



Logistics Systems Methodology

(an approach to logistics systems design)

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Management Summary

This document is designed to convey the approach taken by Prime Competence to the analysis and implementation of logistics systems. The methodology is designed to enable logistics operators to mix and match the capabilities and disciplines available within Prime Competence to assist with problem identification through to solution delivery whether it is process, systems or design.

The Prime Competence approach splits the process into two distinct phases. Design and Delivery. Figure 1 below gives an overview of the competencies available to our clients. All project will contain a Strategic Plan/Scoping component and a Measure & Review components. The Strategic Plan activities will define which set of competencies will be required to deliver the projects outcomes.

- The design phase clearly identifies the scope of the issue to be addressed, the design of the process, equipment, and systems to resolve the issue.
- The Delivery Phase focuses on delivering the design reached during the Design Phase.

The rest of this document describes the components of our approach at a high level and should be used by our clients to determine which competencies best suit their needs and internal skills.

Prime Competence provides as much or as little input into a project as our client desires. We use evidence-based analysis and provide an independent voice to our clients with an agnostic view of suppliers and systems.

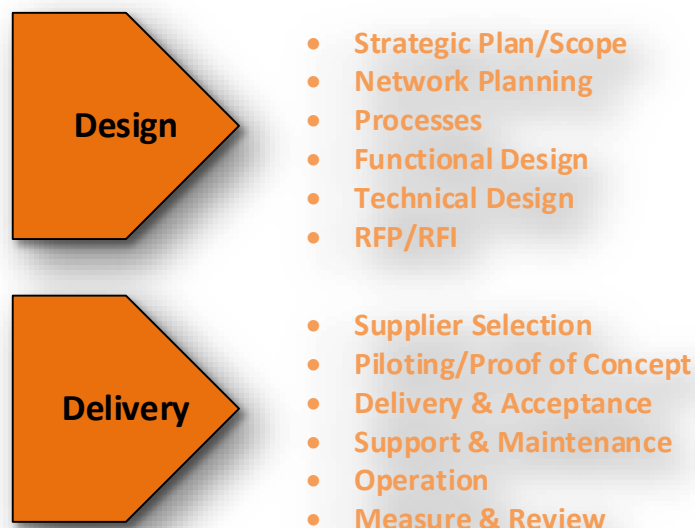


Figure 1 Methodology Approach

1 Methodology Overview

1.1 Introduction

Prime Competence has, over time, developed a framework that we use to guide our analysis and provide a structured approach to problem-solving within the logistics domain. This approach is designed to bring structure and repeatability to projects.

Our methodology is designed to cover all areas found in logistics projects. No two projects are the same, and thus the actual areas of competence we will access for a given project will differ from project to project. Also, the logistics operator will have strengths and weaknesses in their internal capabilities. These two factors will determine the breadth and depth of the skills Prime Competence supplies to the project.

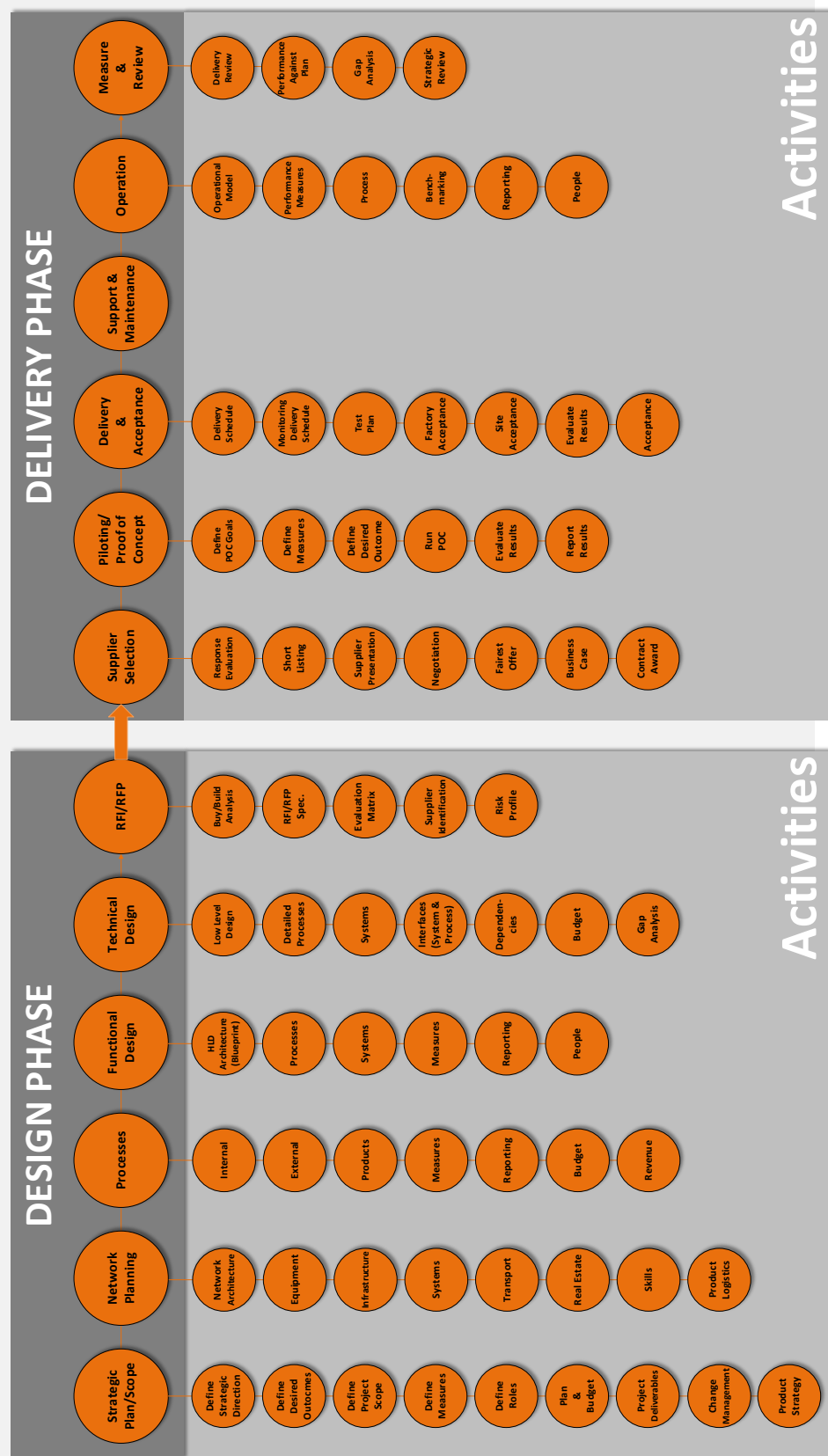
This document is designed to give a sense of the process and competencies available to our clients. It is not a detailed description of the methodology.

1.2 Core Components

From Figure 1 it can be seen that there are 12 core areas of activity during a project. Prime Competence understands that they will not fit every project. However, we do recommend that the first (Strategic Plan) and last (Measure and Review) be used on all projects as they form the basis of how the project is targeted and measured and benefits delivered over the life of the project.

While each of the areas of activity can require complex analysis, there is no implied timeframe for each. A Strategic Plan/Scoping component could be a very short half day workshop for a simple project or take much longer for a large complex project. Either way, the outcome is the same and appropriate for the project itself.

Figure 2 following shows the individual areas of activity with greater detail around the functions performed within each. While the diagram infers a flow of activity, there is no real order in which activities should occur other than the order imposed by actual dependencies. For example, it may be necessary to develop an operational model an operational before an equipment purchase but not in every instance.



1.3 Project activities

The following table describes each of the competencies at a high level. In following chapters, there is a more detailed description of each component of the methodology.

While the following descriptions refer to project artifacts, Prime Competence concentrates on delivery the project outcomes as a business benefit to our clients. Our focus is entirely on realizing the projects stated goals and meeting our client's expectations for the project results.

No level of complexity should be inferred from this description. Project deliverables and activities are designed in the Strategic Plan/Scoping phase to be appropriate for the project and care is taken not to burden a project with an excess of activity that does not contribute to the successful completion of the project.

Design Phase Activities

| Component | Description | Artefact |
|-------------------------------|---|---|
| Strategic Plan/Scope | Defines the project regarding goals, deliverables, and scope. Also provides a high-level plan for what is done, by whom and when. | Project Blueprint Project Budget Agreed Project Deliverables |
| Network Planning | Analyses which components of a logistics network including people, transport, real estate, equipment, and product. | Overall integrated network design |
| Process Flow Logistics | Analysis of the processes and systems involved in the current state and design of the To Be processes and impacts from a change. | Project Blueprint Process Analysis Documentation Gap Analysis |
| Functional Design | Looks at the AS-IS state and the TO-BE state and models provides a functional view delivering a simple single state design. | Project Blueprint Functional Design Document GAP Analysis |
| Technical Design | The project's technical design brings together the analytical steps and provides the overall solution. The technical design will include systems and integration components to deliver the overall solution. | Project Blueprint High Level Design Business Case (where appropriate) |
| RFI/RFP | If the project solution calls for externally sourced components, then an RFI/RFP will be developed based on the analysis phases designed to deliver those external components. | RFI/RFP Requirements Matrix Evaluation Criteria Requirements to Design Mapping |

Delivery Phase Activities

| Component | Description | Artefact |
|----------------------------------|--|--|
| Supplier Selection | <p>Evaluation of respondent's proposals against the RFI/RFP. Using many years of experience in tender evaluation and intimate knowledge of the state-of-the-art in the industry.</p> <p>Prime competence will always work within the evaluation team and probity framework defined by our clients.</p> | Supplier Recommendation |
| Piloting/POC | <p>There can be decided advantages in proving concepts and capabilities through a piloting or proof of concept.</p> <p>This can often provide, for a relatively small amount of money, assurance that the desired outcomes from a project are deliverable and achievable.</p> | Pilot Project Design Pilot Project Analysis |
| Delivery & Acceptance | <p>Once a project has been sourced, either internally or externally, the critical stage of delivering the components of the project begins. This phase of the project is key to a successful implementation.</p> | |
| Support & Maintenance | | |
| Operation | <p>Operational activities focus on the way a business operates and the model in which the project fits. Often this model is notional and not fully documented. It is somewhat understood by all but often evolves to meet tactical needs.</p> <p>An Operational model provides a strategic framework in which decisions are made about products, network design, tactical opportunities and procedures.</p> <p>From the model comes the actual design which implements the day to day running of the business rather than the running of the business forming the operational model.</p> | |
| Measure & Review | <p>Many projects, once delivered, are assumed to be providing the benefits specified during design and delivery. Periodic reviews and measurement of the project provide valuable insight into how the project performs and where performance might be improved.</p> | 3 Month Review, 6 Month Review, 12 Month Review, 24 Month Review |

1.4 Project Blueprint

The original document generated during this phase of a project is the Project Blueprint. The Project Blueprint is designed to convey the understanding of the project at a point in time at a high level. It defines the project, its goals, deliverables, architecture and decisions made during the project.

As the understanding of the project is refined, decisions are made, and the knowledge about the project is enriched the Blueprint is updated to convey the current understanding of the project and outstanding issues and risks.

Projects evolve from inception to delivery. Often the evolution of the project, decisions made, reasoning and sometimes goals become lost in the complexity of delivering projects. The

Blueprint serves the purpose of recording this history at a high level and ensuring that subsequent project reviews and measurement do not lose this understanding of the project.

Section 13 Project Artefacts gives more detail on the Project Blueprint and the other projects artefacts.

2 Strategic Plan/Scope



Figure 3 Strategic Plan/Scoping Overview

2.1 Introduction

Defining the Strategic Plan and Scope for the project is a critical step in a successful project. It performs a high level analysis of the various components of the project and fits them together to give an understanding of just what the project should deliver, when and how much it will cost.

This component of the methodology is also designed to deliver agreement on the desired outcomes of the project, define roles, high level project plan, budget, customer impacts and opportunities as well as the skills required to deliver the project.

Importantly it should define how the project fits into the organizations overall strategy. Without this understanding the project would be tactical rather than strategic. A tactical project will be delivered in a different manner to a strategic project so it is important to understand just what is intended with the project.

The outcome of this stage is the creation of the Project Blueprint. The Project Blueprint contains all the high level information about the project and is designed to communicate the intention of the project, what will be delivered, how it will be delivered and the current state of the project.

Along with the Project Blueprint other artefacts may be produced such as a project plan, budgets, business case, and resource plan depending on the complexity of the project. The various artefacts are owned by an identified individual

2.2 Project workshop

The project workshop is designed to deliver most of the information required to complete this phase. Where there is an information gap this will be identified during the workshop and a plan to collect and communicate the missing information will be formulated.

The outcome of the workshop is to provide a high level understanding of the project and begin completing the Project Blueprint. Each of the areas of this phase should be considered during the workshop. Those that are outside scope for the project should be noted in the blueprint.

2.2.1 Duration

The project workshop should be scheduled dependent on the complexity of the project. Small projects could be a day while larger, more complex, projects could consume a week.

2.2.2 Attendees

The project workshop is a critical success factor in delivering the project. The number of attendees should be appropriate for the project and as small in number as practical. Due to the strategic nature of this phase it is important that there be attendees that are aware of and can influence the strategic direction of the organisation. This will ensure a good match to the goals of the organisation.

2.2.3 Outcome

Through deliberate contemplation and analysis of the activities covered in this phase the Project Blueprint, Project Plan and Budget will be the main outcome of the workshop. These will all be at a high level and require significant modification as the project progresses but they will set the boundaries of the project, place the project in a strategic context appropriate to the organisation and give a first-cut refinement of the scope of the project.

2.3 Define Strategic Fit

Every organization should have a statement of their strategic direction. This is important as it will inform the direction projects take and the areas of investment that fit the organizations goals. Without this strategy most projects will become tactical in nature and not lead to an outcome that will move the business towards its goals.

2.3.1 What is the strategy?

The organizations strategy should be a clear set of goals that define, in the short, medium and long term the direction the business wishes to take. The parts of this strategy that are relevant to the project should be included in the blueprint as the overriding context for the project. This statement should be under the **Project Strategy** section of the blueprint.

If there is no corporate strategy relevant to the project then a statement of strategy should be formulated as part of the project. This statement should clearly define the goals of the project and how they fit into the organizations goals.

2.3.2 Is this project strategic or tactical?

Secondly we need to consider whether, in the context of the overall corporate strategy, the project is strategic or tactical in nature. In order to make this determination we need to consider:

- how the project relates to the corporate strategy;

- whether the project enhances the impact or progress of the corporate strategy;
- the timeframe of the problem or opportunity the project addresses;
- was the project defined on known circumstances or a prediction of the future;

Strategic and tactical projects are closely related. Many tactical projects are delivered within the context of an overall strategy. What is important to understand is which type of project this is.

Once this question is resolved the reasoning should be documented in the Project Strategy of the **Project Strategy** section of the blueprint.

2.3.3 How does this project fit?

It is important that the project give consideration to where the project fits and how it provides value to the organization. To answer this question it can be helpful to measure the project

This is an important step as it will help define the scope and goals of the project and start to develop how the project integrates with the organizations existing processes, systems and people.

The outcome of this analysis should be documented in the **Project Strategy** section of the blueprint.

2.4 Define Desired Outcomes

This activity is designed to ask questions that test the assumptions behind the project. It does this by developing a rationale for the project and examining what other options are available to deliver the benefit and to quantify that benefit.

This analysis will inform later decisions particularly around what is measured and how it is measured.

The outcome of this analysis will be documented in the Project Blueprint in the **Desired Outcomes** section.

2.4.1 Problem Definition (AS IS)

In order to define a solution we need to define the problem. This definition should be at a high level but with sufficient detail to convey the current As-IS situation accurately. It should include analysis of why this is a problem and how it is measured.

There are many different ways of describing the As-Is state. Process maps, flow charts, value chains, simple text. Each is appropriate for certain projects. Whatever way is chosen to describe the As-Is situation should, for clarity, also be used to describe the To-Be state.

It is important to remember that this analysis should describe what actually happens in the business not what should happen.

Whatever measures are chosen will automatically become some of the measures used to determine the success of the project.

2.4.2 What is the desired outcome (TO BE)?

Once we have defined the problem we need to document what we want the outcome of the project to be. This analysis should describe the following:

- the ideal state;
- the future state (may be different to the ideal state);
- what the project will deliver;

- constraints on the project delivering the ideal state;

Whenever the ideal state is not achievable it is important to define the constraints that preclude this outcome. This ideal state may become part of a strategic goal that, in the future, may be deliverable. Whilst it is important to focus on the practically deliverable components of the project the ideal state has merit as the project should move the organization towards that state.

The outcome of the project should be expressed using the same measurements as the As-Is plus any other measures deemed a suitable metric for the project.

2.4.3 What are we trying to do?

Whilst the goal of the project will be further elaborated in the project scope definition it is helpful to state what the project is trying to achieve at this point. A one line statement based on deliverables not project activities will ensure agreement amongst the project group is achieved.

2.4.4 What benefit does that bring?

Define what benefit the organization will gain from the project. This can include financial, product, structural, organizational efficiencies, competitive, strategic and market benefits. Key to the definition of a benefit is it should be measurable.

For each benefit defined enter into a benefits register. Define how it is measured and then provide a plan to realise the benefit.

2.4.5 Is there another way?

Most projects start with a pre-defined approach to how it will be delivered. This can often be based on the groups experience and industry norms on how to achieve a particular outcome. It can be helpful to take a step back at this stage and provide an alternative to the assumed approach to the problem or opportunity the project is to deliver.

For example, if the project is to deliver an efficiency gain in a particular area of a business process an alternative approach to improving the process might be to just not do that process any more. These discussions can lead to novel and innovative approaches.

2.5 Define Project Scope

A critical part of any project is to define scope. Scope is a definition of what the project needs to deliver. Where the boundaries of the project are and critically what the project will not deliver. This formalizing of scope will inform all project activities and communicate to a larger audience outside the project just what the project is delivering.

2.5.1 Scope should be tangible

Scope for the project should be defined as a tangible objective for the organization that fits within the strategic vision and enhances or delivers some component of that vision. Expressing, at a high level, the project scope in this manner will ensure alignment of the project to corporate goals and should provide a reference point for the project decisions.

There should be a clear objective stated as part of the scope definition. Such as:

"Deliver a 5% efficiency gain on operational activities through increased efficiency of line-haul operations"

This statement while broad will set the tone and start to inform many other components of the project. For example, in this scope statement there is an implied measurement and in which area of the business the project will concentrate.

A simple scope statement will touch on all areas of the project and provide a clear understanding of the project in these terms. Each project is different but typically a scope statement will include details on:

- Objectives
- Goals
- Project Phases
- High Level Tasks
- Resources and Responsibilities
- Budget
- Project Schedule

Each of these areas should be touched on by a project scope statement.

2.6 Define Metrics, Measures and Targets

Metrics, Measures and Targets are often confused during project definition but are critical to project success. At the early stages of a project they are helpful in defining what will be delivered and how that will be measured. At later stages they form the basis of the success criteria of the project.

Measurement of the project, its outcomes and targets are the single most important part of the project to get agreed early in the project. Measurements must be tangible and believable in order to be used as a benchmark and provide meaningful success criteria and reporting towards the projects goals.

It is important for the project that agreement be reached by all participants on all three aspects of project measurement and how the different aspects of measurement relate to each other.

- **Metrics.**
Metrics provide the numbers, thresholds, scope, constraints duration, max and min and averages.
- **Measures**
Measures represent information used to establish a common understanding of status, condition and position of something. Measures describe what it is the metrics are defining.
- **Targets**
The agreed upon metric value the organization desires to achieve.

2.6.1 What do we have to measure?

Project and Goal based metrics are the two types of metrics that should be reported by the project. Project metrics show the state of the project and could include measurements of Cost, schedule, Resources, Risk and Quality. Goal metrics are related to the outcome of the project and show the outcome of the project as defined in the project targets.

2.6.1.1 Identification

Effort and Cost
Financial quantification
Benchmark

Impact on employees and culture

Reliability (will people believe it?)

2.6.1.2 *Validation*

2.6.1.3 *Owners*

2.6.1.4 *Not too many measures*

2.6.1.5 *Define Terminology*

2.6.1.6 *Define approach*

2.6.1.7 *Identify project impacts*

2.6.2 What do we want to measure?

Must reflect a meaningful business objective

2.6.3 How do we measure it?

What metric applies to each measure

2.6.4 In what format will we report the metric?

Define Reporting approach

Define who will collect, compile and validate data.

How will it be stored?

How often will it be reported?

Are there different levels of reporting required Executive, Managerial, Operational...

2.6.5 What are our Targets for each measure?

Internal Benchmarking

Industry Benchmarking

2.6.6 Baseline Measurement

Whatever set of Measures are determined as suitable for the project the first part of the process is to create a baseline measurement using whatever collection methodology has been determined.

2.6.7 Reporting Process

2.7 Define Roles

2.8 Plan & Budget

2.9 Project Deliverables

2.10 Change Management

2.11 Customer Strategy

2.12 Phase Artefacts

2.13 Phase Checklist