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# TABLE OF CONTENTS

**FOREWORD** .......................................................................................................................... 5  
**UPDATES TO LESAT 2.0** ........................................................................................................ 5  
**HOW TO USE THIS GUIDE** .................................................................................................... 6  
**ACKNOWLEDGEMENTS** .......................................................................................................... 8  
**PART I: WHAT IS LESAT AND WHY USE IT?** ........................................................................ 9  
  **Role of LESAT in Enterprise Transformation** ........................................................................ 9  
  **Benefits of LESAT** .................................................................................................................. 10  
  **Comparison with Other Assessment Processes** ..................................................................... 13  
  **Lessons Learned from Previous Uses** .................................................................................... 16  
**PART II: UNDERSTANDING LESAT** ...................................................................................... 18  
  **Enterprise Principles** ............................................................................................................. 18  
  **Enterprise Processes and LESAT Sections** ............................................................................ 20  
  **LESAT Section I and Enterprise Transformation Roadmap** .................................................. 22  
  **Generic Capability Level Definitions** ..................................................................................... 24  
  **The Enterprise Maturity Matrix Form** .................................................................................... 25  
  **Important Things to Remember about LESAT** .................................................................... 26  
**PART III: ASSESSMENT METHODOLOGY** .......................................................................... 27  
  **Assessment Stakeholders** ....................................................................................................... 27  
  **Five-Phase Assessment Process** ........................................................................................... 29  
  **Phase One: Assessment Prerequisites** .................................................................................... 30  
    **Obtain Organizational Commitment** ...................................................................................... 30  
    **Define Enterprise and Its Boundaries** .................................................................................. 31  
    **Define Time Horizon for the Future Enterprise State** .......................................................... 32  
    **Define Timing of Assessment** ............................................................................................. 32  
    **Define Participants’ Roles and Responsibilities** .................................................................. 33  
    **Allocate Resources** .............................................................................................................. 33  
    **Review Progress in Implementation of Action Plans** .......................................................... 34  
  **Phase Two: Plan Assessment** .................................................................................................. 35  
    **Identify Respondents** ............................................................................................................ 35  
    **Determine Timeline** .............................................................................................................. 36  
    **Introduction and Training** .................................................................................................... 37
# LESAT Facilitator’s Guide

**Phase Three: Perform Assessment**

- Conduct Individual Assessment .............................................................. 39
- Collect and Process Results ................................................................. 42
- Discuss and Analyze Results ................................................................. 47

**Phase Four: Evaluate Assessment Results and Process** .......................... 48

- Evaluate Assessment Results ............................................................... 48
- Evaluate Assessment Process ................................................................. 52

**Phase Five: Develop Action Plan and Prioritize Resources** ....................... 53

**Part IV: Common Mistakes** ................................................................... 54

**References** .......................................................................................... 56

**Appendix A – LESAT Glossary** ............................................................... 58

**Appendix B – Summary of LESAT Practices** .......................................... 67

**Appendix C – Summary of LESAT Assessment Process** ....................... 69

**Appendix D: LESAT Calculator** .............................................................. 70
FOREWORD

Updates to LESAT 2.0

This new version of the Facilitator’s Guide is a companion to the Lean Advancement Initiative (LAI) Enterprise Self-Assessment Tool (LESAT) Version 2.0.

LESAT Version 2.0 is an upgrade of LESAT 1.0, which was developed by LAI at the Massachusetts Institute of Technology (MIT) in collaboration with the University of Warwick. The new version of LESAT is based on LAI’s enterprise-level research and facilitation experience as well as the experience of LAI members in using the LESAT 1.0. The major changes in LESAT 2.0 are described below.

Shift from Lean Capabilities to Enterprise Transformation

Throughout LESAT 2.0 the focus of assessment is shifted away from the lean capabilities of an enterprise toward its capabilities to transform into a high performing enterprise and then sustain the transformed enterprise. This shift required not only a change in terminology (removing or clarifying the term lean throughout version 2.0), but also revisiting the spirit and content of the LESAT practices.

The lean practices in LESAT 1.0, which can be traced back to the Toyota Production System, focus on eliminating waste and apply generally across manufacturing industries. Enterprise transformation research focuses on creating value and also is applicable to government organizations, healthcare institutions, and service providers. LAI research has identified seven enterprise transformation principles, described in Part II: Understanding LESAT, that define the mental model required to transform an enterprise.

The shift to an enterprise focus is more apparent in Section II, which addresses assessment of lifecycle processes. In this section, LESAT 1.0 originally included descriptions of enterprise capability levels that were very prescriptive in the application of lean principles and techniques. LESAT 2.0 Section II is less prescriptive in terms of using specific techniques and instead focuses on general enterprise principles that ensure effective processes for value delivery to enterprise customers.

LESAT 2.0 can continue to be used to assess the leanness of an enterprise. The new version of LESAT focuses on manufacturing and product-oriented enterprises. LAI hopes to develop an additional variant for service-oriented enterprises in the future.

Linkage to Enterprise Transformation Roadmap

LESAT 1.0, and Section I in particular, were originally designed to fit into the Transition to Lean Roadmap, an LAI product that provides a framework for assisting organizations in their transition to lean.
LESAT Facilitator’s Guide

Based on a decade of research, LAI developed a new framework, the Enterprise Transformation Roadmap, which provides a way to plan and enact both incremental and radical change. The roadmap provides a framework for creating and executing an effective and efficient transformation strategy. It also serves as a guide for enterprise leaders as they consider the critical strategic, cultural, and operational changes that are required to transform an enterprise. The roadmap draws from comprehensive discussions with industry executives; the experience of a team of industry, government, and academic representatives working to create the framework; and from research in change management and organizational dynamics over many decades by many scholars.

Section I of LESAT 2.0 is linked to the Enterprise Transformation Roadmap. The linkage is described in the Guide in Part II: Understanding LESAT.

Comprehensive Assessment Process

The structure of this guide has been improved to provide extensive guidance on the use of LESAT, organization of the assessment process, and use of assessment results. The changes are based on research in organization processes, enterprise assessment, performance measurement, and organizational behavior. They also draw from the experience of LESAT users and from the study of actual assessment processes and results.

This guide introduces a five-phase assessment process that includes actions organizations must take to ensure effective assessment outcomes, such as creating an environment that promotes open and frequent discussion among respondents about the current state and future vision of the enterprise. As an aid to formulating a future vision and developing transformation plans, this guide also offers methodologies for analyzing and interpreting assessment results.

How to use this guide

This guide was designed to be read either in entirety or to be used as a reference for specific advice throughout the assessment process. It consists of four main parts and four appendices. Part I focuses on the role of LESAT in the assessment process and how it compares to other assessment tools. Facilitators may find this part useful when selecting an assessment tool or discussing the application of LESAT within an organization. Part II describes the structure and intended use of LESAT and is useful for understanding the tool and introducing it to assessment participants. Part III introduces the five-phase assessment process and includes information, such as participant roles, that facilitators will find useful when preparing for a successful assessment. Part IV describes some common mistakes that are drawn from examples of actual use.

The appendices include a glossary of terms a summary of enterprise practices and the assessment process, and a description of the LESAT Calculator.
LESAT Facilitator’s Guide

The LESAT Calculator is an Excel-based application that was developed to assist facilitators collect and analyze assessment results. The LESAT Calculator is available for download by LAI members (http://lean.mit.edu/products/lean-enterprise-self-assessment-tool-lesat).

LAI also offers presentation slide templates to LAI members for introducing LESAT to assessment participants. One set of slides is intended for enterprise leadership to help secure their commitment, sponsorship, and participation in the LESAT assessment and to set the stage to preparing and launching the assessment process. The second set of slides is intended for assessment respondents and users to familiarize them with the tool, the assessment process, and the use of results.

LAI would appreciate getting your thoughts and suggestions; please send them to lai-lesat@mit.edu.
ACKNOWLEDGEMENTS

This LAI Enterprise Self-Assessment Tool (LESAT) Version 2.0 Facilitator’s Guide was developed at the Massachusetts Institute of Technology (MIT) to provide guidance and references to assist organizations in conducting a self-assessment using LAI’s LESAT 2.0 tool.

This guide uses elements of the LESAT Version 1.0 Facilitator’s Guide, LAI’s Enterprise Transformation Roadmap, and LESAT Version 2.0. MIT developed the LESAT Version 1.0 Facilitator’s Guide and the Enterprise Transformation Roadmap as products of LAI. LESAT Version 2.0 is a product of LAI developed by MIT and is based on knowledge gained from 11 years of LAI enterprise-level research and the experiences of researchers and LAI members who have facilitated and participated in assessments that used LESAT Version 1.0, which was developed jointly by MIT and the Warwick Manufacturing Group of the University of Warwick under the auspices of the U.K. and U.S. Lean Aerospace Initiatives.

This guide benefited from contributions provided by the following companies (alphabetically): Lockheed Martin, Pratt & Whitney, Raytheon, Textron Systems, and United Space Alliance. The contributions of these companies were critical to this development and all companies are hereby acknowledged and thanked.

Development of the guide was supported as a product of LAI, which together with its international Educational Network offers members from industry, government, and academia the newest thinking, products, and tools related to lean enterprise transformation. LAI is a unique research consortium that provides a forum for sharing research findings, lessons learned, and best practices.

The core team consisting of Deborah Nightingale, Leyla Abdimomunova, L. Nathan Perkins, Thomas Shields, Jayakanth Srinivasan, and Ricardo Valerdi developed this LESAT Version 2.0 Facilitator’s Guide. All facts, statements, opinions, and conclusions expressed herein are solely those of the core team members in their capacity as principal co-authors of this guide.
PART I: WHAT IS LESAT AND WHY USE IT?

The LAI Enterprise Self-Assessment Tool (LESAT) is an enterprise-level assessment tool designed to guide leadership through a transformation process leading to enterprise excellence. LESAT was developed by a team of industry, government, and academic members brought together and facilitated by the Lean Advancement Initiative at MIT. It was originally developed with input from the aerospace industry in both the United States and United Kingdom and has substantial applicability for a diverse range of manufacturing industries. Because of the assessment’s broad applicability across a range of industries, it has been used in healthcare and service sectors without modification (Casey, 2007).

LESAT is a self-assessment questionnaire that integrates the perspectives and vantage points of enterprise leadership. It includes leading indicators associated with organizational excellence; the indicators are based on principles developed through academic research and field experience in enterprise transformation (Nightingale, 2009). The tool is designed to both measure the current state and envision a future state, which allows users to assess and prioritize gaps between the current state and a desired future state (Nightingale and Mize, 2002).

Role of LESAT in enterprise transformation

LESAT was originally designed to fit into an existing transformation plan, the Transition to Lean Roadmap (Bozgodan et al., 2000), which has since been replaced with LAI’s Enterprise Transformation Roadmap (Nightingale and Srinivasan, 2011). But it is not constrained to this framework and can be applied in combination with other transformation frameworks, or it can be used independently without a transformation framework. For example, LESAT can easily fit into the Define, Measure, Analyze, Improve, and Control process related to Six-Sigma (Siviy, Penn, & Stoddard, 2007) or the Plan-Do-Check-Act cycle (Deming, 1986). LESAT can also be used to assess the lean ness of an organization, a broad business paradigm that has been gaining interest and adoption and is based on principles identified in the success of the Toyota Production System (Womack, Jones, and Roos, 1990).

LESAT provides measures of enterprise success. These measures can be analyzed and interpreted to prioritize tasks for a transformation plan and to develop continual feedback and guidance as the plan is executed. These measures, when properly interpreted, provide an understanding of the organization’s current state and the rationale for prioritizing needs and defining opportunities for improvement.

To demonstrate the role that LESAT can play in enterprise transformation, let us briefly review the Enterprise Transformation Roadmap (Figure 1), which LAI developed to provide leadership with a decision aid for cultural, organizational, and change
management considerations in the strategic analysis and transformation of enterprises (Nightingale and Srinivasan, 2011).

The roadmap recommends that enterprise transformation be considered in three main cycles: strategic, planning, and execution. Enterprise transformation is an iterative process because the organization continuously adapts to the changing environment.

- During the strategic cycle organizations establish the need for transformation and obtain leadership commitment.
- The objective of the planning cycle is to formulate a vision of the future state that the organization desires to attain and that is based on an analysis of the current performance. During this cycle the organization creates a transformation plan and aligns structures and behaviors so that they enable attainment of the envisioned future state.
- Once the transformation plan has been created and communicated throughout the organization, the execution cycle begins. This is the time to implement specific projects within the transformation plan and institutionalize improvements and lessons learned.

A LESAT assessment should be undertaken during the planning. By assessing both the current and future state of the enterprise, LESAT helps identify gaps in current performance and priority areas where improvements are needed. When analyzed properly, LESAT provides valuable input into formulating a transformation plan and tracking progress during implementation.

**Benefits of LESAT**

Enterprise-wide assessment provides a holistic vantage point for identifying the complex interactions across an enterprise. To design and execute an enterprise transformation, it is crucial to have assessments that measure multiple performance dimensions to understand the current state and chart out the transformation plan that will lead to a different future state (Kueng, 2000; Burton and Obel, 2004). Such an assessment helps to identify performance gaps, prioritizes points of focus, and plays a role in helping generate a future-state vision for the enterprise. As the transformation plan is implemented, ongoing assessment can then offer feedback and measure progress. This feedback can then be used to review and revise the transformation plan over time (Nightingale & Mize, 2002).

Assessments can be used for business and operations management. Assessing can act as a leading indicator for shifting performance (for example, “are we retaining our strong performance in these areas?”) and for identifying program strengths and/or weaknesses (Hallam, 2003). In addition to these internal roles for assessment, it is equally important outside the enterprise. Assessing can be used to create cross-industry comparisons or assist in benchmarking against competitors and standards (such as the Baldrige National Quality Program). These results can serve to motivate the enterprise, boost morale, help complete sales (by sharing assessment results with
Figure 1: LAI Enterprise Transformation Roadmap
customers), and even receive recognition or awards. When an enterprise assessment is shared with suppliers, it can be used to align and motivate all companies and players throughout a supply chain to drive a smooth production process and boost output. LESAT has been designed for regular use and reassessment as part of the continual improvement journey. The frequency of reassessment can differ depending on organizational needs but should be set in accordance with the transformation plan and objectives because reassessment provides a crucial status and health check on the transformation progress. Higher frequency reassessment provides additional opportunities to monitor transformation progress and elicit feedback on success, but it also results in a higher cost in terms of time and resources devoted to assessment. Based on this trade off, many organizations opt to reassess annually or biennially.

Regular ongoing assessment provides a number of tangible, direct benefits to the enterprise by providing important insights into performance and organization trends. These benefits include:

- **Identifying enterprise strengths and weaknesses**: Assessment identifies the relative current maturity of the enterprise with regard to LESAT practices.
- **Identifying performance gaps and opportunities for improvement**: When combined with the current maturity scores, the desired state scores provide insights into the importance of certain LESAT practices for the enterprise (a higher desired state score typically corresponds to higher importance) and the gap that the enterprise needs to close to achieve the desired state. Careful analysis of both the current scores and gaps helps identify improvement opportunities and prioritize points of focus.
- **Generating a future-state vision for the enterprise**: Identification of enterprise current strengths, performance gaps, and opportunities for improvement provide solid ground for understanding an enterprise’s future direction and goals.
- **Guiding transformation**: By gaining insights on current performance, past trends, and desired future performance, decision-makers will be better equipped to design a transformation plan that meets the needs of the organization and will offer the most long-term benefits.
- **Driving enterprise behavior**: Evidence suggests that simply measuring something leads to improvement (Hauser and Katz 1998). Knowledge and awareness of the respondents and enterprise leadership of the assessment results will likely motivate individuals to act in accordance with the needs and goals of the enterprise. It will increase the commitment of personnel to the transformation plan and to improving the organization, thus aligning enterprise behavior with organizational needs and with the goals of the transformation plan.
- **Enable better decision-making**: LESAT assessment data can be used to direct decision-making related to internal programs, training, improvement projects, or organizational structure and focus decisions on the actions that will be most beneficial to the enterprise as a whole.
LESAT Facilitator’s Guide

- **Internal benchmarking**: Baseline scores, established by performing an initial assessment at the beginning of the transformation process, provide a benchmark against which future performance can be compared.
- **Benchmarking across extended enterprise**: Regular LESAT use across an extended enterprise offers opportunities for benchmarking across enterprises and setting widespread improvements goals or targets.
- **Educating the respondents**: The first-time use of the LESAT is often an educational opportunity that helps respondents understand the need to optimize the enterprise rather than specific functions.
- **Tracking progress in transformation journey**: Regular reassessment allows an organization to observe trends and track progress in the transformation journey. This information can be useful for refining transformation plans, shifting resource allocation, or other adjustments to improve the outcomes of the transformation plan.
- **Tracking personnel cohesion and communication scores**: Regular reassessment can also offer insights into increasing personnel cohesion and team communication by observing trends or shifts in the variance among respondents. Research has shown that variance naturally increases as practice maturity increases (Hallam, 2003).
- **Tracking knowledge of enterprise principles**: As respondents become more familiar with enterprise transformation practices and concepts, this will be reflected in their scores and comments. For example, the comments collected for evidence and opportunities may provide more concrete examples of opportunities and evidence based on the respondents’ better understanding of enterprise practices.
- **Assessment feedback to personnel**: Sharing the assessment results with the respondents helps them to see that their knowledge and insights are valued and useful in understanding the best course of action for the enterprise. This feedback has residual benefits in motivating greater involvement in future assessment processes and fostering a greater appreciation for the value of assessment.

**Comparison with other assessment processes**

A variety of organizational survey instruments are available for assessing employee morale, determining customer satisfaction, and aligning the key stakeholders of an enterprise. The Total Quality movement has also spawned a number of performance-based assessment tools. In addition, assessments are embedded in several programs that encourage competition among companies and that result in national awards, certification, and/or qualification. Examples of these programs are listed below and summarized in Table 1.

- **Baldrige prize**: The Malcolm Baldrige National Quality Award is funded by the US Department of Commerce and recognizes organizations that demonstrate performance excellence as well as world-class product or service quality (NIST,
2009). It is managed by the National Institute of Standards and Technology (NIST). The assessment criteria reflect a range of important organizational performance indicators that are used to drive a transformation plan, such as Leadership, Strategic Planning, Customer/Market Focus, Information and Analysis, Human Resource Focus, Process Management, and Business Results.

- **Good to Great diagnostic tool** is based on *Good to Great* (Collins, 2001). This tool differentiates between good and great companies based on indicators that examine quality of leadership, commitment to core values, and a willingness to approach these with flexibility and honesty.

- **Shingo prize for operational excellence**: The School of Business at Utah State University awards the Shingo Prize for Operational Excellence annually to companies that achieve world-class manufacturing (USU, 2009). The Shingo prize addresses a range of dimensions, including organizational culture, continuous process improvement, and business results.

- **ISO 9000**: The ISO 9000 family of standards represents a set of international quality management standards and guidelines. They are based on eight quality management principles that are considered by the international quality community to represent best management practices. A third party assessment is usually performed to provide customers assurance that the enterprise establishes and maintains a quality system that meets the requirements of the ISO 9001 Quality Management Systems-Requirements standard.

- **EFQM Excellence Award**: The European Foundation for Quality Management (EFQM) grants an award annually based on criteria related to the EFQM Excellence Model. The nine categories assessed include Leadership, Policy and Strategy, People, Partnerships and Resources, Processes, Customer Results, People Results, Society Results, and Key Performance Areas.

- **CMMI Appraisal**: Developed by Carnegie Mellon University, the Capability Maturity Model Integration (CMMI) model is an approach to process improvement designed to improve organizational performance. Initially designed for software development processes, CMMI is currently applied to a wide range of organizational business processes. CMMI appraisal involves assessment of organizational practices in eliciting and managing requirements, decision-making, measuring performance, planning work, handling risks, and more.
### Table 1: Brief comparison of assessment tools

<table>
<thead>
<tr>
<th></th>
<th>LESAT</th>
<th>Baldrige Prize</th>
<th>Good to Great</th>
<th>Shingo Prize</th>
<th>ISO 9000</th>
<th>EFQM</th>
<th>CMMI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment Mode</strong></td>
<td>Self-assessment in support of transformation planning</td>
<td>Award; can be adapted for internal assessment</td>
<td>Internal diagnostic to distinguish between good and great companies</td>
<td>Award; can be adapted for internal assessment</td>
<td>External assessment leading to certification</td>
<td>External assessment or self-assessment, depending on scope</td>
<td>External assessment or self-assessment</td>
</tr>
<tr>
<td><strong>Assessment Stakeholders</strong></td>
<td>Enterprise leadership</td>
<td>Flexible</td>
<td>Top leadership</td>
<td>Flexible</td>
<td>Management</td>
<td>Management</td>
<td>Management</td>
</tr>
<tr>
<td><strong>Criteria or Information Addressed</strong></td>
<td>Enterprise practices</td>
<td>Quality and customer commitment</td>
<td>Best principles identified in <em>Good to Great</em> book</td>
<td>Toyota Production System and lean manufacturing</td>
<td>Quality management systems</td>
<td>Compliance of management systems with the EFQM excellence model</td>
<td>Best practices in process improvement</td>
</tr>
<tr>
<td><strong>Information Gleaned</strong></td>
<td>Gaps and prioritized improvement areas</td>
<td>Areas for improvement and key principles</td>
<td>Trends in implementation of concepts</td>
<td>Successive adoption pyramid guides transformation</td>
<td>List of problems and improvement plans</td>
<td>Gaps and improvement areas</td>
<td>Gaps and improvement areas</td>
</tr>
<tr>
<td><strong>Sectors</strong></td>
<td>Designed for enterprises who design, manufacture and support products; recently applied to healthcare and services</td>
<td>Manufacturing, service, small business, health, education, non-profit</td>
<td>Broad</td>
<td>Designed for manufacturing; recently expanded to Operational Excellence</td>
<td>Broad</td>
<td>Broad</td>
<td>Designed for software development processes; adapted to wide range of business processes</td>
</tr>
</tbody>
</table>
Since LESAT 1.0 was introduced in August 2001, LAI consortium members and other companies have used the tool to assess their standing in the transformation process and navigate future activities. LAI conducted several case studies to understand how LESAT 1.0 was being used and how the tool and assessment outcomes could be improved. The case studies led to some interesting observations, foremost that organizations affect the outcome of an assessment both before it even starts and throughout the process. Below is a list of the main ways in which organizations impact assessment outcomes.

- **Motivation for assessment**: Sometimes organizations engage in the assessment without clear motivation or for inadequate reasons, e.g. because of requirements imposed by a higher-up entity or by a client. In cases of a lack of motivation, organizations are tempted to forgo important steps in the assessment process and do not realize the potential benefits. Developing internal motivation and ownership is crucial.

- **Leadership buy-in**: Organization and enterprise leadership should understand the benefits of the assessment and support it. Most importantly leadership should play a primary role throughout the process, including providing resources required.

- **Commitment at all levels within the enterprise**: All assessment participants, independent of their position within the enterprise, should understand the motivations for the assessment, the assessment process, and results and implications for the enterprise. This will result in more accurate scoring and meaningful follow-up actions.

- **Choice of respondents**: Scoring is affected by the choice of LESAT respondents, who are asked to assess both the current and desired state performance of the enterprise. Assessment of the desired state can be more realistic, and thus more meaningful, if respondents are able to assess performance of the whole enterprise (as opposed to a separate functional area within the enterprise) and are able to evaluate resources needed to achieve the desired state.

- **Respondent bias**: Accuracy and reliability of assessment results may be affected by biases in respondents’ assessment. Such biases can be mitigated by ensuring that assessment results are not misused to affect the performance review process and by establishing an environment promoting open and frank communication and discussion among respondents.

- **Role of the assessment facilitator**: The case studies indicated that facilitators may play different roles in the process, such as (1) “process” facilitator whose responsibilities are limited to organizing the process and collating the results; (2) “enabler”, or “consultant”, who actively assists throughout the assessment process, helps analyze the results, and incorporates them into the transformation plans, but does not own either the plans or outcomes; and (3) “transformation” facilitator, who is responsible for all aspects of the assessment as well as for the developing and implementing transformation plans. Enablers
and transformation facilitators are more effective than process facilitators in achieving successful assessments.

- **Education and training of assessment participants:** Assessment results are affected by participant familiarity with enterprise terminology and principles. It is important to ensure that the organization provides the participants with the necessary education and training in enterprise thinking and LESAT practices before and during the assessment process. This will ensure more realistic scoring of the organization’s performance.
PART II: UNDERSTANDING LESAT

LESAT is a capability maturity model consisting of 43 practices. The practices are organized into three sections that correspond to key enterprise processes at the highest level of the enterprise. Respondents are asked to assess practices, which yield two sets of scores (one for the current state performance and one for the future/desired state performance). The desired state is based on a current transformation timeline and is designed to represent a realistic, achievable level of performance for the transformation timeframe. Both the current state and desired state are scored on a five-level scale ranging from level one (least capable) to level five (world-class organization). Respondents are also encouraged to provide written comments regarding evidence or opportunities for improvement for each practice. These components (each respondent’s current and desired scores, as well as comments, for all practices) provide the building blocks for much of the analysis described in Part IV.

Enterprise Principles

The LESAT approach to assessing enterprise capabilities is built upon a set of principles that define the mental model needed to transform an enterprise. The seven enterprise transformation principles (Figure 2) evolved from what scholars and practitioners have written about the Toyota Production System, lean thinking, and lean enterprises, as well as from LAI’s research experiences with enterprise transformation efforts (Nightingale and Srinivasan, 2011).

| 1 | Adopt a holistic approach to enterprise transformation |
| 2 | Secure leadership commitment to drive and institutionalize enterprise behaviors |
| 3 | Identify relevant stakeholders and determine their value propositions |
| 4 | Focus on enterprise effectiveness before efficiency |
| 5 | Address internal and external enterprise interdependencies |
| 6 | Ensure stability and flow within and across the enterprise |
| 7 | Emphasize organizational learning |

Figure 2: Enterprise Transformation Principles (Nightingale and Srinivasan, 2011)
Nightingale and Srinivasan (2011) define the seven enterprise transformation principles as follows:

1. **Adopt a Holistic Approach to Enterprise Transformation:** The holistic approach to transformation builds on an understanding of the interactions and interdependencies within and across the enterprise and on the impact of transformation on the enterprise as a whole. This requires identifying relevant stakeholders and their values and understanding the core capabilities and competencies of the enterprise and whether the enterprise can deliver the required value.

2. **Secure Leadership Commitment to Drive and Institutionalize Enterprise Behaviors:** Transformation must be driven, at the outset, from the highest levels of the enterprise and must have the full commitment of the senior leadership team. A process must then unfold to distribute that leadership commitment throughout the enterprise—from top to bottom—by communicating the strategic objectives of the enterprise and providing the rationale for the transformation efforts. Cultivating distributed leadership across all levels of an enterprise helps support the alignment of the enterprise with its strategic objectives and drives decision-making to the lowest appropriate level.

3. **Identify relevant stakeholders and determine their value propositions:** An enterprise is a network of stakeholders that contribute to and receive value from the enterprise. The common stakeholders of an enterprise are its shareholders, customers, suppliers, employees, and managers. A basic requirement for successful transformation is having an understanding of the enterprise value proposition and ensuring that the constructed value proposition is a true reflection of the values of its stakeholders.

4. **Focus on enterprise effectiveness before efficiency:** Doing the right job and doing the job right captures the notions of effectiveness and efficiency. An effective enterprise requires a value proposition that meets the current needs of stakeholders and is perceived to be able to meet their future needs. If an organization is able to execute at a lower cost (where cost is some function of resource utilization), an enterprise is efficient. By definition, an effective enterprise is, to some degree, efficient because it meets the value expectations of its stakeholders. The converse, though, is not always true. An efficient but ineffective enterprise will rapidly become extinct, but an effective enterprise gains time to become efficient, because of the value it provides.

5. **Address internal and external enterprise interdependencies:** Every enterprise is a highly integrated system whose performance is determined by the degree of alignment among the major elements, including its key structures, policies, processes, and stakeholders. A successful transformation effort must account for interdependencies both within the enterprise boundaries and across them.

6. **Ensure stability and flow within and across the enterprise:** Both stability and flow are central to an enterprise transformation effort. Stability provides the foundation for creating a baseline against which enterprise performance can be assessed. In the presence of stability, flow within the enterprise enables stakeholders to identify bottlenecks and identify root causes. Transformation...
must proceed at a slow, steady pace to ensure that the enterprise continues to operate in as stable a manner as possible.

7. **Emphasize organizational learning:** Emphasizing organizational learning is as much about creating the context and culture to support a learning organization as it is about establishing the formal structures and policies that govern the learning process. It involves creating an infrastructure to capture the wealth of learning occurring every day, as part of the transformation, and to make sense of the vast amount of data and knowledge generated and collected. Established organizational learning culture and infrastructure enables stakeholders across the enterprise to exchange and deploy knowledge, best practices, better decision-making, and proven transformation tools and techniques.

**Enterprise Processes and LESAT Sections**

LESAT focuses on three key enterprise-level processes that must be transformed to achieve enterprise transformation:

- **Enterprise Transformation/Leadership Processes:** These processes are developed and maintained by leadership to guide the activities of the enterprise. They cut across all of the entities that make up the enterprise. *Section I* assesses leadership and the organization’s ability to achieve enterprise transformation.

- **Lifecycle Processes:** These processes define the product lifecycle from conception through operational support. They directly determine the value provided to customers and other stakeholders. The degree to which an enterprise is successful in making these processes effective and efficient is one measure of how well the enterprise delivers value to its stakeholders. *Section II* addresses the level of enterprise performance applicable to these lifecycle processes.

- **Enabling infrastructure processes:** These processes support the execution of enterprise leadership and lifecycle processes. The enabling processes provide supporting services to other organizational units that they serve as internal customers. Since they enable rather than directly result in enterprise success, they can be easily overlooked as sources of waste within the value stream. Waste that is inherent in these processes can, however, negatively impact both the enterprise as a whole and the lifecycle processes, and should therefore be attacked vigorously. *Section III* assesses the extent to which enabling infrastructure supports enterprise performance.

Practices associated with each of the three enterprise processes are organized into three sections. Figure 3 provides an overview of the organization of LESAT sections and practices.
I. Enterprise Transformation/Leadership (30 practices)
   A. Determine Strategic Imperative (3)
   B. Engage Enterprise Leadership in Transformation (3)
   C. Understand Current Enterprise State (2)
   D. Envision and Design Future Enterprise (2)
   E. Develop Enterprise Structure and Behavior (8)
   F. Create Transformation Plan (2)
   G. Implement and Coordinate Transformation Plan (4)
   H. Nurture Transformation and Embed Enterprise Thinking (6)

II. Lifecycle Processes (5 practices)
   A. Align, Develop and Leverage Enterprise Capabilities
   B. Optimize Network-Wide Performance
   C. Incorporate Downstream Customer Value into the Enterprise Value Chain
   D. Actively Engage Upstream Stakeholders to Maximize Value Creation
   E. Provide Capability to Monitor and Manage Risk and Performance

III. Enabling Infrastructure (8 practices)
   A. Organizational Enablers (5)
   B. Process Enablers (3)

Figure 3: LESAT Organization and Number of Practices
LESAT Section I and Enterprise Transformation Transformation Roadmap

LESAT Section I, Enterprise Transformation/Leadership, consists of eight groups of practices and each group corresponds to a primary activity that the enterprise must undertake at various stages in the transformation process. These primary activities are specified in the Enterprise Transformation Roadmap (Figure 1), which provides a framework for effective and efficient transformation strategy, planning, and execution. The Roadmap also serves as a guide for enterprise leaders as they consider the critical strategic, cultural, and operational changes that are required to transform an enterprise.

![Diagram: LAI Enterprise Self-Assessment Tool](image)

**Figure 4: Mapping of LESAT Section I to Enterprise Transformation Roadmap**

Groups of practices in Section I map directly to primary activities within three cycles of the Roadmap (Figure 4). The first is the **Strategic Cycle** in which the business case for transformation is made as the organization’s leadership becomes engaged:

- **Determine strategic imperative** (LESAT Subsection I.A) – Transformation begins with a strategic perspective that identifies the imperative for change, a problem or problems to solve, and a ‘place’ at which the organization intends to be. Senior leaders must articulate a vision of getting from the present to such intended ‘place’;
- **Engage enterprise leadership in transformation** (LESAT Subsection I.B) – Create the leadership conditions under which it is possible to pursue and sustain
enterprise transformation. The urgency of transformation must be conveyed to the entire executive leadership while ensuring that the entire leadership team is thinking in terms of the interrelationships among their different organizations within the larger enterprise.

The next, Planning Cycle, involves analyzing and defining both the current and future states of the enterprise, and then articulating a transformation plan to achieve the future vision:

- **Understand current enterprise state** (LESAT Subsection I.C) – Make a business case for transformation by analyzing how the enterprise relates to its external environment and to the general ordering of its own high-level internal processes;
- **Envision and design the future enterprise** (LESAT Subsection I.D) – Create a realistic, achievable vision of what the enterprise will look and feel like in the future by setting goals that the entire enterprise can rally around. The vision must be made known and internalized by all personnel at every level of the enterprise so that they can directly relate the vision to what they do on a daily basis.
- **Develop enterprise structure and behavior** (LESAT Subsection I.E) – Put in place an enabling enterprise infrastructure—including the necessary organization, systems, policies, metrics, and incentives—to support and drive enterprise transformation;
- **Create transformation plan** (LESAT Subsection I.F) – The transformation plan is a set of high-level projects aimed at achieving enterprise-wide performance and that speaks to the future vision. This document determines the intended impact of the projects on enterprise performance, priorities, and a communication plan to keep the entire enterprise abreast of the transformation progress.

Finally, Execution Cycle, during which the transformation plan is put into practice.

- **Implement and coordinate transformation plan** (LESAT Subsection I.G) – Success requires detailed project implementation plans linked to and synchronized with each other and with the overall plan. Progress is tracked carefully as implementation unfolds. Resources are committed and education and training are provided where needed.
- **Nurture process and embed enterprise thinking** (LESAT Subsection I.H) – Outcomes of the projects established in the transformation plan are monitored, measured, and communicated. Lessons are captured and diffused throughout the enterprise. Long- and short-term efforts are synchronized.
Each LESAT practice has five progressive maturity levels associated with it. These levels range from least capable (Level 1) to world-class (Level 5). Figure 5 provides generic definitions for each level. These levels are intended to depict a progression in the capability of the enterprise relative to the particular practice being assessed. The enterprise must have fully satisfied all elements of a particular level before it can progress to the next higher level.

| Level 5 | Exceptional, well-defined, innovative approach is fully deployed across the extended enterprise (across internal and external value streams); recognized as best practice |
| Level 4 | On-going refinement and continuous improvement across the enterprise; improvement gains are sustained |
| Level 3 | A systematic approach/methodology deployed in varying stages across most areas; facilitated with metrics; good sustainment |
| Level 2 | General awareness; informal approach deployed in a few areas with varying degrees of effectiveness and sustainment |
| Level 1 | Some awareness of this practice; sporadic improvement activities may be underway in a few areas |

**Figure 5: Generic Capability Level Definitions**

It is important to recognize that an enterprise may not aspire to attain Level 5 in all the practices. It is leadership’s prerogative and responsibility to decide the level it wishes to ultimately attain on each practice. These decisions should collectively reflect the strategic objectives of the enterprise.

In performing the assessment exercise, an enterprise should not be overly concerned with determining a precise measure of its current state (e.g., deciding whether it is currently at a high Level 2 or a low Level 3). It should instead recognize that its present state is either in line with the desired level of performance for that practice or that further improvement is needed. It is also important to recognize that the competitive environment is very dynamic, and therefore enterprise practices will continue to evolve and improve. Level 5 is not the end of the enterprise transformation; the definition of Level 5 (and for all other levels as well) for the various practices will evolve through time as competitive enterprises develop higher standards for world-class performance. The five capability levels are progressive, i.e., reaching a certain capability level implies that each of the preceding levels has been attained (e.g., being at Level 3 means that the enterprise meets the criteria set out in Level 2 as well).
The Enterprise Maturity Matrix Form

An Enterprise Maturity Matrix form has been designed for organizing the information contained in the assessment exercise. A blank copy of this form is presented in Figure 6. The matrix consists of three main areas:

- The **Section** area contains section number, name, and description. As mentioned earlier, LESAT consists of three sections: Section I: Enterprise Transformation/Leadership, Section II: Lifecycle Processes, and Section III: Enabling Infrastructure.

- The **Subsection** area contains subsection number, name, and description, as well as diagnostic questions about enterprise performance related to a group of practices. There are 16 subsections of practices in LESAT (Figure 3), for example “Subsection I.A – Determine Strategic Imperative”.

- The **Practice** area contains the enterprise practice and indicators (i.e., examples of outcomes and behaviors that the enterprise exhibits related to this practice). Five capability levels are defined that describe the different potential levels of performance for the practice. This area also provides space for respondents to provide evidence that the enterprise has achieved its current capability level as well as opportunities that exist or may be pursued to achieve the desired capability level.

![Figure 6: Enterprise Maturity Matrix Form](image-url)
Important Things to Remember about LESAT

There are a few important things about LESAT that are worth re-iterating:

• LESAT focuses on the total enterprise level.
• LESAT is designed as a self-assessment to be done by respondents individually. It is not intended as a managed (third-party) assessment.
• It is designed for self-assessment of enterprise performance, not for comparisons of enterprises in different organizations. LESAT may be used for benchmarking performance across enterprises within the same organization.
• The tool is intended for regular, repetitive application. In such cases, it will result in the benefits described on page 10.
• Assessment results, if analyzed and interpreted as the tool intends, can indicate opportunities for improvement.
• Management should consider LESAT results as a comprehensive set of inputs describing the state of the enterprise.
• Numerical scores are less important than insights gained from relative differences in maturity between practices.
• The purpose is to discover the greatest opportunities for improvements, not how high an organization can score.
• The second LESAT assessment may result in a lower maturity rating as participants develop a better understanding of what it means to be an effective enterprise. Again, the focus is on relative differences in maturity between practices.
• LESAT is not a scorecard. It is a maturity scale to help identify where an organization is and where to go. The Enterprise Transformation Roadmap can help drive the transformation process.
• Numerical results should not be used to compare organizations, which risks degenerating into gaming the system. The order of practices by maturity can, be used to identify which organizations are doing well and is a potential example to study for improvement.
• Results are based on opinions and opinions change as evidence is presented.
PART III: ASSESSMENT METHODOLOGY

Assessment Stakeholders

Participants in the assessment process may act in different roles, such as enterprise leader, LESAT facilitator, user, and respondent. These roles are not mutually exclusive and individuals may perform multiple roles in the assessment process. For example, enterprise leader is likely to be both assessment user and respondent. Some or all of the assessment users may be involved as respondents as well (see Figure 7).

![Figure 7: Assessment Stakeholders and Their Roles](image)

**Enterprise leaders** provide oversight, communication, and continued commitment throughout the process. Enterprise leaders typically have overall responsibility for the performance of the enterprise to be assessed. Depending on the level of the enterprise, this may be a general manager of a company or program who directs along with his/her deputies. They are the primary beneficiaries of the assessment because the enterprise leaders are accountable for the transformation process and development of the strategic and implementation plans.

**LESAT Facilitator** is the assessment process owner with end-to-end responsibility for and authority over the process. The role of the LESAT facilitator is very involved. Typically this is a short-term responsibility during each assessment and ideally it should be a permanent responsibility for the facilitator for subsequent assessments, creating continuity between assessments. The LESAT facilitator does not have direct
functional control over other assessment stakeholders. It is important that the status of the LESAT facilitator is clear to all assessment stakeholders, and that the facilitator is given sufficient authority to ensure the assessment remains on track.

In particular, the LESAT facilitator is responsible for:

- Ensuring continued leadership commitment;
- Planning the assessment process;
- Training respondents and users;
- Organizing and facilitating meetings;
- Ensuring timeliness of assessment;
- Collating results and ensuring first-level analysis;
- Facilitating discussions of results and follow-up actions;
- Carrying out the assessment and the process;
- As needed, maintaining contact with LAI LESAT developers for necessary training, advice, and to ensure feedback and needed adjustments to the tool.

Users are typically enterprise employees who benefit from assessment results and use them to develop transformation plans and carry out improvement activities. Users may include the enterprise leader, management, and transformation champions depending on the specifics of the organization.

Respondents participate in scoring, discussing, and analyzing results. To ensure the accuracy and validity of assessment results, the following guidelines for selecting respondents should be followed:

- The respondent may be an enterprise employee or a stakeholder in the extended enterprise.
- Joint assessment by respondents, who are internal and external to the enterprise, provides additional benefits because it ensures more effective and objective assessment. Both internal and external respondents, however, must have an interest in the performance of the enterprise either by being responsible for it or benefiting from it.
- Internal respondents must have enterprise-wide views and responsibilities, i.e., be accountable for certain activities across the enterprise as a whole rather than parts of it. For example, the respondents may represent various lifecycle and enabling processes and functions, including product development, manufacturing, distribution, finance, human resources, etc.
- External respondents may include representatives of other enterprises and/or functions within the organization as well as representatives of suppliers and customers. This would allow an objective assessment of the enterprise along the entire value chain.
Five-Phase Assessment Process

The assessment process consists of five key phases, each of equal importance (see Figure 8). The phases have to be implemented in sequence because output of each phase serves as input for the next. For example, the assessment plan must be developed in line with the objectives identified in the first phase and use the resources that were made available; improvement actions cannot be formulated until assessment results have been analyzed and evaluated.

The assessment process is iterative. Once the assessment has been performed and the results analyzed, the participants evaluate the effectiveness and efficiency of the assessment process and identify needed improvements. The new assessment cycle starts with the review of how such improvements to the assessment process have been or are being implemented.

Figure 8: LESAT Assessment Process
Phase One: Assessment Prerequisites

The objective of the first phase of the assessment process is to create an environment that ensures the organization takes advantage of the benefits provided by assessment. In such an environment, the organization approaches assessment motivated by the benefits that assessment can provide. Assessment is a long-term exercise, performed in cycles, that requires continued commitment.

*Obtain Organizational Commitment*

**Objective:** Gain commitment throughout the enterprise leadership based on a shared understanding of assessment objectives and benefits.

**Roles of Stakeholders:** Responsibility for this step lies solely with enterprise leadership.

**Key Activities:**

- **Understand objectives of assessment, its benefits, and intended use of results:** Objectives may vary depending on organizational needs. LESAT is designed to track progress in the implementation of transformation plans and identify areas for future improvement.

- **Communicate this understanding and gain support from wider enterprise leadership:** The objectives of the assessment may be formulated by the senior enterprise leadership and then communicated to the wider enterprise leadership, or they may be formulated based on discussions among a wider group of enterprise leaders. It is important that the objectives are well communicated among the enterprise leadership and understood and supported by all leaders.

- **Identify and remove potential respondents’ biases:** Respondents’ biases may result from fear of managerial reprisal, a lack of anonymity, self-reporting bias, confirmation bias, or system-justification bias. To eliminate biases, ensure that assessment results are used as a basis for productive discussion and formulation of transformation plans rather than as an evaluation of individual or department performance.
Define Enterprise and Its Boundaries

Objective: Determine the scope of the enterprise to be assessed.

Roles of Stakeholders: Enterprise leadership defines scope of the assessment.

• The scope of the assessment is the enterprise.

• The leadership must define the enterprise and its boundaries.

• Characteristics of an enterprise (see Figure 9):
  o An enterprise should have profit/loss or another performance accountability;
  o An enterprise usually includes the lifecycle core processes, e.g., program management, requirement definition, product development, supply chain, production, and support;
  o An enterprise usually includes the enabling processes, e.g., finance, human resources, information systems, etc.

• Examples of an enterprise:
  o Business unit
  o Division
  o Entire company including extended enterprise supply chain
  o Extended enterprise including end-use customers
  o A major program or product development
  o A government organization or unit

• All assessments must be done for the enterprise scope defined.

• Ensure that all respondents assess the capability maturity of the entire enterprise and not just their function.
**Define Time Horizon for the Future Enterprise State**

**Objective:** Determine a target date by which the enterprise should achieve its desired state.

**Roles of Stakeholders:** Enterprise leaders are responsible for this step.

- The time horizon should be aligned with the strategic objectives of the enterprise.
- The time horizon should be deemed appropriate for the purposes of the enterprise, i.e., be short enough to keep the enterprise focused and long enough to allow for proper planning and implementation of improvement actions.
- A good approach is to use a three-year and a five-year period as a target for achieving the desired state.
- All respondents must keep in mind this defined time horizon when assessing the desired state of the enterprise. This will ensure meaningful and comparable data.

**Define Timing of Assessment**

**Objective:** Determine when and how often the assessment will be performed.

**Roles of Stakeholders:** Enterprise leaders are responsible for this step.

**Key Activities:**

- **Determine when the assessment will be performed:** LESAT should be used as part of the strategic planning cycle.
  - If LESAT is used as part of the Enterprise Transformation Roadmap, the assessment should be performed during the first phase of the planning cycle (*Understand Current State*).
  - If LESAT is used autonomously, the assessment can be performed in as an input to the annual business planning exercise.

- **Determine how often the assessment will be performed:** The assessment should be performed periodically, e.g. on an annual basis or as a new transformation cycle begins.
Define Participants’ Roles and Responsibilities

Objective: Define roles and responsibilities of assessment stakeholders.

Roles of Stakeholders: Responsibility for the definition of roles and responsibilities lies with enterprise leaders.

Key Activities:

- **Identify assessment stakeholders and define their roles and responsibilities:** Possible roles of participants in the assessment process are described above in the section on Assessment Stakeholders. Roles and responsibilities may change depending on specific practices within the organization. Additional roles may be developed, such as assistant facilitators or analysts, to provide support during the assessment and analysis of results.

- **Appoint LESAT facilitator:** The LESAT facilitator should be an individual with sufficient expertise and influence in the organization because the facilitator will often be involved in ensuring the timely and effective implementation of the assessment process. This requires knowledge of the assessment as well as a certain level of authority to align resources and participants for a successful assessment.

- **Ensure training of the facilitator:** The facilitator must be familiar with the LESAT tool, the enterprise principles, and the recommended process. Such familiarity can be obtained from this guide, from books on enterprise and systems thinking and from other training materials and events offered by LAI. The facilitator’s training should be finalized prior to starting the planning phase of the assessment process.

Allocate Resources

Objective: Identify and allocate resources to ensure an effective and efficient assessment and analysis of results.

Roles of Stakeholders: Enterprise leaders are responsible for identifying and allocating the resources.

- The main resources required are **people** and **their time**. Assessment activities, including planning, training, scoring, discussion of results, and development of improvement plans, will require time commitment from all participants.

- **Additional resources** may be required depending on the needs of the organization. Such resources may include:
  - Funding for training of the facilitator and other participants,
  - Production of training materials and score sheets,
  - Travel expenses for participants,
  - In the case of an automated assessment, personal computers for scoring and analysis of results.

- **Obtain commitment** of stakeholders responsible for providing the resources. This concerns commitment of participants’ time as well as recognition by enterprise leadership that participation in the assessment is a value-added task.
Review Progress in Implementation of Action Plans

Objective: Ensure that the assessment and assessment process have been improved based on past experience. If an assessment has been previously conducted, review progress in the implementation of action plans developed during the preceding assessment.

Roles of Stakeholders: Enterprise leaders, assessment users, and the LESAT facilitator will perform the review.

Key Activities:

• This step is relevant for the second and subsequent assessment cycles.

• Review progress in the implementation of improvement action plans developed as result of the previous assessment cycle. Was the action plan reasonable, have the improvements been possible, were allocated resources sufficient and adequate?

• Review progress in improvement of the assessment and the assessment process as a result of the evaluation in the previous cycle. Does the assessment continue to satisfy the needs of the organization, is the assessment process efficient and effective, have previously discussed improvements been integrated into the assessment planning?
Phase Two: Plan Assessment

The objective of this phase is to prepare for the assessment and to ensure that the process is effective and efficient. Effectiveness of the process can be measured in terms of usefulness of the assessment results, e.g., accurate and valid scores leading to identification of prioritized improvement plans. This requires careful selection of the respondents and appropriate training in the assessment tool and enterprise principles. Developing and agreeing on the timeline for the assessment will help keep the process efficient.

Identify Respondents

Objective: Select respondents who can provide balanced and objective scoring allowing for meaningful analysis of results and development of actionable improvement plans.

Roles of Stakeholders: Enterprise leaders, with the facilitator’s help, will select respondents. They will ensure that the selected respondents are available and ready to participate in the assessment.

Key Activities:

• **Determine the number of respondents**: We suggest that at least five respondents complete LESAT, allowing for statistical analysis of scores and minimizing statistical error. If the organization is interested in comparing scores across different groups of respondents, e.g., various levels of management or functional areas, then at least five respondents should represent each group. The number of respondents should be kept manageable (no more than 30) to minimize the logistical and planning burden of the assessment.

• **Identify respondents**: Respondents must have enterprise-level responsibility and represent various lifecycle processes and functions. Additionally, representatives from enabling functions such as finance, human resources and information technology should be included. Typically all direct reports to the enterprise leader are included.

• **Ensure continued participation of respondents**:
  - Respondents should be available throughout the assessment process for training, scoring, and discussing results. Substitutes will jeopardize the validity of scores.
  - As the assessment continues iteratively, it may be beneficial to use the same respondents or respondents with similar profiles (same responsibility, same functional role) during each assessment cycle. This will not only ensure the comparability of results from assessment to assessment but will also allow monitoring the development of respondents’ understanding of enterprise principles and their applicability to the enterprise.
Determine Timeline

Objective: Determine the assessment timeline to ensure an efficient and effective assessment process.

Roles of Stakeholders: Enterprise leaders and the LESAT facilitator are responsible for these activities. Assessment respondents and users must understand the time requirements and commit to the proposed timeline before the assessment starts.

Key Activities:

- **Develop a detailed assessment timeline**, including:
  - Clear deadlines for each activity and phase
  - Deliverables for each activity
  - Required time commitment from participants (number and length of meetings)

- **Communicate the timeline** to all participants and **obtain their commitment**: Coordinating busy schedules of enterprise leaders will be a challenge but must be done up front to ensure an effective assessment process.

Sample assessment timeline (see Figure 10):

- The assessment can be performed in a series of consecutive sessions over two or three days. In the sample timeline, the assessment is performed during three full days.
- Day 1: All participants are introduced to the assessment and trained on LESAT, the enterprise principles, and the assessment process. Following the introduction, respondents individually perform the assessment using the LESAT score sheets. At the end of the first day, the facilitator collates results from individual score sheets and carries out initial analysis, which includes calculation of mean scores, variances, and gaps.
- Day 2: The facilitator presents results of the initial analysis to respondents and facilitates a discussion among them aimed at achieving consensus on final scores. During the same day, respondents discuss the assessment process and recommend potential improvements.
- Day 3: Assessment users, with the facilitator’s guidance, interpret assessment results to identify and prioritize needed improvements. The outputs generated during this day provide input into strategic planning activities.
Introduction and Training

Objective: Ensure that LESAT participants are familiar with enterprise concepts and principles and that they understand the assessment tool and process.

Roles of Stakeholders: The LESAT facilitator organizes the training, and both respondents and users attend the training.

Key Activities:

- **Provide training** in the following areas:
  - Enterprise concepts and principles,
  - Role of the assessment in transformation,
  - LESAT practices and scoring system,
  - The assessment process,
  - The scope of assessment (enterprise boundaries),
  - Analysis and use of results.

The main purpose of the training is to ensure that participants understand how the assessment contributes to the enterprise transformation process. The training provides several benefits, including:

- Popularizes enterprise concepts in the enterprise,
- Decreases biases among participants,
- Promotes consistent scoring among respondents,
- Improves efficiency of the assessment process,
- Ensures usability of the assessment results for development of improvement plans.
Phase Three: Perform Assessment

This phase is devoted to the assessment and the initial analysis of results. This phase results in valid and accurate individual and group scores for use in the subsequent phase to identify and prioritize improvements needed to advance the enterprise transformation process. For assessment, the LESAT tool includes Enterprise Maturity Matrix forms, a brief overview of the tool, and instructions on how to complete the forms. For analysis of results, the facilitator can use the Excel-based LESAT Calculator available on LAI’s website (http://lean.mit.edu/products/lean-enterprise-self-assessment-tool-lesat) for processing the results. An overview of the LESAT Calculator is provided in Appendix D.
**Conduct Individual Assessment**

**Objective:** Obtain assessment scores from each respondent, including current and desired state scores, as well as comments, evidence, and opportunities for each practice.

**Roles of Stakeholders:** Respondents conduct the assessment with assistance from the facilitator, who provides clarifications and answers questions. Respondents submit the score sheets to the facilitator by the requested deadline.

- Respondents are asked to **fill out the Enterprise Maturity Matrix form:**
  - In Sections I and III, respondents are asked to assess each enterprise practice by providing current and desired scores as well as comments, evidence, and opportunities. See Figure 11 and instructions below.
  - In Section II, each enterprise practice is assessed several times at different stages throughout the lifecycle process. Although these practices are important enterprise-wide practices, the maturity level may vary between activities in the lifecycle process. As a result, the five lifecycle practices must be scored for each of six lifecycle activities: program management, requirements definition, product design, supply chain management, production, and distribution and sales. See Figure 12 and instructions below.

- Each respondent performs the assessment either **individually or with a group** of direct reports:
  - Each respondent submits one set of score sheets.
  - In case of group assessment, ultimate scores reflect consensus opinion within the group, which has to be formed on the basis of open discussion.

- The assessment can be carried out **during a joint session** of all respondents **or individually** at respondents’ sites. Performing the assessment during a joint session, however, allows all respondents to benefit equally from clarifications and explanations provided by the facilitator. It also helps the facilitator minimize the time spent collecting participant scores.

- During the assessment, **the respondents must:**
  - Perform the assessment from a total enterprise perspective rather than from individual functional areas. The definition of the enterprise should have been developed in Phase One of the assessment process and reviewed during the training session.
  - When scoring the desired state, use the time horizon defined in Phase One of the assessment. A common time horizon will ensure valuable meaning in the desired state data.
  - Attempt to assess every practice, unless a practice is not applicable or a respondent does not know how it applies to the enterprise. Leave blank if the practice is not applicable or unknown.
  - Seek assistance from the facilitator for further clarification of maturity definitions.
Figure 11: Steps to Fill Out the Enterprise Maturity Matrix Form for Sections I and III

Instructions on how to fill out the matrix form for Sections I and III (Figure 11):

1. Read the section name and its definition.
2. Read the subsection name and its description. Diagnostic questions will provide a reference point for respondents and help with understanding the underlying theme for this group of practices.
3. Read the enterprise practice and the tag line ("Sound bite phrase").
4. Read the indicators because they provide examples of outcomes or behaviors that the enterprise exhibits with regard to this practice.
5. Assess the practice on two dimensions: desired capability level and current capability level:
   a. Read the guideline for each capability level starting from Level 1. The five capability levels are progressive, i.e., reaching a certain capability level implies that each of the preceding levels has been attained (e.g., Level 3 should be selected if the enterprise meets the criteria set out in Level 2 as well).
   b. Determine the level of desired capability for this practice that the defined enterprise should achieve within the selected time horizon. Check the box with “D” for desired capability. Important note: The intention is not to set all desired scores at the highest possible capability level but rather to prioritize practices that have a high payoff and strategically important within the timeframe defined.
   c. Determine the level of current capability of the defined enterprise for this practice. Check the box with “C” for current capability. Be conservative: if the enterprise is between levels, select the lower level.
6. In the Evidence line, provide examples (facts, data) demonstrating that the enterprise has achieved the current capability level. In the Opportunities line, specify what actions can be or have been taken to achieve the desired capability level.
Instructions on how to fill out the matrix form for Section II (Figure 12):

1. Read the section name and its definition.
2. Read the enterprise practice and the tag line ("Sound bite phrase"). Read the guideline for each capability level starting from Level 1. The five capability levels are progressive, i.e., reaching a certain capability level implies that each of the preceding levels has been attained (e.g., Level 3 should be selected if the enterprise meets the criteria set out in Level 2 as well).
3. Read the lifecycle activity and the indicators because they will provide examples of outcomes or behaviors that the enterprise exhibits with regard to this practice at a given stage in the lifecycle process.
4. Assess the practice with regard to the above lifecycle activity on two dimensions: desired capability level and current capability level:
   a. Determine the level of desired capability for this practice that the **defined enterprise** should achieve within the **selected time horizon**. Check the box with “D” for desired capability. **Important note**: The intention is not to set all desired scores at the highest possible capability level but rather to prioritize practices that are both achievable and have a high payoff.
   b. Determine the level of current capability of the **defined enterprise** for this practice. Check the box with “C” for current capability. Be conservative; if the enterprise is between levels, select the lower level.
5. In the **Evidence** line, provide examples (facts, data) demonstrating the enterprise has achieved the current capability level. In the **Opportunities** line, specify what actions can be or have been taken to achieve the desired capability level.
6. Repeat Steps 3 to 5 for each lifecycle activity.
Collect and Process Results

Objective: Carry out initial analysis of results to prepare for discussion and finalization of assessment scores.

Roles of Stakeholders: Facilitator collects results from respondents, collates them, and carries out initial analysis.

Key Activities:

- **Collect respondents’ score sheets and collate results:**
  - Enter the scores from each respondent’s score sheets into the LESAT Calculator worksheet ‘1 - Data Entry Sheet’ (Figure 13).
  - Leave the cell empty if no score was provided for the practice.

<table>
<thead>
<tr>
<th>Enterprise Practice</th>
<th>RESPONDENT/GROUP NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>I.A.1. Integrate enterprise transformation into strategic planning process</td>
<td>Current</td>
</tr>
<tr>
<td></td>
<td>Desired</td>
</tr>
<tr>
<td>I.A.2. Focus on stakeholder value</td>
<td>Current</td>
</tr>
<tr>
<td></td>
<td>Desired</td>
</tr>
<tr>
<td>I.A.3. Articulate the case for transformation</td>
<td>Current</td>
</tr>
<tr>
<td></td>
<td>Desired</td>
</tr>
</tbody>
</table>

Figure 13: Sample View of a LESAT Data Entry Sheet

- **Review and note commentary provided by respondents** in the Evidence and Opportunity lines of the score sheets:
  - This commentary will be useful in understanding respondents’ motivations for scores.
  - It may provide a catalyst for follow-up discussions and development of improvement action plans.
  - The commentary may signal the level of understanding by respondents of enterprise concepts and practices and help identify potential scoring mistakes, e.g. misunderstanding of a practice.

- **Carry out initial analysis:**
  - The initial analysis establishes a start point for productive discussion among respondents during the next step of the assessment process.
  - It allows comparing scores provided by all participants, discovering capability levels of the enterprise for each practice, and identifying agreement or disagreement among respondents on any practices.
  - In LESAT Calculator and the Online LESAT the below described calculations and graphs will be generated automatically, once the respondents’ scores have been collected.

1 Blank cells indicate that respondent has not provided a score for the practice.
Initial analysis involves the following steps:

1. **Summarize assessment for each practice** by calculating average (mean) current state and desired state scores, mean gap between current and desired state scores, ranges, variances, and tallies:
   - Use *LESAT Calculator* summary worksheets, ‘2 – Current State Summary’, ‘3 – Desired State Summary’ and ‘4 – Gap Summary’ for calculations. Sample view of a LESAT summary worksheet is in Figure 14.
   - The measures to be calculated are defined in Table 2.

<table>
<thead>
<tr>
<th>Enterprise Practice</th>
<th>Mean</th>
<th>Variance</th>
<th>Range</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.A.1. Integrate enterprise transformation into strategic planning</td>
<td>2.1</td>
<td>0.7</td>
<td>3.0</td>
<td>5</td>
<td>13</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>I.A.2. Focus on stakeholder value</td>
<td>2.3</td>
<td>1.1</td>
<td>3.0</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>I.A.3. Articulate the case for transformation</td>
<td>2.0</td>
<td>0.8</td>
<td>3.0</td>
<td>7</td>
<td>9</td>
<td>6</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 14: Sample View of a LESAT Summary Sheet

2. **Summarize assessment scores for each LESAT Subsection and Section, and for the overall assessment** by calculating mean current state and desired state scores, mean gap between current and desired state scores, ranges, and variances:
   - Use *LESAT Calculator* summary worksheet ‘5 – Section Averages’ for calculations. Sample view of a LESAT summary worksheet is in Figure 15.
   - This summary provides a snapshot of aggregated LESAT scores, allowing for quick view of the overall capability level of the enterprise and its capabilities in each LESAT section.

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Variance</th>
<th>Current</th>
<th>Desired</th>
<th>Gap</th>
<th>Current</th>
<th>Desired</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECTION I - ENTERPRISE TRANSFORMATION/LEADERSHIP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I.A Determine Strategic Imperative</td>
<td>2.1</td>
<td>3.5</td>
<td>1.4</td>
<td>0.9</td>
<td>0.4</td>
<td>1.0</td>
<td>0.0</td>
<td>0.4</td>
</tr>
<tr>
<td>I.B Engage Enterprise Leadership in Transformation</td>
<td>1.7</td>
<td>3.2</td>
<td>1.5</td>
<td>0.6</td>
<td>0.5</td>
<td>0.7</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>I.C Understand Current Enterprise State</td>
<td>1.7</td>
<td>3.1</td>
<td>1.4</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>I.D Envision and Design Future Enterprise</td>
<td>1.6</td>
<td>3.1</td>
<td>1.5</td>
<td>0.3</td>
<td>0.6</td>
<td>0.8</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>I.E Develop Enterprise Structure and Behavior</td>
<td>1.9</td>
<td>3.3</td>
<td>1.4</td>
<td>0.6</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>I.F Create Transformation Plan</td>
<td>2.1</td>
<td>3.5</td>
<td>1.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>I.G Implement and Coordinate Transformation Plan</td>
<td>2.0</td>
<td>3.3</td>
<td>1.3</td>
<td>0.5</td>
<td>0.6</td>
<td>0.5</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>I.H Nurture Transformation and Embed Enterprise Thinking</td>
<td>2.2</td>
<td>3.3</td>
<td>1.2</td>
<td>0.7</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Section I Summary</td>
<td>2.0</td>
<td>3.3</td>
<td>1.4</td>
<td>0.6</td>
<td>0.7</td>
<td>0.7</td>
<td>0.5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Figure 15: Sample View of a LESAT Section Averages Sheet
Table 2: Measures Used for Analysis of LESAT Scores

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
<th>Range of Values</th>
<th>Interpretation of Values</th>
<th>Worksheet in LESAT Calculator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean current state score</td>
<td>Simple average of scores provided by all respondents for current state for each practice</td>
<td>1 - 5</td>
<td>1 = Low capability 5 = World class</td>
<td>‘2 – Current State Summary’</td>
</tr>
<tr>
<td>Mean desired state score</td>
<td>Simple average of scores provided by all respondents for desired state for each practice</td>
<td>1 - 5</td>
<td>1 = Low priority or low realized benefits 5 = High importance and high potential benefits</td>
<td>‘3 – Desired State Summary’</td>
</tr>
<tr>
<td>Mean gap</td>
<td>Simple average of the gap (difference) between desired state and current state scores provided by all respondents for each practice</td>
<td>0 - 4</td>
<td>0 = Achieved desired state or practice is neglected 4 = High priority</td>
<td>‘4 – Gap Summary’</td>
</tr>
<tr>
<td>Range</td>
<td>Difference between the highest and the lowest scores provided by all respondents for each practice</td>
<td>0 - 4</td>
<td>0 = Unanimity among respondents 4 = Low agreement among respondents</td>
<td>‘2 – Current State Summary’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘3 – Desired State Summary’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘4 – Gap Summary’</td>
</tr>
<tr>
<td>Variance</td>
<td>Measure of how widely the scores provided by each respondent are spread around the mean score for each practice</td>
<td>0 and up</td>
<td>0 = unanimity among respondents &gt; 0 = low agreement among respondents (the higher the variance the lower is the agreement)</td>
<td>‘2 – Current State Summary’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘3 – Desired State Summary’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘4 – Gap Summary’</td>
</tr>
<tr>
<td>Tallies</td>
<td>Measure of how many respondents assessed the practice at each capability level</td>
<td>0 to Total number of respondents</td>
<td>Distribution of respondents’ scores across capability levels</td>
<td>‘2 – Current State Summary’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘3 – Desired State Summary’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘4 – Gap Summary’</td>
</tr>
</tbody>
</table>
3. **Summarize assessment for groups of respondents** (optional):
   - If needed, the facilitator can choose to compare assessment results across different groups of respondents (Figure 16).
   - Respondents can be grouped by management level or functional areas.
   - Such comparisons enable discussion on views of the enterprise from different perspectives and illustrate how the transformation process affects the enterprise.

![Overall LESAT Scores](image)

**Figure 16: Sample Comparison of LESAT Scores Across Different Management Levels**

4. **Present results in form of graphs** that visually demonstrate distribution of scores and variance for each practice:
   - View graphs on LESAT Calculator sheet ‘6 - Graphs’.
   - Sample graphs are presented in Figure 17.
   - For example, the two top graphs in Figure 17 demonstrate current state maturity and gap scores (the top graph is in the order of practices and the bottom graph ranks practices by current state score). The gaps are the difference between the current state and future state scores. Such graphs allow for visualization of average maturity of enterprise across all practices, identification of practices with high and low scores, and size of gaps relative to current state scores.
   - The bottom graph demonstrates variance in current state scores and allows for visual identification of practices with high or low variance.
Figure 17: Sample Graphs of LESAT Results
Discuss and Analyze Results

**Objective:** Finalize the assessment by arriving at results that reflect a consensus of the respondents’ view.

**Roles of Stakeholders:** The facilitator presents results of the initial analysis and encourages discussion among the respondents. Respondents discuss the assessment results.

**Key Activities:**

- The facilitator must create an environment that allows for the honest and constructive exchange of opinions among respondents.

- *Discuss the results from the individual assessments and the initial analysis* to compare understanding of practices among respondents.

- **Identify reasons for unusually high/low scores,** i.e., those whose scores substantially differ from the majority of practices or those whose scores are substantially different from the expected level given the current stage of the enterprise in the transformation process.

- **Identify reasons for high variance,** which may signal disagreement among respondents on certain practices. Such disagreement may result from difference in opinions or misunderstanding of the practice being assessed.

- **Identify reasons for any outliers,** i.e., scores provided by a respondent that significantly differ from the scores of other respondents.
  - Outliers may signal difference in opinions or misunderstanding of the practice.
  - They also may be attributable to such factors as the length of the respondent’s employment (new employees vs. long-time employees), his/her leadership position, managerial influence, or relationship to the practice at hand.
  - Only those outliers that are due to mistakes should be eliminated; the others provide important evidence of external or contextual factors influencing the outlying response.

- **Arrive at final assessment results** by adjusting the scores, if deemed necessary based on the discussion. Note any important reasons for disagreement, as this will have to be accounted for during development of improvement action plans.
Phase Four: Evaluate Assessment Results and Process

This is one of the most important phases in the assessment process because it allows contextual understanding of quantitative scores. During this phase, assessment participants will identify improvement areas that need to be addressed to advance the transformation process. Participants will also evaluate the assessment process itself to ensure that it meets the objectives of the enterprise.

Evaluate Assessment Results

Objective: Identify LESAT practices that require improvement actions.

Roles of Stakeholders: Users evaluate the assessment results with support of the facilitator.

Key Activities:

• Select and agree on decision criteria:
  o Decision criteria are used to categorize practices and identify areas that require action.
  o Decision criteria are a set of rules to be applied to assessment results. They are numerical thresholds that correspond to particular actions. Examples of decision criteria are provided below.
  o They can be based on the current state scores, gaps, variances or other metrics that the assessment users deem appropriate.
  o Decision criteria must be determined and agreed upon by assessment users.
  o Decision criteria must be agreed upon up front before users start to identify improvement areas. This ensures validity of the outcome of this step. It also helps avoid unnecessary disputes among the users during the review of assessment practices.

• Apply decision criteria to the assessment results to identify areas for improvement.

Below are examples of how decision criteria can be applied.
Example 1: Decision criteria based on current state scores and gaps

- This set of decision criteria allows for identification of current strengths and weaknesses in the organization, as well as the opportunities and threats (SWOT-analysis).
- Sample thresholds for the decision criteria are presented in Table 3. The numerical thresholds are used for demonstration purposes. The actual values should be based on the relative distribution of assessment results.

Table 3: Sample Decision Criteria Based on Current State Scores and Gaps

<table>
<thead>
<tr>
<th>Decision Criteria</th>
<th>Interpretation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High current state</td>
<td>≥ 2.0</td>
<td>High current performance</td>
</tr>
<tr>
<td>Low gap</td>
<td>≤ 1.3</td>
<td>Low aspirations</td>
</tr>
<tr>
<td>Weakness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low current state</td>
<td>≤ 2.0</td>
<td>Low current performance</td>
</tr>
<tr>
<td>Low gap</td>
<td>≤ 1.3</td>
<td>Low aspirations</td>
</tr>
<tr>
<td>Opportunity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High current state</td>
<td>≥ 2.0</td>
<td>High current performance</td>
</tr>
<tr>
<td>High gap</td>
<td>≥ 1.3</td>
<td>High aspirations</td>
</tr>
<tr>
<td>Threat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low current state</td>
<td>≤ 2.0</td>
<td>Low current performance</td>
</tr>
<tr>
<td>High gap</td>
<td>≥ 1.3</td>
<td>High aspirations</td>
</tr>
</tbody>
</table>

- For visual presentation, plot assessment scores for all 43 practices on a scatter diagram, where the horizontal axis represents current state scores and the vertical axis represents gaps (Figure 18). This diagram can be found in LESAT Calculator worksheet ‘7 – SWOT Analysis’.

Figure 18: Mapping of Current State Scores vs. Gaps
Example 2: Decision criteria based on variances and gaps

• This set of decision criteria allows for identification of areas for improvement based on the level of consensus among respondents, which is representative of enterprise integration and cohesion.

• Sample thresholds for the decision criteria are presented in Table 4. The numerical thresholds are used for demonstration purposes. The actual values should be based on the relative distribution of assessment results.

Table 4: Sample decision criteria based on variance and gaps

<table>
<thead>
<tr>
<th>Decision Criteria</th>
<th>Interpretation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Alignment</td>
<td>High variance</td>
<td>≥ 1.0</td>
</tr>
<tr>
<td></td>
<td>Low gap</td>
<td>≤ 1.3</td>
</tr>
<tr>
<td>Low Priority</td>
<td>Low variance</td>
<td>≤ 1.0</td>
</tr>
<tr>
<td></td>
<td>Low gap</td>
<td>≤ 1.3</td>
</tr>
<tr>
<td>Open Discussion</td>
<td>High variance</td>
<td>≥ 1.0</td>
</tr>
<tr>
<td></td>
<td>High gap</td>
<td>≥ 1.3</td>
</tr>
<tr>
<td>Fertile Ground</td>
<td>Low variance</td>
<td>≤ 1.0</td>
</tr>
<tr>
<td></td>
<td>High gap</td>
<td>≥ 1.3</td>
</tr>
</tbody>
</table>

• For visual presentation, plot assessment scores for all 43 practices on a scatter diagram, where the horizontal axis represents variance and the vertical axis represents gaps (Figure 19). This diagram can be found in LESAT Calculator worksheet ‘8 – Alignment Analysis’.

Figure 19: Mapping of Variances vs. Gaps
Example 3: Three-dimensional analysis

- This method was developed by lean practitioners at an industry partner and was shared with LAI during a knowledge exchange event in 2009.
- It combines the above two techniques by analyzing results across three dimensions: current state performance, variance, and gap (see Table 5). The numerical thresholds are used for demonstration purposes. The actual values should be based on the relative distribution of assessment results.
- Worksheet for this analysis can be found in the ‘9 – 3-Dimensional Analysis’ worksheet in the LESAT Calculator.

Table 5: Sample three-dimensional analysis

<table>
<thead>
<tr>
<th>Metric</th>
<th>Level</th>
<th>Example Score Range</th>
<th>Interpretation</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current State</td>
<td>High</td>
<td>≥ 2.5</td>
<td>Strongest areas</td>
<td>Maintain or improve</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>≤ 1.5</td>
<td>Weakest areas</td>
<td>Improve</td>
</tr>
<tr>
<td>Variance</td>
<td>High</td>
<td>≥ 1.0</td>
<td>More disagreement</td>
<td>Education needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Need for training/education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>≤ 0.5</td>
<td>Strong agreement</td>
<td>No education needed</td>
</tr>
<tr>
<td>Gap</td>
<td>High</td>
<td>≥ 1.5</td>
<td>Opportunity to close the gap through improvement</td>
<td>Take action</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>≤ 1.25</td>
<td>Opportunity to raise expectations or accept as is</td>
<td>No action</td>
</tr>
</tbody>
</table>
**Evaluate Assessment Process**

**Objective:** Identify changes needed to improve the assessment process.

**Roles of Stakeholders:** All stakeholders evaluate the assessment process and recommend improvement.

**Key Activities:**

- **Evaluate the assessment process** using criteria presented in Table 6.
- **Identify areas that require improvement.**
- **Develop a revised assessment process for subsequent assessment**, if necessary.
- The progress of improvements in the assessment process will be reviewed in Phase One of the next assessment cycle.

**Table 6: Criteria for evaluation of assessment process**

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Evaluation Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness</strong></td>
<td>Have the objectives for the assessment been met?</td>
</tr>
<tr>
<td></td>
<td>Has the assessment helped identify where the enterprise currently stands in terms of its capabilities and which areas require improvement?</td>
</tr>
<tr>
<td><strong>Timeliness</strong></td>
<td>Were the assessment results received at the time when they were needed?</td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td>Were the assessment resources, including participants’ time, spent efficiently while generating the expected result?</td>
</tr>
<tr>
<td><strong>Choice of respondents</strong></td>
<td>Were the respondents able to provide feedback that represents the view of the enterprise as a whole?</td>
</tr>
<tr>
<td></td>
<td>Have they represented a diverse variety of views that enables comparing assessment results from multiple perspectives?</td>
</tr>
<tr>
<td><strong>Accuracy and validity of results</strong></td>
<td>Has the assessment produced accurate results that truly represent state of the enterprise?</td>
</tr>
<tr>
<td></td>
<td>Has the organization been able to use the results in order to develop actionable improvement plans?</td>
</tr>
<tr>
<td><strong>Obstacles</strong></td>
<td>What other factors prevented achieving the full effectiveness and efficiency of the assessment process?</td>
</tr>
</tbody>
</table>
Phase Five: Develop Action Plan and Prioritize Resources

Objective: Put results of the assessment to action by developing actionable improvement plans and supporting them with necessary resources.

Roles of Stakeholders: Assessment users with the support of the facilitator develop the action plan.

Key Activities:

• **Prioritize improvement areas**: Focus only on a select number (typically five) of areas that are critical for achieving enterprise strategic objectives, while leveraging the existing capabilities and limited resources.

• **Identify tasks and resources** needed to implement improvements. Specify timeline and essential milestones to enable progress monitoring, as well as people and organizational units responsible for each task.

• **Prioritize tasks and resources** to best use organizational resources, while ensuring the effectiveness of outcome and avoiding competition for resources between different areas and tasks of the action plan.
PART IV: COMMON MISTAKES

This part provides some examples of potential mistakes when interpreting or using LESAT results that may undermine the value of the assessment process:

Not Interpreting Results

One of the biggest mistakes that can be made is to perform the assessment but not interpret the results. When used this way, it forms an open loop assessment where results of the assessment process have little or no direct effect on the transformation plan (Hallam, 2003). This can be manifested in a few possible scenarios: where results are superficially analyzed (averaging all scores together) or where results are analyzed but not distributed to key parties or acted upon. Although the organization will experience minor improvements in the enterprise knowledge and vocabulary, there will be few gains because the results are not interpreted and do not guide ongoing transformation or continuous improvement projects.

Along these lines, some organizations use LESAT in parallel with other improvement plans. These organizations gain some of the benefits from interpreting LESAT, but must put added effort to coordinate contrasting focuses and allocate limited resources among the improvement plans.

Losing Fidelity

The first involves losing fidelity by oversimplifying scores. LESAT represents a multidimensional assessment of broad enterprise excellence. Each practice is independent. Although they can be grouped into sections and subsections, it is detrimental to average all scores together and simply look at LESAT results on a section-by-section basis. Likewise, averaging all practices into one single score undermines much of the value in LESAT. Having a singular score is appealing from a management perspective because it provides the a clear indicator for improvement, but doing so undermines the granularity and fidelity provided by the multitude of practices included in LESAT. For example, if all scores are averaged together, improvements in one set of practices may be masked by declines in another set of practices. Without this level of understanding, the organization cannot adjust its transformation plan and introduce corrective action nor can it see its successes.

In addition, comparing and averaging scores across practices faces some fundamental constraints. Although the five levels were designed to be consistent for all practices, this is not always the case. The assessment is prone to scale inconsistencies, which are only exaggerated when LESAT is viewed from the perspective of a respondent or an organization (as their interpretation of the scale may differ from the intended interpretation). As a result, comparing or averaging scores for different practices can be like comparing inches with pounds because the perceived scale may vary between practices.
LESAT Facilitator’s Guide

There are benefits from averaging scores as it sheds light on the interconnections between sections. Section averages should be used cautiously to avoid detracting from the in-depth, per-practice analysis.

Not Accounting for External Context

It is important to have a strong understanding of the organizational context and environmental factors that may have a bearing on LESAT results. There are a substantial number of factors that may affect the results of the assessment process, and accounting for these is important to understanding the results. Examples include: changing leadership, recent shortcomings or major successes, increasing enterprise knowledge (and hence changing interpretation of questions), bias related to the person facilitating the assessment, etc. There are a multitude of factors that may have a bearing on the results. When analysis of LESAT scores fails to account for such factors, the benefits and value of assessment are decreased.
REFERENCES


APPENDIX A – LESAT GLOSSARY

Balanced scorecard: An analysis technique and management instrument that translates an enterprise’s mission and strategy into a comprehensive set of performance measures to provide a framework for strategic action. The scorecard may gauge organizational performance across several perspectives including financial, customers, internal business processes, and learning and growth. (Techniques for Enterprise Management, 1999)

Best practice: A method of accomplishing a business function or process that is considered superior to other known methods. (Techniques for Enterprise Management, 1999)

Business case: Justification for a change. Serves as a decision package for enterprise executives. Typically includes an analysis of current problems or future needs, a proposed solution, assumptions and constraints, alternative solutions, lifecycle investment costs, quantified benefits, an analysis of costs versus benefits, and an analysis of risks involved. (Techniques for Enterprise Management, 1999)

Change agent: An individual who provides the catalytic force driving transformation/change by planning, managing, and championing the implementation process. The role can be either voluntary or selected by enterprise leadership, but the individual must have enterprise knowledge as well as a clear vision of the future vision, in order to motivate and educate individuals within the enterprise. (Womack and Jones, 1996)

Consensus: A state where group members support an action or decision, even if some do not fully agree with it. A consensus decision is made after aspects of an issue, both positive and negative, have been reviewed or discussed to the extent that everyone openly understands, supports, and participates in the decision. (Techniques for Enterprise Management, 1999)

Continuous flow: Items and/or information move through from one step in the process to the next one unit at a time. Each stage of the process acts on only the one piece that the next stage needs, and the transfer a single unit of material and/or information moves between processes. Also called “single-piece flow” or “one-piece flow.” (Rother and Shook, 2000)

Continuous improvement: A culture of ongoing improvement of any and all elements within the enterprise, including processes, products, and services. Improvements seek to increase efficiency, effectiveness, and value-creation; and can be incremental (implemented over time) or can be breakthrough (implemented all at once). (ASQ, 2011)
Core competency: The particular capabilities (knowledge, demonstrated proficiency, and experience) of an enterprise that satisfy existing strategy and serves as the basis for growth or diversification into new lines of business. (Techniques for Enterprise Management, 1999)

Cross-functional management: a process designed to encourage and support interdepartmental communication and cooperation throughout an enterprise, as opposed to command and control through narrow departments or divisions. The purpose is to achieve enterprise targets such as quality, cost, and delivery of products and services by optimizing the sharing of work. (Dimancescu, Hines and Rich, 1997)

Culture: Shared characteristics such as values, behaviors, and beliefs that distinguish the members of one group from those of another. Organizational culture includes the common set of beliefs, sentiments, priorities, attitudes, perceptions, operating principles, and accepted norms shared by individuals within an organization.

Cultural change: A major shift in cultural characteristics (see previous) within the organization or enterprise. (Techniques for Enterprise Management, 1999)

Current enterprise state: A description of the present enterprise architecture, including the strategy, organization, policies, processes, products, services, knowledge, and information of the enterprise. This comprehensive description of the enterprise enables analysis of the enterprise as a whole.

Customer: A stakeholder who is a recipient of a product or service produced by an enterprise. Customers may be internal or external to the organization. External customers, those in the marketplace, are the reason an enterprise exists. Internal customers are the reason a functional area or department exists and may be an interdependent department or a downstream user in the value chain. When services rather than products are provided, customers are often called clients. (Techniques for Enterprise Management, 1999)

Distribution and sales (a lifecycle activity): The final activity in the enterprise lifecycle process that addresses the distribution of products to customers and the provision of related services. This stage includes the following activities: sales, product distribution, post-sales services, post-delivery support and, any warranty/replacement services.

Downstream stakeholder: See “Stakeholder, Downstream.”

Employees: All of the individuals employed by the organization including full time, part time, temporary and contract employees. Employees constitute an internal stakeholder. (The Excellence Model Glossary of Terms, 2009)

Enterprise: A complex, integrated, and interdependent system of people, processes, and technology with a distinct mission that creates value as determined by its key stakeholders based on that mission. An enterprise typically consists of multiple
organizations (e.g., departments, suppliers, partners, regulators) rather than a single corporation, division, or government unit. In addition to core value chain activities, the enterprise includes all supporting activities (e.g., profit and loss responsibility, information technology, human resources). (Nightingale and Srinivasan, 2011)

**Enterprise element:** An internal component of the enterprise, defined either by artificial or abstract boundaries, often with local management, roles, responsibilities, and a specific goal or objective. Enterprise elements can include projects, programs, departments, divisions, or organizations (if the enterprise refers to a full supply chain).

**Enterprise perspective:** A holistic vantage of the enterprise and full value chain that enables holistic analysis of performance. An enterprise perspective allows individuals to understand their role and responsibilities in the larger enterprise context, and to make decisions that seek to optimize performance of the enterprise as whole rather than just its elements. See “Enterprise thinking.”

**Enterprise principles:** Seven principles have been identified that are core to achieving enterprise excellent:

1. Adopt a holistic approach to enterprise transformation.
2. Secure leadership commitment to drive and institutionalize enterprise behaviors.
3. Identify relevant stakeholders and determine their value propositions.
4. Focus on enterprise effectiveness before efficiency.
5. Address internal and external enterprise interdependencies.
6. Ensure stability and flow within and across the enterprise.

**Enterprise stakeholder:** All stakeholders relevant to a specific enterprise (see “Stakeholders”).

**Enterprise thinking:** The application of systems thinking to the enterprise. By taking a holistic and comprehensive view of the value chain (spanning organizational structural boundaries), enterprise thinking enables identification of opportunities for greater efficiency and greater value delivery. See “Systems thinking”.

**Enterprise transformation:** Enterprise transformation concerns change, not just routine change but fundamental change that substantially alters an organization’s relationships with one or more key constituencies. It can involve new value propositions in terms of products and services, how these offerings are delivered and supported, and/or how the enterprise is organized to provide these offerings. It can also involve old value propositions provided in fundamentally new ways. (Rouse, 2005)

**Extended enterprise:** All organizations along the multiple value streams that contribute to providing value to the enterprise stakeholders. The extended enterprise
may include customers, suppliers, government, and other entities that might have indirect influence over enterprise activities. (Valerdi, Nightingale, and Blackburn, 2008)

**External stakeholder:** See “Stakeholder, external.”

**Flow:** The progressive achievement of tasks along a value stream so that a product proceeds from design to launch, order to delivery, and raw materials into the hands of the customer with no stoppages, scrap, or backflows. (Womack and Jones, 1996)

**Future vision:** See “Vision.”

**Gap analysis:** Analysis of the difference between a current state or position and a desired state or position. (*Techniques for Enterprise Management*, 1999)

**Innovation:** The practical transition of ideas into new products, services, processes, systems, and social interactions. (The Excellence Model Glossary of Terms, 2009)

**Internal stakeholder:** See “Stakeholder, internal.”

**Just-in-time:** Producing or conveying only the items that are needed by the next process when they are needed and in the quantity needed. (Rother and Shook, 2000)

**Lead time:** The total time a customer must wait to receive a product after placing an order. When a production system is running at or below capacity, lead time and throughput time are the same. When demand exceeds the capacity of a system, there is additional waiting time before the start of production and lead time exceeds throughput time. (Womack and Jones, 1996)

**Non-value added:** Any product, process, or service that does not add value to the ultimate customer. (It is important to note that non-value added is not the same as “not necessary” because some activities are required by law or necessary for process control, such as inspection. These may not add value but are used to assess processes for control and improvement.) (Internal Glossary of Rockwell Collins Corp, 1999)

**Performance measure:** A dimension of an activity or process (quality, cost, or other characteristic) that can be used to judge the effectiveness or efficiency of the process against a target or standard value. (*Techniques for Enterprise Management*, 1999)

**Performance measurement system:** A system of metrics used to gather the performance data and information from throughout the enterprise that are needed to assess overall enterprise performance. (Nightingale and Srinivasan, 2011)

**Process:** A sequence of activities that adds value by producing required outputs from a variety of inputs. (The Excellence Model Glossary of Terms, 2009)

**Process flow:** The movement of materials and/or information through the steps in a process, during which activities are performed in a specific order.
**Program management (a lifecycle activity):** The management of groups of projects. Aspects of program management are concerned with risk diversification and with consolidation of the component projects for direction, planning, and control. Program management includes the coordination of resources to ensure the achievement of all projects in a specific group, as well as the planning and allocation of financial, material, and human resources and the organization of work needed to complete each of the projects. (Levene, 1999; *The Ultimate Business Dictionary*, 2003)

**Product development (a lifecycle activity):** A part of the lifecycle process during which the product and accompanying processes are designed, based on the requirements established in the requirements definition stage. This includes product engineering, testing, and manufacturing process design.

**Product flow:** The movement of products through the value chain from creation to final customer delivery.

**Production (a lifecycle activity):** A part of the lifecycle process when the product is created or assembled. This part of the lifecycle includes the production inventory management and the manufacturing or production process, which is based on the product and process design resulting from the product development activity.

**Production system:** The system used to coordinate internal and external supplier logistics, manufacturer parts, and assemblies into whole products and apply process knowledge to create and deliver products to the ultimate customer.

**Productivity:** An overall measure of the ability to produce a good or service. It is the actual output of production compared to the actual input of resources. Productivity is a relative measure across time or against common entities. In economics, the ratio of output in terms of dollars of sales to an input such as direct labor in terms of total wages. (Internal Glossary of Rockwell Collins Corp, 1999)

**Pull system:** A planning system based on communication of actual real-time needs from downstream operations, ultimately from the customer or the end user or the equivalent, as opposed to a push system. (Internal Glossary of Rockwell Collins Corp, 1999)

**Push system:** A planning system that schedules upstream operations according to some forecasted plan of downstream needs.

**Requirements definition (a lifecycle activity):** An activity that occurs continuously during the product lifecycle that assesses customer needs and values and translates them into requirement statements that form the basis for product and process design. Strange character embedded here.

**Risk management:** The process by which an enterprise methodically address the risks attached to each of their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities. The focus of risk management is
the identification and treatment of these risks, with the objective of adding to the maximum sustainable value of all activities within the enterprise. (The Risk Management Standard, 2002)

**Single-piece flow:** See “Continuous flow.”

**Stakeholder:** Every person who has an interest in an enterprise, its activities, and its achievements. These may include customers, partners, employees, shareholders, owners, the government, and regulators. (The Excellence Model Glossary of Terms, 2009)

**Stakeholder, downstream:** Stakeholder who has a role later in the lifecycle and/or production process. Specific stakeholders vary based on one’s perspective (e.g., from the perspective of manufacturing, downstream stakeholders include customers and post-delivery/support services, among others). To help differentiate upstream and downstream, think of products as flowing from upstream suppliers to downstream end-user.

**Stakeholder, external:** Stakeholder located outside the enterprise boundaries. Examples of external stakeholders include customers, end users, shareholders, suppliers, etc.

**Stakeholder, internal:** Stakeholder located within the enterprise boundary. This includes both individual stakeholders (employees, etc.) and enterprise elements (product development, manufacturing, etc.).

**Stakeholder, upstream:** Stakeholder who has a role earlier in the lifecycle and/or production process. The specific stakeholders vary based on one’s perspective (e.g., from the perspective of manufacturing, upstream stakeholders include engineers/product development and suppliers, among others). To help differentiate upstream and downstream, think of products as flowing from upstream suppliers to downstream end-user.

**Stakeholder value** – The value derived by a specific stakeholder from the enterprise. See both “stakeholder” and “value.”

**Strategic plan:** A comprehensive statement of an organization’s overall mission, objectives, and strategy. A detailed roadmap of the direction the organization intends to follow in conducting its activities. Provides direction, concentration of effort, consistency of purpose, and flexibility as a business moves to maintain and improve its competitive position. (Techniques for Enterprise Management, 1999)

**Strategic planning:** The top-level management decision process that focuses on the overarching, long-range direction of the enterprise and establishes the means by which that goal is achieved. Includes defining top-level and subordinate missions, goals, and supporting objectives, i.e., how the enterprise sees its purpose and where it wants to go. Provides the “big picture” along with a description of how goals and objectives are to be
achieved and the indicators that will be used to measure performance and outcomes. *(Techniques for Enterprise Management, 1999)*

**Systems thinking:** A perspective of systems that acknowledges and integrates the following elements into the understanding and decision making process—holism, an ability to think about the system as a whole; focus, an ability to address the important system level issues; emergence, recognition that there are latent properties in the systems; and trade-offs, judgment and balance, which enable one to juggle all the various considerations and make a proper choice. (Allen et al., 2001)

**Supply chain management (a lifecycle activity):** A process that integrates of key business processes across the supply chain for the purpose of creating value for customers and stakeholders. During the lifecycle process, supply chain management involves a range of activities including sourcing, procurement, and logistics. (Lambert, 2008)

**Upstream stakeholder:** See “Stakeholder, upstream.”

**Value:** A product or service’s capability provided to a customer at the right time, at an appropriate price, as defined in each case by the customer. (Rother and Shook, 2000)

**Value-added activity:** Value-added is the difference between dollar sales and the cost of raw materials and purchased parts. Value-added activity is an activity or step in a process that adds value to an output product or service. Such an activity merits the cost of the resources it consumes in production. These are the activities that customers would view as important and necessary. A value-added activity contributes directly to the performance of a mission and could not be eliminated without impairing the mission. *(Techniques for Enterprise Management, 1999)*

**Value chain:** The sequence of activities a company performs in order to design, product, market, deliver, and support its product or service. *(The Ultimate Business Dictionary, 2003).*

**Value delivery:** The provision of value to one or more enterprise stakeholders. See “Value.”

**Value stream:** The specific activities required to design, order, and provide a specific product, from concept to launch, order to delivery, and raw materials into the hands of the customer. (Womack and Jones, 1996)

**Value stream mapping/analysis:** Involves defining a product families’/business processes’ material and information flows from beginning to end utilizing a visual representation of every process. This facilitates understanding of current state and the development of the proposed future state. The difference between the two states becomes the basis for the transformation plan.
**Vision:** A guiding theme that articulates the nature of the business and the enterprise’s intent for its future. A description of what senior management wants to achieve. Usually refers to the medium to long term and is often expressed in terms of a series of objectives. (*Techniques for Enterprise Management, 1999*)

**Waste:** Any product, process, or service that does not add value to the ultimate customer. Waste in business processes/production can be broken down into seven types—waiting, unnecessary motion, processing, inventory, moving items, making too much, fixing defects. (Internal Glossary of Rockwell Collins Corp, 1999)

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**Glossary References**


LESAT Facilitator’s Guide


## APPENDIX B – SUMMARY OF LESAT PRACTICES

<table>
<thead>
<tr>
<th>Subsections</th>
<th>Enterprise Practices</th>
<th>Tag Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.A. Determine Strategic Imperative</td>
<td>I.A.1. Integrate enterprise transformation into strategic planning process</td>
<td>Transformation is a key enabler for achieving strategic objectives</td>
</tr>
<tr>
<td></td>
<td>I.A.2. Focus on stakeholder value</td>
<td>Enterprise creates value for all stakeholders</td>
</tr>
<tr>
<td></td>
<td>I.A.3. Articulate the case for transformation</td>
<td>Communicate burning platform</td>
</tr>
<tr>
<td></td>
<td>I.B.2. Obtain senior leadership commitment</td>
<td>Enterprise leadership personally lead transformation</td>
</tr>
<tr>
<td></td>
<td>I.B.3. Establish executive coordination and oversight</td>
<td>Leaders choreograph the transformation</td>
</tr>
<tr>
<td>I.C. Understand Current Enterprise State</td>
<td>I.C.1. Analyze enterprise processes &amp; interactions</td>
<td>Understand process interdependencies</td>
</tr>
<tr>
<td></td>
<td>I.C.2. Ensure stability and flow within and across the enterprise</td>
<td>Seamless flow of materials, information and resources</td>
</tr>
<tr>
<td>I.D. Envision and Design Future Enterprise</td>
<td>I.D.1. Envision the enterprise future state</td>
<td>Create a shared vision of the future enterprise</td>
</tr>
<tr>
<td></td>
<td>I.D.2. Architect the future enterprise</td>
<td>Redesign enterprise to meet the shared vision</td>
</tr>
<tr>
<td>I.E. Develop Enterprise Structure and Behavior</td>
<td>I.E.1. Reconcile systems, policies and vision</td>
<td>Align systems and policies to the future vision</td>
</tr>
<tr>
<td></td>
<td>I.E.2. Align performance measurement system</td>
<td>Performance measures drive enterprise behavior</td>
</tr>
<tr>
<td></td>
<td>I.E.3. Align incentives</td>
<td>Reward the behavior you want</td>
</tr>
<tr>
<td></td>
<td>I.E.4. Empower change agents</td>
<td>Enable key people to inspire and enact change</td>
</tr>
<tr>
<td></td>
<td>I.E.5. Promote relationships based on mutual trust</td>
<td>“Win-win” vs. “we-they”</td>
</tr>
<tr>
<td></td>
<td>I.E.6. Establish open and timely communications</td>
<td>Right information at right time</td>
</tr>
<tr>
<td></td>
<td>I.E.7. Empower employees</td>
<td>Decision-making at lowest possible level</td>
</tr>
<tr>
<td></td>
<td>I.E.8. Encourage innovation</td>
<td>From risk aversion to risk rewarding</td>
</tr>
<tr>
<td>I.F. Create Transformation Plan</td>
<td>I.F.1. Create enterprise-level transformation plan</td>
<td>Chart the course across the extended enterprise</td>
</tr>
<tr>
<td></td>
<td>I.F.2. Communicate plan</td>
<td>Communicate transformation efforts across the enterprise</td>
</tr>
<tr>
<td>I.G. Implement and Coordinate Transformation Plan</td>
<td>I.G.1. Develop detailed plans based on the enterprise plan</td>
<td>Coordinate transformation efforts</td>
</tr>
<tr>
<td></td>
<td>I.G.2. Commit resources for transformation efforts</td>
<td>Resource the transformation</td>
</tr>
<tr>
<td></td>
<td>I.G.3. Provide education and training</td>
<td>Continuous enterprise learning develops transformation capabilities</td>
</tr>
<tr>
<td></td>
<td>I.G.4. Track detailed implementation</td>
<td>Assess actual outcomes against goals</td>
</tr>
<tr>
<td>I.H. Nurture Transformation and Embed Enterprise Thinking</td>
<td>I.H.1. Monitor transformation progress</td>
<td>Assess progress toward achieving enterprise objectives</td>
</tr>
<tr>
<td></td>
<td>I.H.2. Nurture the transformation</td>
<td>Engage executives</td>
</tr>
<tr>
<td></td>
<td>I.H.3. Capture and diffuse lessons learned</td>
<td>Build from success; learn from failure</td>
</tr>
<tr>
<td></td>
<td>I.H.4. Impact enterprise strategic planning</td>
<td>Results lead to strategic opportunities</td>
</tr>
<tr>
<td></td>
<td>I.H.5. Embed enterprise thinking throughout the organization</td>
<td>Enterprise perspective is ingrained</td>
</tr>
<tr>
<td></td>
<td>I.H.6. Institutionalize continuous improvement</td>
<td>Systematic approach for improvement</td>
</tr>
<tr>
<td>Subsections</td>
<td>Enterprise Practices</td>
<td>Tag Line</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>(II) Lifecycle Processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II.A. Align, Develop and Leverage Enterprise Capabilities</td>
<td>New opportunities build upon enterprise-enabled capabilities and lead to development of new ones</td>
<td></td>
</tr>
<tr>
<td>II.B. Optimize Network-Wide Performance</td>
<td></td>
<td>Breaking down of functional silos enables seamless communication and value flow</td>
</tr>
<tr>
<td>II.C. Incorporate downstream customer value into the enterprise value chain</td>
<td>Consideration of customer value drives enterprise behavior</td>
<td></td>
</tr>
<tr>
<td>II.D. Actively engage upstream stakeholders to maximize value creation</td>
<td>Integrating upstream stakeholders allows value to flow seamlessly to customer</td>
<td></td>
</tr>
<tr>
<td>II.E. Provide capability to monitor and manage risk and performance</td>
<td>Integrated performance management enables better enterprise decision-making</td>
<td></td>
</tr>
<tr>
<td>(III) Enabling Processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III.A. Organizational Enablers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III.A.1. Enterprise Performance Measurement System Supports Enterprise Transformation</td>
<td>Enterprise transformation requires appropriate measurement</td>
<td></td>
</tr>
<tr>
<td>III.A.2. Enterprise stakeholders pull required metrics</td>
<td>Data on demand</td>
<td></td>
</tr>
<tr>
<td>III.A.3. Promulgate the learning organization</td>
<td>Learning Organizations create a flexible workforce</td>
<td></td>
</tr>
<tr>
<td>III.A.4. Enable the enterprise with information systems and tools</td>
<td>Facilitate the flow of information and knowledge</td>
<td></td>
</tr>
<tr>
<td>III.A.5. Integration of environmental protection, health and safety into the business</td>
<td>“Cleaner, healthier, safer”</td>
<td></td>
</tr>
<tr>
<td>III.B. Process Enablers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III.B.1. Process standardization</td>
<td>Strive for consistency and re-use</td>
<td></td>
</tr>
<tr>
<td>III.B.2. Common tools and systems</td>
<td>Assuring compatibility, reducing costs</td>
<td></td>
</tr>
<tr>
<td>III.B.3. Process variation reduction</td>
<td>Reduce uncertainty by reducing variation</td>
<td></td>
</tr>
</tbody>
</table>
# APPENDIX C – SUMMARY OF LESAT ASSESSMENT PROCESS

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
<th>Responsibility (★) or Participation (✚) of:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Leader Facilitator User Respondent</td>
</tr>
<tr>
<td><strong>Phase One: Assessment</strong></td>
<td><strong>Prerequisites</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td><strong>Obtain organizational commitment</strong></td>
<td>★</td>
</tr>
<tr>
<td></td>
<td><strong>Define enterprise and its boundaries</strong></td>
<td>★</td>
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<tr>
<td></td>
<td><strong>Define time horizon for the future</strong></td>
<td>★</td>
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<tr>
<td></td>
<td><strong>Define timing of assessment</strong></td>
<td>★</td>
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<tr>
<td></td>
<td><strong>Define participants’ roles and responsibilities</strong></td>
<td>★</td>
</tr>
<tr>
<td></td>
<td><strong>Allocate resources</strong></td>
<td>★</td>
</tr>
<tr>
<td></td>
<td><strong>Review progress in implementation of action plans</strong></td>
<td>★ ★ ★</td>
</tr>
<tr>
<td><strong>Phase Two: Plan</strong></td>
<td><strong>Assessment</strong></td>
<td>★ ★ ★</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td><strong>Identify respondents</strong></td>
<td>★ ★ ★</td>
</tr>
<tr>
<td></td>
<td><strong>Determine timeline</strong></td>
<td>★ ★ ★</td>
</tr>
<tr>
<td></td>
<td><strong>Introduction and training</strong></td>
<td>★ ● ●</td>
</tr>
<tr>
<td><strong>Phase Three: Perform</strong></td>
<td><strong>Assessment</strong></td>
<td>★ ★ ★</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td><strong>Conduct individual assessment</strong></td>
<td>★</td>
</tr>
<tr>
<td></td>
<td><strong>Collect and process results</strong></td>
<td>★</td>
</tr>
<tr>
<td></td>
<td><strong>Discuss and analyze results</strong></td>
<td>★ ★ ★</td>
</tr>
<tr>
<td><strong>Phase Four: Evaluate</strong></td>
<td><strong>Assessment Results and Process</strong></td>
<td>★</td>
</tr>
<tr>
<td></td>
<td><strong>Evaluate assessment results</strong></td>
<td>★ ★ ★</td>
</tr>
<tr>
<td></td>
<td><strong>Evaluate assessment process</strong></td>
<td>★ ★ ★ ★</td>
</tr>
<tr>
<td><strong>Phase Five: Develop</strong></td>
<td><strong>Action Plan</strong></td>
<td>★ ★ ★</td>
</tr>
<tr>
<td><strong>Develop Action Plan</strong></td>
<td><strong>Develop action plan and prioritize resources</strong></td>
<td>● ★</td>
</tr>
</tbody>
</table>
APPENDIX D: LESAT CALCULATOR

The LESAT Calculator is an Excel-based workbook developed to collect, process, and analyze assessment results. It contains VBA-based macros to assist with analysis; please enable macros when prompted upon opening the workbook. Note that macros will not work in Excel 2008 for Mac.

The LESAT Calculator consists of the following 11 worksheets.

1 – Data Entry Sheet

The Data Entry Sheet is an input sheet for recording scores provided by individual respondents:

- Enter the name of your enterprise in cell B1 and the date of assessment in cell B2. They will be copied automatically to all other worksheets in the workbook.
- Enter current and desired scores for each enterprise practice as provided by individual respondents in columns (starting with column D). One column corresponds to one respondent.
- This worksheet is designed to record the scores of up to 30 respondents.
- If there are fewer than 30 respondents, fill in the columns that correspond to the actual number of respondents and leave the other columns empty (do not enter “0” or any text).
- If there are more than 30 respondents, you can add additional columns. However this will require changes to the formulas in the subsequent worksheets.
- The minimum possible score is 1, and the maximum possible score is 5.
- In case a respondent has not provided scores for all practices, leave cells corresponding to unscored practices empty (do not enter “0” or any text).
- Make sure that the current state score is not larger than the desired state score. If larger, ensure that this is not a mistake (e.g., the respondent has misunderstood the scoring instructions). Ask the respondent to change scores, or enter a desired state score that is not smaller than the current state score.

2 – Current State Summary

The Current State Summary is a summary worksheet for reviewing and analyzing the current state scores.

- This is not an input worksheet. All data is fed, through formulas, from the Data Entry Sheet.
- Column C contains mean current state score, which is the average of current state scores provided by all respondents for each enterprise practice.
- Column D contains the variance of current state scores provided by all respondents for each practice. The variance represents how widely individual scores are spread around the mean score. The minimum possible value for variance is 0, i.e., all respondents have provided the same score for the practice. The higher the value for variance, the greater the disagreement among individual respondents.
LESAT Facilitator’s Guide

- Column **E** contains a range of current state scores, i.e., the difference between the highest and the lowest score. As with the variance, the larger the range, the greater the disagreement among individual respondents.
- Columns **F** through **J** contain tallies of individual current state scores, i.e., how many respondents assessed the practice at each capability level. The sum of tallies in columns **F** through **J** should be equal to the total number of respondents whose scores were entered into the *Data Entry Sheet* (less the number of respondents who did not score the practice).
- This worksheet also contains average scores for each LESAT Subsection (e.g., row 10) and Section (e.g., row 45) and the LESAT overall average score (row 95). Summary of these average scores can also be found in *worksheet 5 – Section Averages*.

3 – Desired State Summary

The *Desired State Summary* is a summary worksheet for review and analysis of desired state scores.

- This is not an input worksheet. All data is fed, through formulas, from the *Data Entry Sheet*.
- Column **C** contains mean desired state score, which is the average of desired state scores provided by all respondents for each enterprise practice.
- Column **D** contains the variance of desired state scores, provided by all respondents for each practice. The variance represents how widely individual scores are spread around the mean score. The minimum possible value for variance is 0, i.e., all respondents have provided the same score for the practice. The higher the value for variance, the higher the disagreement among individual respondents.
- Column **E** contains range of desired state scores, i.e., the difference between the highest and the lowest score. As with the variance, the larger the range, the higher the disagreement among individual respondents.
- Columns **F** through **J** contain tallies of individual desired state scores, i.e., how many respondents assessed the practice at each capability level. The sum of tallies in columns **F** through **J** should be equal to the total number of respondents whose scores were entered into the *Data Entry Sheet* (less the number of respondents who did not score the practice).
- This worksheet also contains average scores for each LESAT Subsection (e.g., row 10) and Section (e.g., row 45) and the LESAT overall average score (row 95). Summary of these average scores can also be found in *worksheet 5 – Section Averages*.

4 – Gap Summary

The *Gap Summary* is a summary worksheet for review and analysis of gaps, i.e., the difference between the desired and current state scores.

- This is not an input worksheet. All data is fed, through formulas, from the *Data Entry Sheet*.
- Column **C** contains mean gap, which is the average of gaps between desired and current state scores provided by all respondents for each enterprise practice. The minimum possible value for gap is 0, i.e., same current and desired state scores. The maximum
possible value for gap is 4, i.e., the difference between the highest possible desired state score (5) and the lowest possible current state score (1).

- Column D contains variance of gaps, which resulted from scores provided by all respondents for each practice. Variance represents how widely individual gaps are spread around the mean gap. The minimum possible value for variance is 0, i.e., all respondents have provided the same scores for the practice. The higher the value for variance, the higher the disagreement among individual respondents.
- Column E contains range of gaps, i.e., the difference between the highest and the lowest gap. As with the variance, the larger the range, the higher the disagreement among individual respondents.
- Columns F through I contain tallies of individual gaps, i.e. how many respondents’ scores have resulted in each possible gap. The sum of tallies in columns F through I should be equal to the total number of respondents, whose scores were entered into the Data Entry Sheet (less the number of respondents who did not score the practice).
- This worksheet also contains average scores for each LESAT Subsection (e.g. row 10) and Section (e.g., row 45) and the LESAT overall average score (row 95). Summary of these average scores can also be found in worksheet 5 – Section Averages.

5 – Section Averages

The Section Averages is a summary worksheet for review of average scores for each LESAT Subsection and Section and for the overall LESAT scores.

- This is not an input worksheet. All data is fed, through formulas, from the three previous worksheets Current State Summary, Desired State Summary and Gap Summary.
- Columns B through D contain mean of average current and desired state scores and gaps.
- Columns E through G contain variance of average current and desired state scores and gaps.
- Please note that data provided in this worksheet is indicative of general distribution of scores among subsection and section. We do not recommend using this data for detailed analysis. Use practice scores instead; this will increase the assessment benefits.

6 – Graphs

The Graphs worksheet contains three graphs that can be used for initial analysis of assessment results in Phase Three of the assessment process.

- This worksheet does not contain input data. The graphs are based on the data stored in the 11 – Analysis Input Data worksheet.
- The Current State Maturity and Gap graph is a bar chart that indicates the level of current state score and the gap for each practice. The lower portion of each bar (colored in blue) represents the current state score. The upper portion of each bar (colored in red) represents the gap. The total height of the bar corresponds the desired state score.
- The Variance in Current State Scores graph is a bar chart that indicates the level of variance for each practice. A shorter bar represents higher alignment of scores for the corresponding practice. A longer bar represents higher disagreement among respondents for the corresponding practice.
LESAT Facilitator’s Guide

- The Gap between Current State and Desired State Maturity graph is a bar chart that represents gaps between desired and current state scores for each practice. A shorter bar represents a smaller gap and indicates a perception that the corresponding practice is of low importance. A longer bar represents a larger gap and indicates a perception that the corresponding practice is of greater importance.
- In the original LESAT Calculator the graphs present data sorted in the order of practices (from I.A.1 to III.B.3). Should you wish to present ranking of practices by current state score, gap or variance, then re-sort data in the 11 – Analysis Input Data worksheet.
- For better visual presentation, you may want to adjust vertical axis scales, e.g., decrease or increase its maximum value and major unit so that they better correspond to your enterprise’s actual scores.

7 – SWOT Analysis

The SWOT Analysis worksheet is intended for detailed analysis of assessment result. It allows you to identify currently strong and weak areas of the enterprise as well as opportunities for improvement and threats that must be addressed.

- Enter decision criteria for analysis in cells B8:C11. For explanations refer to Example 1 in Phase Four, Evaluate Assessment Results.
- The SWOT Analysis graph is a scatter diagram that plots current state scores (horizontal axis) vs. gaps (vertical axis). The graph is based on the data stored in the 11 – Analysis Input Data worksheet.
- The graph provides visual presentation of distribution of practices between the four quadrants (Strengths, Weaknesses, Opportunity, Threats). The background is indicative of the four quadrants’ location. However, the quadrants’ borders may not correspond to the actual thresholds chosen for the decision criteria, and thus should be viewed as guidance only.
- Enterprise practices matching decision criteria are listed below the graph from line 45 downward. To update the list of practices, press the Filter Practices button. This will activate a macro.

8 – Alignment Analysis

The Alignment Analysis worksheet is intended for detailed analysis of assessment result. It allows you to identify the level of consensus among respondents and opportunities for improvement.

- Enter decision criteria for analysis in cells B8:C11. For explanations refer to Example 2 in Phase Four, Evaluate Assessment Results.
- The Alignment Analysis graph is a scatter diagram that plots variance (horizontal axis) vs. gaps (vertical axis). The graph is based on the data stored in the 11 – Analysis Input Data worksheet.
- The graph provides visual presentation of distribution of practices between the four quadrants (Low Alignment, Low Priority, Open Discussion, Fertile Ground). The background is indicative of the four quadrants’ location. However, the quadrants’ borders may not correspond to the actual thresholds chosen for the decision criteria, and thus should be viewed as guidance only.
9 – 3-Dimensional Analysis

The 3-Dimensional Analysis worksheet is intended for detailed analysis of assessment result. It allows users to identify opportunities for improvement based on three dimensions: current state performance, variance, and gap.

• Enter decision criteria for analysis in cells C9:C10, F9:F10 and I9:I10. For explanations refer to Example 3 in Phase Four, Evaluate Assessment Results.
• All enterprise practices are listed from row 16 downward.
• Practices matching the provided decision criteria will have the appropriate interpretation of scores listed in columns D, G and J.
• Should you wish to present ranking of practices by current state score, gap or variance, then re-sort data in the 11 – Analysis Input Data worksheet.

10 – Analysis

The Analysis worksheet is intended for detailed analysis of assessment result. It allows you to identify enterprise practices matching decision criteria based on three dimensions: current state performance, variance, and gap.

• Enter decision criteria for analysis in cells B6:D6.
• Enterprise practices matching decision criteria are listed from line 13 downwards. To update the list of practices, press the Find Matching Practices button. This will activate a macro.
• Should you wish the present the list of practices in a different order (e.g., sorted by the current state score), use the built-in Sort function in Excel.

11 – Analysis Input Data

The Analysis Input Data worksheet contains input data that is used for graphs and detailed analysis of assessment results.

• This is not an input worksheet. All data is fed, through formulas, from the three previous worksheets Current State Summary, Desired State Summary and Gap Summary.
• In the original LESAT Calculator the data is sorted in the order of practices (from I.A.1 to III.B.3). Should you wish to present ranking of practices by current state score, gap or variance, then re-sort data using the built-in Sort function in Excel. When using the Sort function, make sure to choose whole rows, rather than columns or individual cells.