16.852J/ESD.61J
Team Assignment

Overview

This is a team assignment to evaluate how an entire enterprise delivers value to its stakeholders (especially the end customer), from concept generation of the product/service to final product/service delivery and support to end customers. This will encompass analyzing and evaluating the current process flow in terms of resource requirements, people, budget allocation, time involved in each step/activity, etc. In addition, current information flows, tools, technologies and enterprise metrics employed will be identified. Sources of enterprise waste are to be identified and measured. Teams will be required to develop a Lean Vision for the enterprise that will deliver value to stakeholders in a more streamlined, waste-free manner. Finally, a transition plan will be developed which outlines the steps involved in migrating from the current state to the Lean Vision state. This will include prioritizing "lean" projects that the business unit should perform including key organizational, information and technology enablers.

It is assumed that appropriate organization personnel will be interviewed and that actual data will be utilized to represent times, resources, etc. Company confidential data may be disguised or normalized as required.

You are encouraged to work on a company or organization that you or one of your team members are involved in. The final presentation should be geared toward the enterprise leader of the organization that you have chosen. The presentation will be accompanied by a written report. The final report should be the culmination of the individual steps of the assignments due throughout the semester, as outlined in the following pages.

Part I: ENTERPRISE IDENTIFICATION

STEP A Describe Enterprise

Choose a company/organization to analyze. If the enterprise in which you are currently employed is too expansive, you may choose a specific product line on which you will work (please clear with Course Instructor). The enterprise you select to study, however, must span the product life cycles processes, i.e. customer requirement definition, product and process development, production, assembly, suppliers, distribution and support. It must also consider enabling support functions such as Finance and Human Resources. Your description should include product/service lines, market segments targeted, major competitors, market position, sales volume (for this particular enterprise) and workforce make-up and size.

Identify the major driving forces of the external environment in which your defined enterprise operates. Through interviews with company executives/managers, review of company literature (annual reports, etc.) and the general business literature, determine the major strategic issues facing your enterprise.

Provide a summary of the strategic plan for your enterprise in terms of its mission, goals and objectives.

Deliverable: Two to three pages describing the enterprise you have selected and the requirements explained above. The description should include a specification of the boundaries of the enterprise and identification of its major processes.

STEP B Value Identification

Identify who is the end customer of your enterprise and what his needs (what does he really value?) and requirements are in terms of product or service, delivery lead times, price, quality, etc. Then take a look at your enterprise as it is today and describe the product/service it is providing in terms of the same performance factors.

Specify value for each of the other stakeholders of the enterprise, i.e. Suppliers/Partners, Employees, Shareholders, Society, Union (if any), and the Corporation. Interview enterprise managers and chart Relative Importance and Current Performance for the several major factors contributing to value for each stakeholder (See Example Value Comparison Charts and Value Comparison Templates.)

Deliverable: One to two pages describing value to the various stakeholders. Completed Value Comparison Charts.

Part II: ENTERPRISE DIAGNOSIS/ANALYSIS

STEP C Map Life Cycle and Key Enabling Processes

Develop a high level map of product life cycle flow from concept generation of the product to final product delivery and support to the end customer (example: customer requirement definition, concept generation, product and process development, manufacturing, delivery and support). Develop the product value stream map as the enterprise currently operates, not as you perceive that it should operate.

Onto a separate but exact copy of the product value stream map, overlay key enabling support functions (Finance, Human Resources, etc.).

Identify any potentially de-stabilizing forces/influences that may be internal or external (policies, laws, trends, demographics, etc.).

Deliverable: The product value stream map should include no more than 25 steps. It should include the end customer. Include one page describing the whole map. Include support (Finance, Human Resources, etc.) functions in your value stream map.

STEP D Resource Requirements

On the Value Stream Map developed in Step C, identify resources required to accomplish each of the steps/activities: elapsed time, number of people, budget allocation, facilities and other assets required. If you encounter difficulty getting specific financial data, the numbers can be normalized (% instead of $).

Deliverables:
1. Process map with times for each step/activity. One page that explains how these times relate to the product lead-time requirements. Identify any issues that surface.
2. Add resource utilization numbers to Value Stream Map. Prepare a spreadsheet and one page summary of resource allocation. Identify any issues.

NOTE: This represents the current state ("as is") Value Stream Map.

STEP E Information Flow

Identify major decision points/approvals required.   Identify major interfaces. Identify what information is flowing within the total Enterprise Value Stream (including enabling support functions as well as life cycle functions).   In analyzing information flow, consider the following factors: format, accuracy, availability, accessibility, timeliness, quantity, usefulness, duplication, multiple data entries, etc.   Identify information sources and sinks and the number of information handoffs.

Deliverable: Five to ten pages describing your analysis of the decision structure and information flow within the enterprise.   Identify opportunities for waste removal. Identify other information-related issues, particularly those related to integration opportunities.

STEP F Tools and Technologies

Identify the tools and technologies (e.g., CAD/CAM systems, ERP systems, stereolithography systems, etc.) being used in the Value Stream with specific focus on integration issues. Make a fair assessment of the tools and technologies and their utility levels. Highlight the major issues involved and identify deficiencies. Begin to think about the pull requirements and to identify potential key enabling tools and technologies.

Deliverable: Five to ten pages explaining/analyzing the tools and the technologies used (as specified above). Consider using an information flow diagram.

STEP G Waste Identification

Analyze each step/activity in the Value Stream Map and classify it into one of three categories:
1. The activity adds value.
2. The activity does not add value but is necessary.
3. The activity does not add value, is not necessary and is a candidate for elimination or reduction.

Identify sources of enterprise-level waste. (Refer to handout on Enterprise Level Waste

Deliverables:
1. Description of type and extent of wasted resources within the Value Stream.
2. Description of type and extent of Enterprise Level Waste.

STEP H Metrics and Strategic Issues

Identify the metrics currently being used at the enterprise level and compare these to the Stakeholder Values (STEP B). Discuss the degree of concurrence between these sets. Compare the metrics to the Strategic Issues of your Enterprise (STEP A). Do the metrics currently employed map to those Strategic Issues? Do the Enterprise Metrics flow down to other parts of the organization in a logically consistent manner?

Deliverables:
1. Four to six pages comparing the current metrics to Stakeholder Values, with discussion.
2. Four to six pages comparing the Strategic Issues to the metrics employed, with discussion.

STEP I LESAT Evaluation

Conduct an organizational assessment of lean progress and "readiness to change" using the Lean Enterprise Self-Assessment Tool (LESAT). Use the LESAT Summary Sheets to record present and desired lean levels, focusing primarily on the "current" levels.

Deliverable: Five to ten pages summarizing the LESAT evaluation results. Identify the issues for each of the three LESAT sections implied by the evaluation. How do these sets of issues relate? How do these issues compare to those you identified in previous steps? How do they relate to the strategic issues found in STEP H? What changes does this analysis suggest that should be considered for inclusion in the future Lean Enterprise Vision (see Part III)?

Part III: LEAN ENTERPRISE VISION

Part I of the Team Assignment had you describe/characterize the particular enterprise that you chose to analyze and to define "value" to the end customer and to the other key enterprise stakeholders. Part II had you dig deeply into the enterprise as it is currently constituted. You have analyzed the customer and strategic requirements, cycle times, resource utilization, information flows, technology enablers, and metrics employed. This analysis provides a measure of the degree of "leanness" of your enterprise. Now in Part III of the Team Assignment, you will have the opportunity to create and describe a "Lean Enterprise Vision" for your organization.

Define the future state of your enterprise as you believe it should look approximately five years out. Create a clear vision of the characteristics of your enterprise based on what you have learned from course lectures, readings, and your own imagination as to what might be possible.

First of all, develop a new Value Stream Map of your future enterprise, considering the same elements as in your analysis in Part II. Contrast this to your enterprise's current Value Stream Map. How would the cycle times be different? What would be the resource requirements? How would information now flow? To what extent has waste been eliminated?

Give consideration to all the stakeholders. What will the customer relationships and satisfaction metrics look like in your new enterprise? How about interactions/relationships with suppliers/partners? What kind of working environment will your employees have? What will be the characteristics of your enterprise leadership? What kind of organizational structure will you need to support this new value stream? What will your stockholders have to say about this lean enterprise? What view will the Union (if any) have? Will the new enterprise have a different impact on society?

How will you know when you have achieved your vision? Identify the metrics you would use at the enterprise level to measure progress toward attaining the vision. Identify the key strategic issues of your future enterprise and make sure that the metrics employed map against those strategic issues. How will the metrics flow down to other parts of the organization?

Utilize the number of pages you feel is required to convey your new enterprise vision.

Part IV: ROADMAP FOR ACHIEVING VISION

In this section you will describe how to get from your current state (Part II) to your enterprise's new enterprise vision (Part III). You will be making recommendations to your senior executives on how to transform your enterprise to a lean one.

First, review the key issues you identified earlier. Then perform a gap analysis between your "As is" state and your envisioned "To be" state. What are the key differences? What are the critical processes/functional areas that require significant focus to achieve your future vision and to satisfy your strategic objectives? Where are the significant technology/information gaps?

Next, identify potential opportunities for significant improvement and prioritize areas of focus. For example, where would you recommend that your enterprise leader start? Shop floor? Product development? Suppliers? Some combination of the above? Identify key high-level projects that should be undertaken to achieve the desired transformation and prioritize these on the basis of relative importance. Map out a high-level transition plan. Use a chart to display the key elements. Specify any precedence relationships among the opportunities and any enabling activities.

This transition plan should take into consideration information and technology enablers, recommendations on new process initiatives (e.g., IPPD) and potential alternative organizational structures. What are the training requirements? What other recommendations might you have for your executives on transformation requirements?

Finally, identify any barriers that you perceive to making this transition. What mitigating strategies might you suggest?

Utilize whatever numbers of pages you feel are required to convey your plan.

Part V: FINAL REPORT AND PRESENTATION

Final Report

The final report will be the culmination of Parts I, II, III, and IV. You can assemble each of the sections that you prepared previously into a single document if you like. The following two additions are required: First, add another section to Part II that summarizes all the key issues that you gleaned from your analysis. What are the critical dimensions of your enterprise that need enhancement? Second, add a one to two page Executive Summary at the front of your report. Please turn in both an electronic as well as a paper copy of your report at the time of your final presentation.

Presentation

The final presentations will be held in the first week of December. Gear your presentation to your enterprise executive. Assume that you are presenting your management with an assessment of the current lean state of your company (Part II), a portrayal of what your future lean enterprise could be (Part III), and your recommendations on what will be required to get there (Part IV). Use your value stream maps (before and after) to illustrate the different states. A prioritized transition plan should be included. The presentation should consider all the dimensions of the enterprise – people, processes, technology, and information.   It should also include your recommendation of an appropriate Value Proposition for the enterprise relative to your proposal.

You will have a <u>maximum</u> of 30 minutes to give your presentation. This will be followed by a period of questions/discussion for approximately 10-15 minutes. Times will be strictly adhered to. You may use any number of different presenters from your team that you desire. Both an electronic and paper version of your presentation should be made available at the time of your presentation.