VALUE ENGINEERING LECTURE 2

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VALUE METHODOLOGY

➢A value methodology focuses on improving value by identifying alternate ways to reliably accomplish a function that meets the performance expectations of the customer.

➢Function Analysis is the foundation of a value methodology

➢Function describe the work being performed within the scope of the project under study.

➢Function described using two word, active verb/measurable noun pairings; for example one function of a hammer is to *apply force*.

VALUE STUDY

A Value Study is the formal application of a value methodology to a project in order to improve its value.

This application is also referred to as value engineering, value analysis, value planning, or value management.

The subject of a Value Study whether it is a product, process, procedure, design, or service will be referred to as the "**project**."

VALUE METHODOLOGY

The value methodology is a systematic process (**Job Plan**) used by a **multidisciplinary team** to improve the value of a project through the analysis of its **functions**.

VALUE METHODOLOGY

A value study generally encompasses three stages:

1. Pre-Workshop (Preparation)

2. Workshop (Execution of the six phase Job Plan)

3. Post-Workshop (Documentation and Implementation)

VALUE METHODOLOGY JOB PLAN

The Job Plan consists of the following sequential phases.

1) Information Phase

2) Function Analysis Phase

3) Creative Phase

4) Evaluation Phase

5) Development Phase

6) Presentation Phase
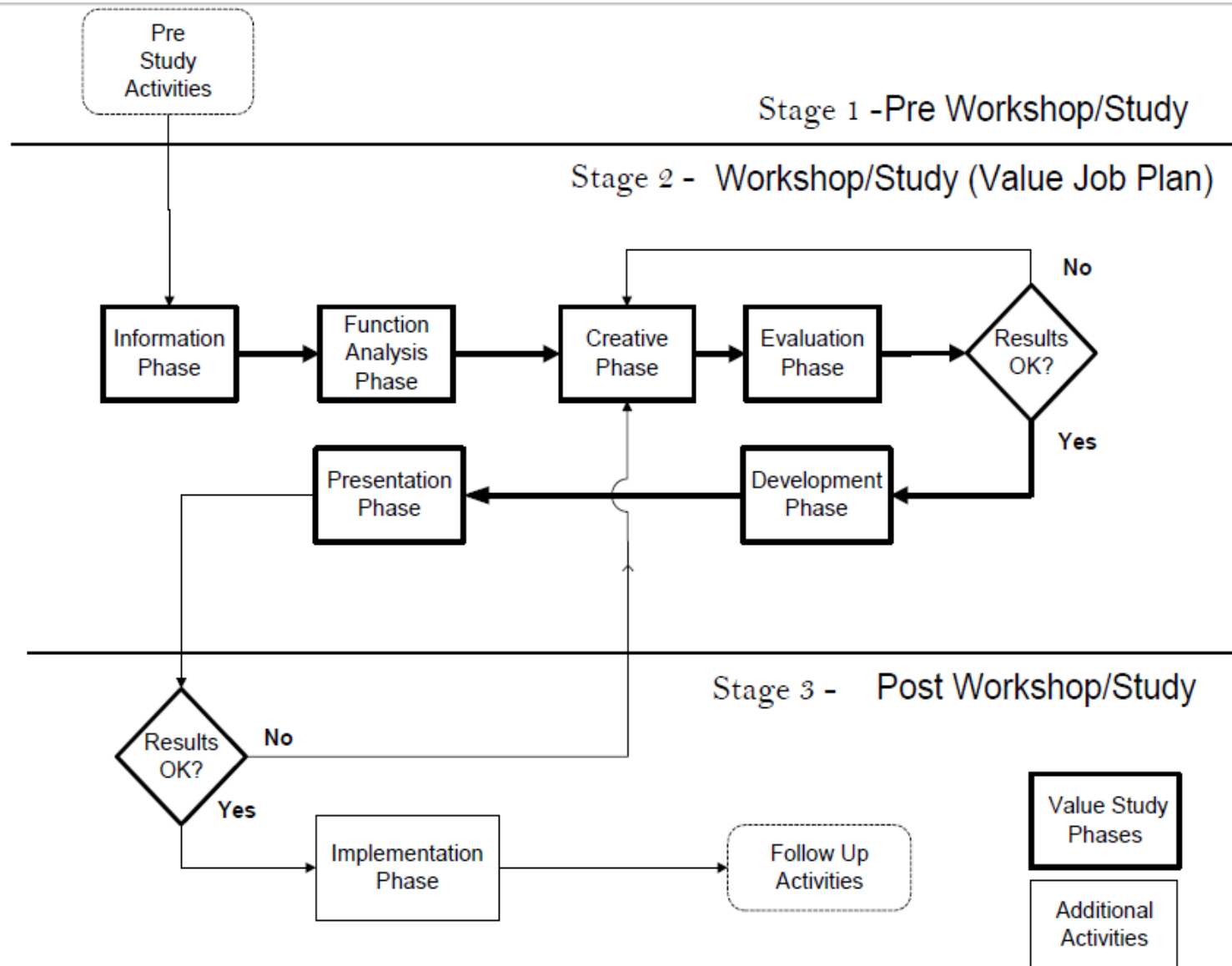
1. **INFORMATION PHASE**

The team reviews and defines the current conditions of the project and identifies the goals of the study.

2. FUNCTION ANALYSIS PHASE

The team defines the project functions using a two-word active verb/ measurable noun context.

The team reviews and analyzes these functions to determine which need improvement, elimination, or creation to meet the project's goals.

3. CREATIVE PHASE

The team employs creative techniques to identify other ways to perform the project's function(s).

4. EVALUATION PHASE

The team follows a structured evaluation process to select those ideas that offer the potential for value improvement while delivering the project's function(s) and considering performance requirements and resource limits.

5. **DEVELOPMENT PHASE**

The team develops the selected ideas into alternatives (or proposals) with a sufficient level of documentation to allow decision makers to determine if the alternative should be implemented.

6. PRESENTATION PHASE

The team leader develops a report and/or presentation that documents and conveys the adequacy of the alternative(s) developed by the team and the associated value improvement opportunity.

VALUE STUDY DURATION

The duration for executing the Job Plan in a value study depends on several factors:

- Size and complexity of the project,
- Stage of project development,
- Estimated cost of the project,

VALUE STUDY DURATION

A typical duration for the Workshop Stage is five-days, which does not include the Pre- Workshop and Post-Workshop efforts.
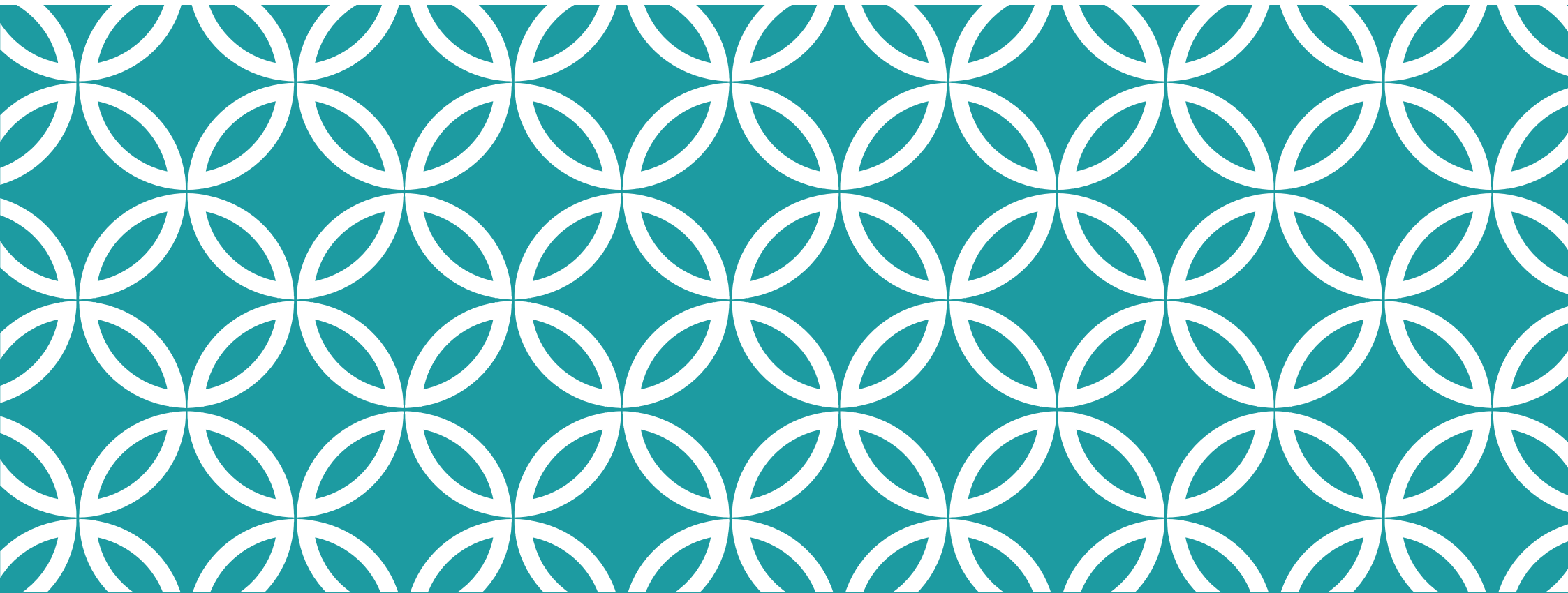
Projects of very large scope or complexity may require **10-15 days** or more to achieve the study's objectives.

VALUE WORKSHOP ACTIVITIES

The standard Three-Stage are:

➢Pre-Workshop Activities

➢Six-Phase Workshop (Job Plan) Activities

➢Post-Workshop Activities

PRE-WORKSHOP ACTIVITIES

PRE-WORKSHOP ACTIVITIES

Purpose: Plan and organize the Value Study

Fundamental Question: What has to be done to prepare for a Value Study?

Common Activities:

➤ Obtain senior management concurrence and support of the job plan, roles, and responsibilities.

➤ Develop the scope and objectives for the Value Study

➤ Obtain project data and information

PRE-WORKSHOP ACTIVITIES

Common Activities:

➤Obtain key documents such as scope of work definition, drawings, specifications, reports, and project estimate

➤Identify and prioritize strategic issues of concern

➤Determine the scope and objectives of the study

➤Develop the study schedule

➤Undertake competitive benchmarking analyses

PRE-WORKSHOP ACTIVITIES

Common Activities:

➢Identify Value Team members

➢Obtain commitment from the selected team members to achieve the project objectives

➢Review the project costs

➢Gather appropriate customer/user information about the project

➢If appropriate, invite suppliers, customers, or stakeholders to participate in the Value Study
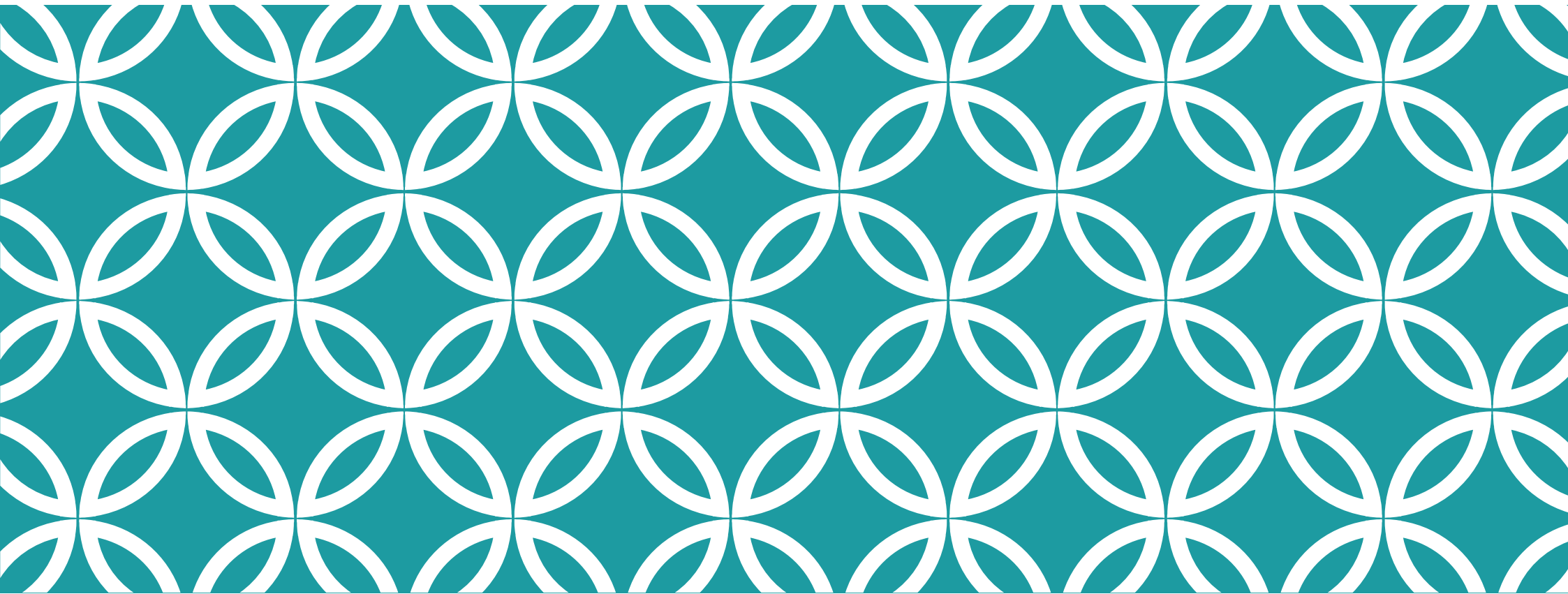
PRE-WORKSHOP ACTIVITIES

Common Activities:

➢Distribute information to team members for review

➢Develop informational models and diagrams about the project

➢Determine the study dates, times, location and other logical needs

➢Clearly define, with senior management, the requirements for a successful Value Study results

PRE-WORKSHOP ACTIVITIES

Typical Outcome

➢A clear understanding of what senior management needs to have addressed,

➢What the strategic priorities are,

➢How improvement will increase organizational value.

WORKSHOP (JOB PLAN) ACTIVITIES
INFORMATION PHASE

WORKSHOP (JOB PLAN) ACTIVITIES
INFORMATION PHASE

Purpose: Understand the current state of the project and constraints that influenced project decisions.

Fundamental Question: What is really going on in the tactical and operational contexts?

WORKSHOP (JOB PLAN) ACTIVITIES
INFORMATION PHASE

Common Activities:

➢Obtain project data and information and key documents such as scope of work definition, drawings, specifications, reports, detailed project cost information, quality data, marketing information, process flow charts, etc.

➢**Tools:** Quality Function Deployment, Voice of Customer

WORKSHOP (JOB PLAN) ACTIVITIES
INFORMATION PHASE

Common Activities:

➤Identify and prioritize strategic issues of concern. Further define the scope and objectives (management expectations) of the study

  ➤**Tools:** SWOT (Strengths, Weaknesses, Opportunities and Threats); Project Charter

WORKSHOP (JOB PLAN) ACTIVITIES
INFORMATION PHASE

Common Activities:

➤Project Team presents the original and/or present design/product/process concepts

➤Perform competitive benchmarking analysis
  ➤**Tools:** Benchmarking, Tear Down Analysis, Pareto Analysis, Design for Assembly

➤Visit site or facility

➤Confirm success parameters
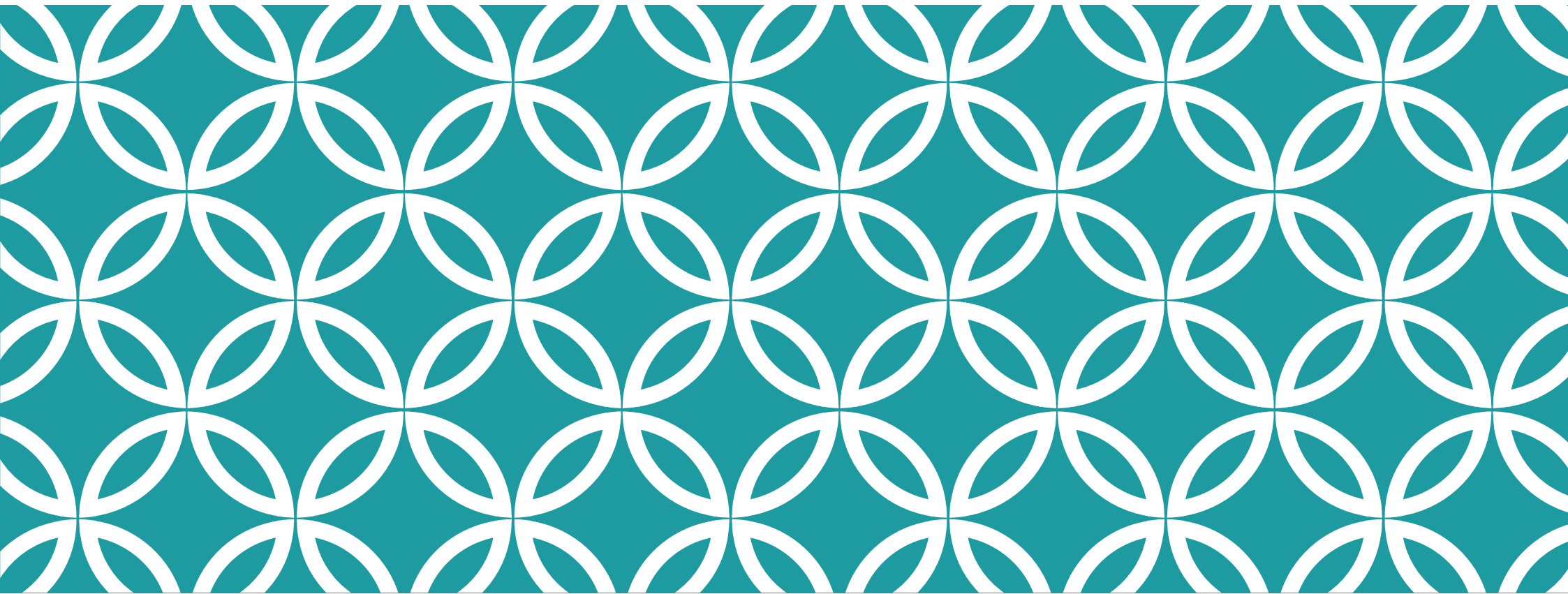
WORKSHOP (JOB PLAN) ACTIVITIES
INFORMATION PHASE

➤ Determine the study schedule; dates, times, location and other logistical needs

➤ Distribute information about the project for team member review

➤ Understand project scope, schedule, budget, costs, risk, issues, non-monetary performance.

➤ Confirm the most current project concept

➤ Identify high-level project functions

WORKSHOP (JOB PLAN) ACTIVITIES
INFORMATION PHASE

Typical Outcome:

This phase brings all team members to a common, basic level of understanding of the project, including tactical, operational, and specifics of the subject.

THANKS FOR LISTENING