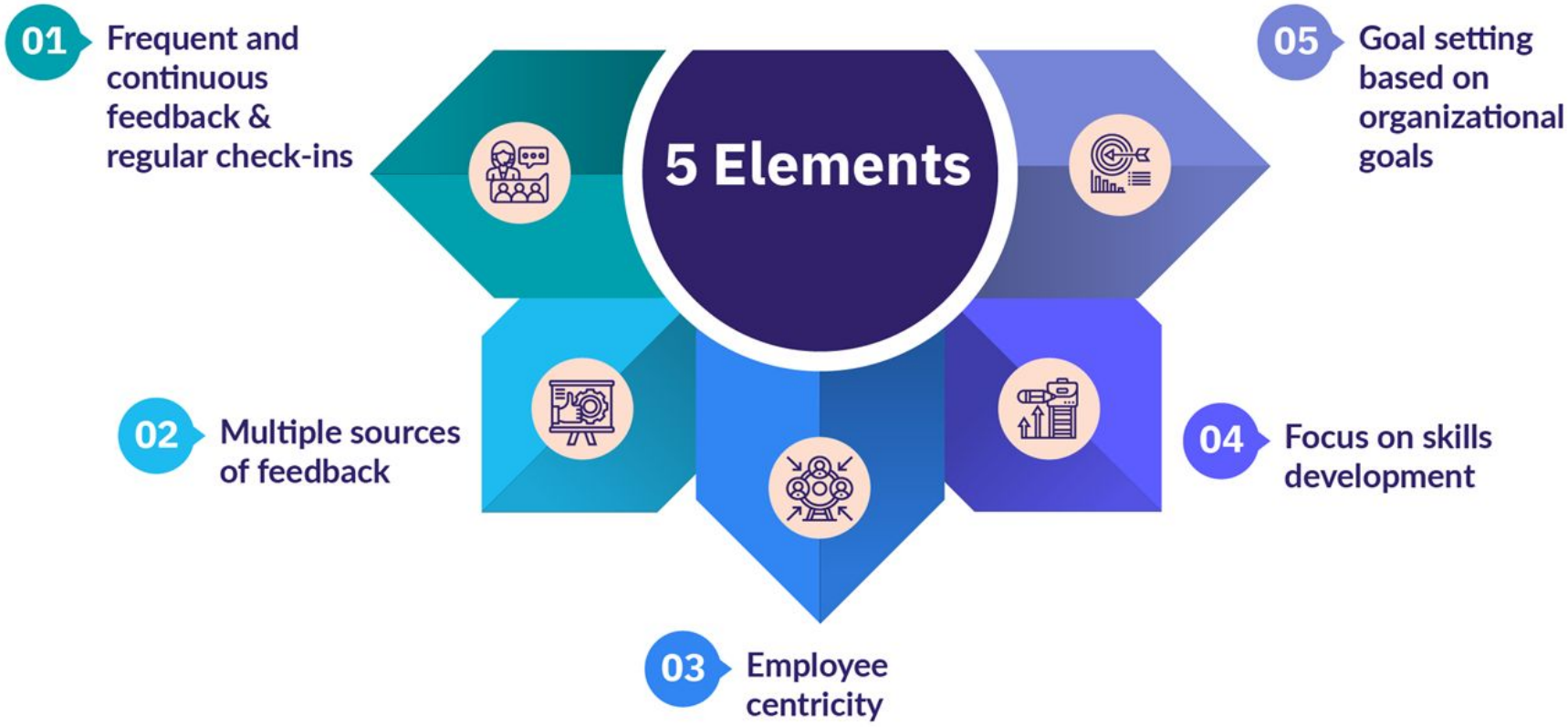
Agile Methodologies:

- Iterative Planning: Adopt agile methodologies for iterative planning and execution.
- Sprint Planning: Break down requirements into manageable tasks for each sprint, aligning them with the capabilities of the executing teams.
- Adaptability: Leverage agile principles to adapt to evolving requirements and team dynamics.

Training and Skill Development:

- Skill Enhancement Programs: Identify areas where teams may need additional skills or training.
- Continuous Learning: Encourage continuous learning and development to keep teams updated on the latest technologies and methodologies.
- Cross-Training: Implement cross-training initiatives to enhance versatility within teams.

Agile Performance Management



Risk Mitigation Strategies:

- Identifying Dependencies: Clearly identify dependencies between requirements and teams to mitigate potential bottlenecks.
- Contingency Planning: Develop contingency plans for scenarios where certain requirements may exceed the capabilities of the assigned teams.
- Resource Scalability: Consider options for resource scalability, such as outsourcing or hiring additional expertise for specialized requirements.

Regular Assessments and Adjustments:

- Performance Metrics: Establish performance metrics to assess the efficiency of the requirement-team mapping.
- Regular Reviews: Conduct regular reviews of the mapping strategy and make adjustments based on evolving project dynamics, business needs, and team capabilities.

Documentation of Requirements - "Crafting the Blueprint for Success"

Subtitle: A Comprehensive Guide to Effective Requirement Documentation

Importance of Documentation:

- Foundation for Success: Comprehensive documentation serves as the foundation for successful AI and Business Intelligence projects.
- Communication Tool: Documentation acts as a communication tool, ensuring clarity and alignment among stakeholders.

Elements of Effective Requirement Documentation:

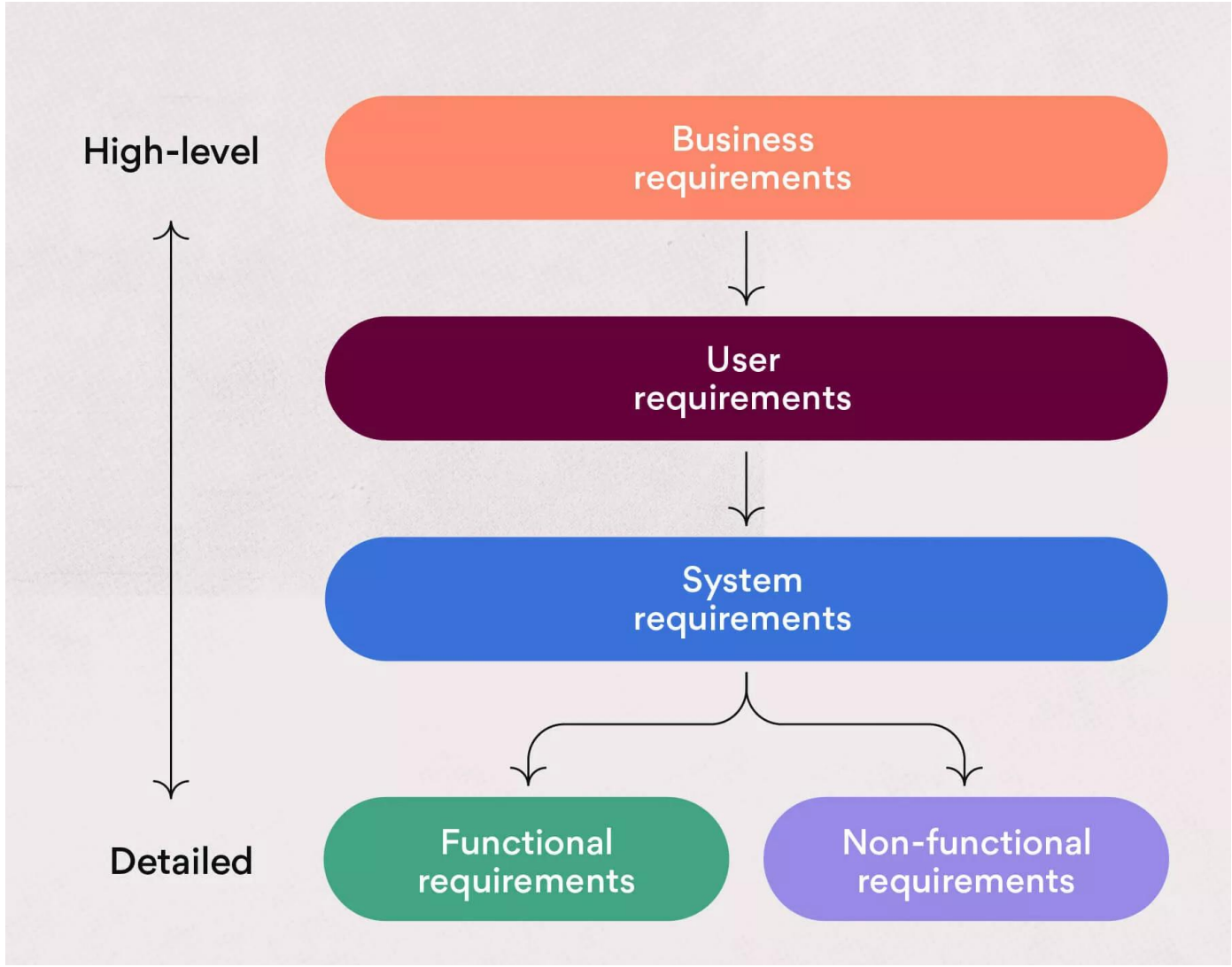
- Clear and Concise Language: Use clear and concise language to articulate each requirement, avoiding ambiguity.
- Detailed Descriptions: Provide detailed descriptions of functionalities, inputs, outputs, and performance expectations.
- Visual Aids: Incorporate visual aids such as diagrams, flowcharts, and wireframes to enhance understanding.

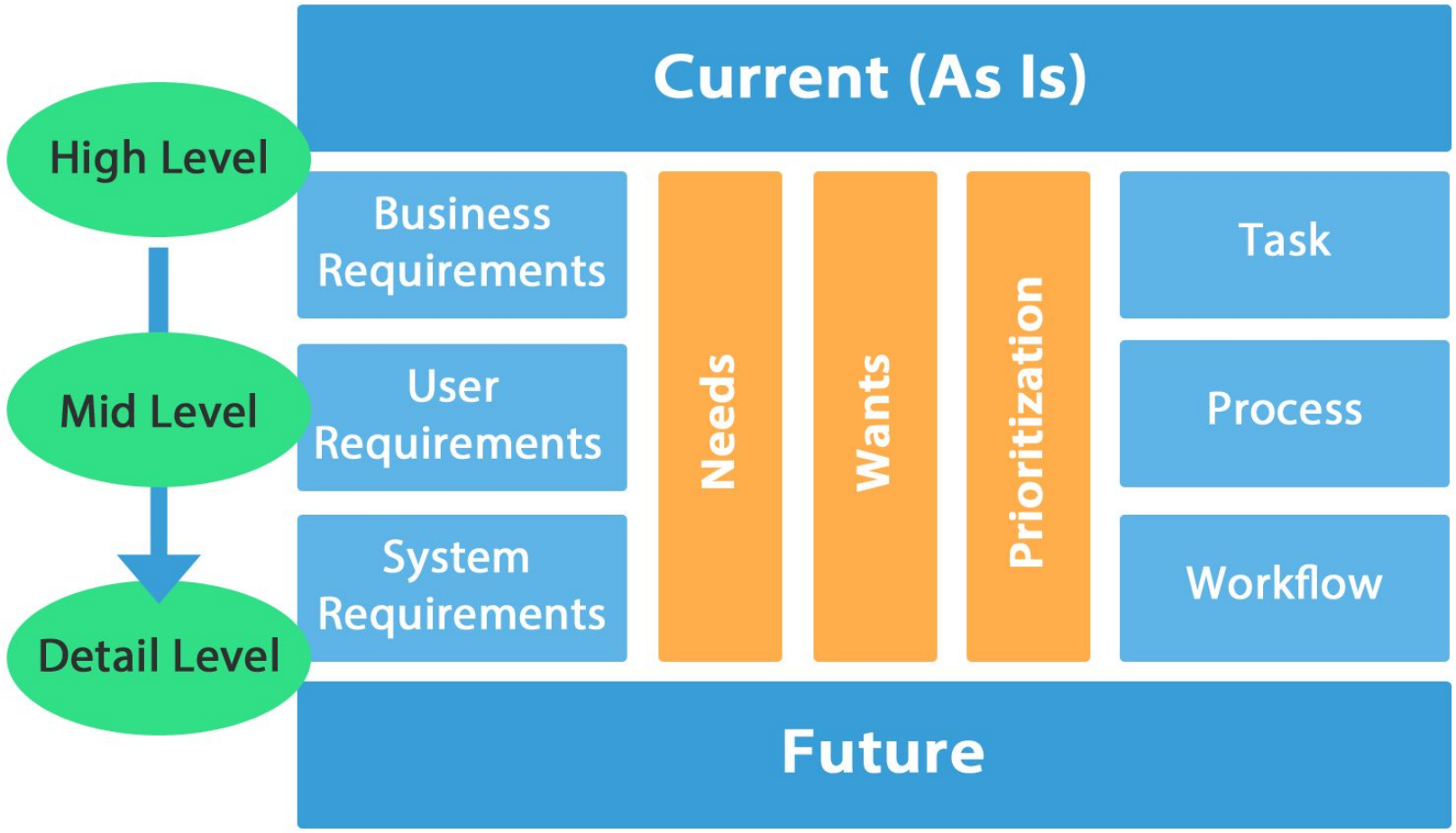
Documenting Different Types of Requirements:

- Business Requirements: Clearly outline the overarching goals and objectives of the organization.
- Functional Requirements: Define specific functionalities and features expected from the AI or BI solution.
- Non-Functional Requirements: Detail performance criteria, security measures, and other non-functional aspects.

Version Control and Change Management:

- Versioning: Implement version control to track changes in requirements over time.
- Change Management: Establish a change management process to evaluate and document changes to requirements.


High-level
Business requirements
User requirements
System requirements
Functional requirements
Non-functional requirements
Detailed



BUSINESS REQUIREMENTS GATHERING FRAMEWORK

Stakeholder Validation - "Ensuring Alignment and Acceptance"

Subtitle: The Crucial Step of Stakeholder Validation in Requirement Assurance

Importance of Stakeholder Validation:

- Ensuring Alignment: Validation by stakeholders ensures that documented requirements align with their expectations and needs.
- Acceptance Assurance: Stakeholder validation is a key step in gaining acceptance and commitment to the proposed solutions.

Strategies for Stakeholder Validation:

- Regular Meetings and Workshops: Conduct regular meetings and workshops to present and discuss the documented requirements.
- Prototyping: Create prototypes or mockups to provide stakeholders with a tangible representation of the proposed solution.
- Feedback Loops: Establish feedback loops to gather input and insights from stakeholders throughout the validation process.

Validation Criteria:

- Completeness: Ensure that all necessary aspects of the business needs are captured in the requirements.
- Consistency: Verify that requirements are consistent with the overall business objectives and with each other.
- Feasibility: Evaluate the feasibility of implementing the proposed solutions within the existing technical and operational constraints.

Iterative Validation Process:

- Iterative Reviews: Conduct multiple rounds of stakeholder validation to accommodate feedback and refinements.
- Traceability: Maintain traceability between stakeholder feedback and corresponding adjustments in the requirement documentation.

Documenting Validation Results:

- Record Feedback: Document feedback and validation results systematically.
- Resolution of Issues: Address any discrepancies or concerns raised by stakeholders and document the resolutions.

Sign-off and Approval:

- Formal Approval Process: Establish a formal sign-off process where stakeholders provide their approval of the documented requirements.
- Final Documentation: Update the documentation with any final changes resulting from stakeholder validation before finalizing the requirements.

Approaches to Gather Business Requirements - "Strategic Engagement with Stakeholders"

Subtitle: Navigating Diverse Approaches for Requirement Elicitation

Interviews:

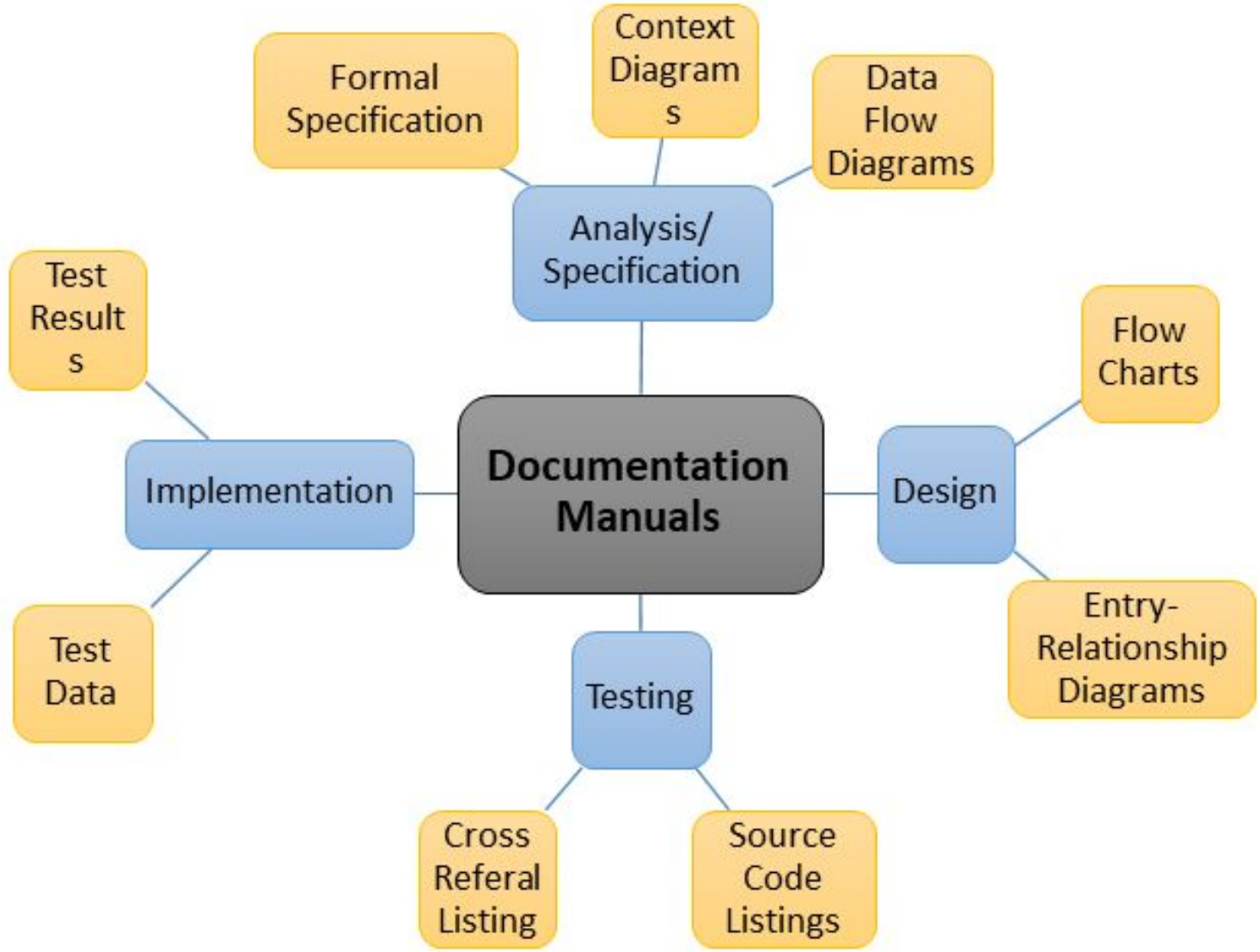
- Overview: Conducting one-on-one or group interviews with relevant stakeholders to gather detailed insights.
- Advantages:
  - Allows for in-depth exploration of individual perspectives.
  - Provides opportunities for clarifications and follow-up questions.
- Best Practices:
  - Prepare a structured set of questions in advance.
  - Establish a comfortable and open environment to encourage candid responses.

Surveys and Questionnaires:

- Overview: Distributing structured surveys or questionnaires to a broader audience to collect diverse perspectives.
- Advantages:
  - Efficient for gathering input from a large number of stakeholders.
  - Facilitates anonymous feedback, encouraging honest responses.
- Best Practices:
  - Craft clear and concise questions to maintain respondent engagement.
  - Include a mix of open-ended and close-ended questions.

Workshops and Focus Groups:

- Overview: Organizing collaborative workshops or focus groups to encourage interactive discussions among stakeholders.
- Advantages:
  - Fosters group collaboration and idea generation.
  - Enables real-time exploration of different perspectives.
- Best Practices:
  - Facilitate structured activities to keep discussions focused.
  - Capture key insights and agreements during the session.


Formal Specification
Context Diagrams
Data Flow Diagrams
Analysis/ Specification
Test Results
Flow Charts
Documentation Manuals
Implementation
Design
Test Data
Entry-Relationship Diagrams
Testing
Cross Referal Listing
Source Code Listings

Additional Approaches for Business Requirement Gathering - "Adapting Strategies for Success"

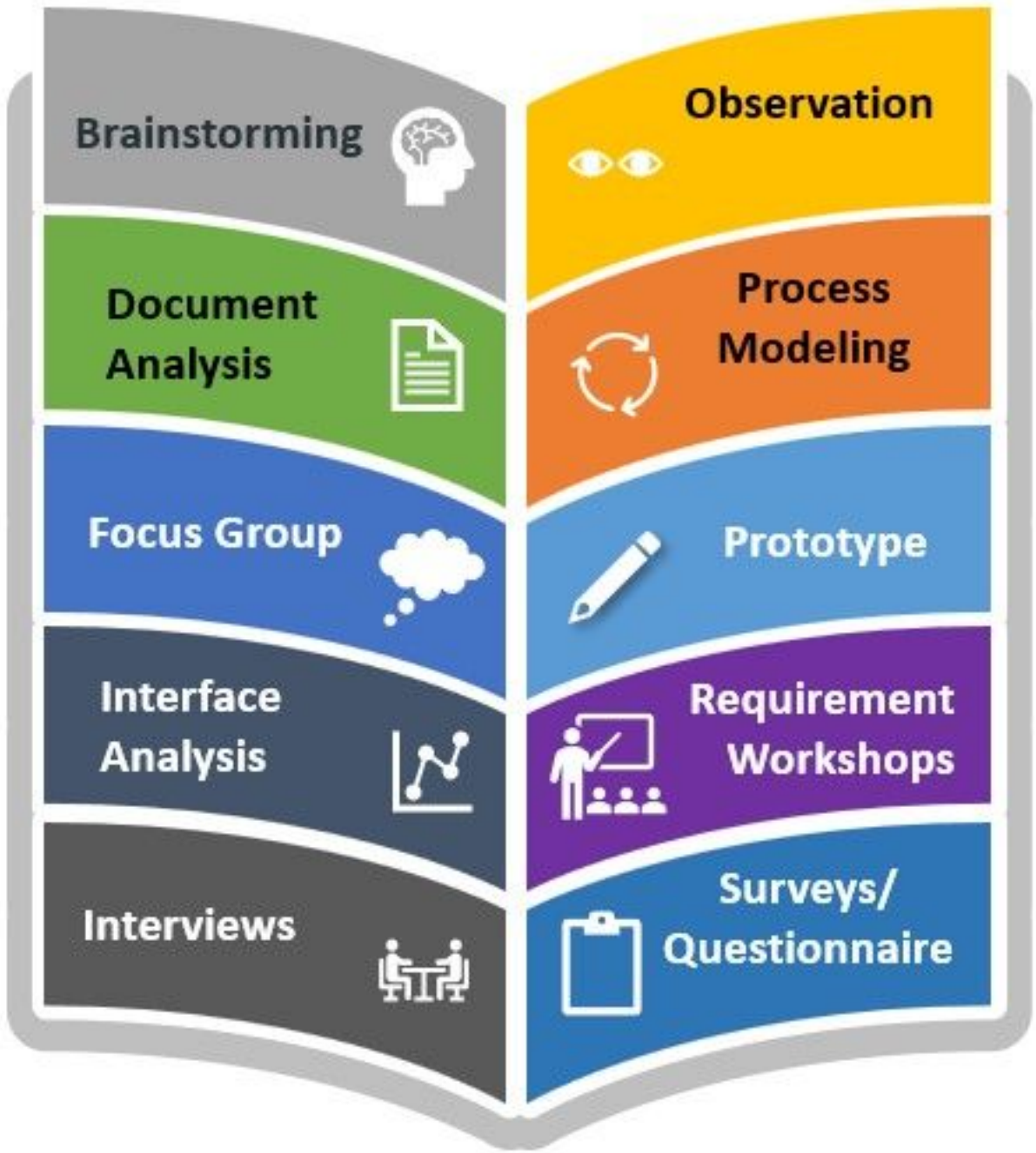
Subtitle: Expanding the Toolbox for Comprehensive Requirement Elicitation

Prototyping:

- Overview: Creating prototypes or mockups to visualize and gather feedback on potential system functionalities.
- Advantages:
  - Provides a tangible representation for stakeholders to interact with.
  - Facilitates early identification of design preferences and requirements.
- Best Practices:
  - Iterate on prototypes based on stakeholder feedback.
  - Use prototyping as a complement to other elicitation methods.

Observation and Job Shadowing:

- Overview: Observing stakeholders in their work environment to understand their processes and pain points.
- Advantages:
  - Offers a firsthand understanding of day-to-day operations.
  - Identifies implicit requirements that may not be explicitly communicated.
- Best Practices:
  - Seek permission and cooperation from stakeholders before observation.
  - Document observations in detail to inform requirement analysis.


Brainstorming
Document Analysis
Focus Group
Interface Analysis
Interviews
Observation
Process Modeling
Prototype
Requirement Workshops
Surveys/ Questionnaire

Document Analysis:

- Overview: Reviewing existing documents, reports, and records to extract relevant requirements.
- Advantages:
  - Utilizes existing sources of information to supplement direct stakeholder input.
  - Can uncover historical trends and patterns.
- Best Practices:
  - Collaborate with stakeholders to validate information extracted from documents.
  - Cross-reference document analysis with direct stakeholder input for completeness.

Brainstorming Sessions:

- Overview: Facilitating structured brainstorming sessions to generate ideas and requirements.
- Advantages:
  - Encourages creative thinking and innovative solutions.
  - Engages stakeholders in a collaborative and participatory process.
- Best Practices:
  - Establish a non-judgmental atmosphere to encourage idea sharing.
  - Capture all ideas before evaluating or refining them.

Applying different approaches to map requirements to the capabilities of the delivery team

Mapping Requirements to Team Capabilities - "Aligning Visions for Successful Delivery"

Subtitle: Leveraging Varied Approaches to Bridge Business Needs and Team Competencies

Skill Matrix Assessment:

- Process Overview: Begin by conducting a comprehensive assessment of the skills and expertise within the delivery team.
- Advantages:
  - Identifies individual and collective strengths within the team.
  - Assists in assigning responsibilities based on specific skill sets.
- Best Practices:
  - Use a skill matrix or competency framework for systematic evaluation.
  - Encourage team members to self-assess and provide input on their expertise.

Functional Requirement Analysis:

- Process Overview: Analyze each functional requirement in detail and match it with the corresponding capabilities of the delivery team.
- Advantages:
  - Ensures a precise understanding of the technical skills required for each functionality.
  - Facilitates the identification of potential gaps or areas of expertise.
- Best Practices:
  - Collaborate with technical leads or experts to validate the alignment of requirements with team capabilities.
  - Prioritize functionalities based on the team's proficiency.

Strategies for Effective Requirement-Team Mapping - "Guiding Principles for Seamless Execution"

Subtitle: Implementing Practical Approaches for Successful Alignment

Prototyping and Proof of Concept:

- Process Overview: Develop prototypes or proof-of-concept implementations to assess how well the team can handle specific requirements.
- Advantages:
  - Validates the team's technical capabilities in a tangible way.
  - Identifies challenges and opportunities early in the project lifecycle.
- Best Practices:
  - Collaborate with the delivery team during the prototyping phase to gather valuable insights.
  - Iterate on prototypes based on feedback and lessons learned.

Cross-Functional Training:

- Process Overview: Facilitate cross-functional training sessions to enhance the versatility of the delivery team.
- Advantages:
  - Equips team members with a broader skill set, addressing potential gaps.
  - Fosters a collaborative and adaptable team culture.
- Best Practices:
  - Tailor training programs to address specific requirements and technology stacks.
  - Encourage knowledge sharing among team members.

Continuous Communication and Feedback:

- Process Overview: Establish an ongoing communication channel between business analysts and the delivery team to address evolving requirements and capabilities.
- Advantages:
  - Promotes a dynamic and collaborative work environment.
  - Enables real-time adjustments based on changing project dynamics.
- Best Practices:
  - Schedule regular check-ins and feedback sessions.
  - Encourage an open and transparent exchange of information.

Agile Methodologies:

- Process Overview: Embrace agile methodologies to facilitate iterative planning and delivery, allowing for adjustments based on evolving requirements and team capabilities.
- Advantages:
  - Adapts to changing priorities and complexities.
  - Encourages frequent reassessment and realignment.
- Best Practices:
  - Implement agile ceremonies such as sprint planning, daily stand-ups, and retrospectives.
  - Use agile frameworks to foster collaboration and responsiveness.


Vision
Tools
People
Business Intelligence Elements
Architecture
Process


Improves the decision making process
Makes it easy to Access and Share information
Helps you know your business
Business Intelligence
Enables real-time analysis with Quick Navigation
Reduces the risk of bottlenecks
Helps identify waste in the system

Video

Gathering Report Requirements

https://www.youtube.com/watch?v=Au_blsKBNMk

Rapid Requirements Gathering for Business Intelligence and Analytics

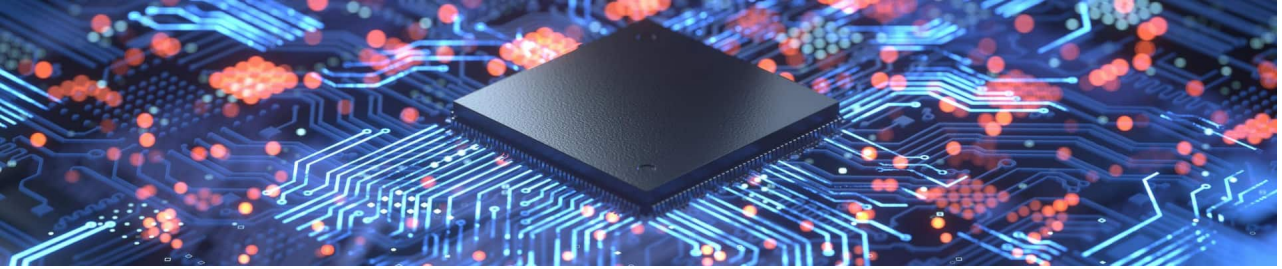
https://www.youtube.com/watch?v=VKXvewt-yiw

Requirement Gathering from Client by Business Analyst in Agile

https://www.youtube.com/watch?v=AMb_4Cdi7zg

Business Analyst Training: How To Do Requirements Gathering?

https://www.youtube.com/watch?v=0zjQHrkZ_70



Thank You

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