Australian Government

Australian Grape and Wine Authority

A simple guide to LEAN for the wine industry



FINAL REPORT to
AUSTRALIAN GRAPE AND WINE AUTHORITY

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Abstract

The Lean Guide offers a practical introduction to lean production concepts and techniques for Australian wineries. This guide will help wine businesses implement practices to improve their productivity, reduce their costs and improve their business resilience. During consultation with industry, the need for a simple guide to the lean technique was identified as one way of improving profitability in the wine sector. While some wineries have already sourced information about 'Lean' production principles, primarily through consultants or other sources, and then adapted the principles to their own circumstances, there is a view that many of these existing resources focus on the methods and language (e.g. jargon) rather than the outcomes, and this is barrier to uptake. The development of this Lean Guide is intended to provide the wine industry with a tool that will allow all scales of operation to understand adopt and benefit from the principles of 'Lean' manufacturing.

Executive Summary

Through previous engagement with stakeholders, the Australian Grape and Wine Authority (AGWA) have identified the need for a simple 'Lean Guide' that interprets the Lean technique in the context of the wine industry. While some wineries have already sourced information about Lean production principles, primarily through consultants or other sources, and then adapted the principles to their own circumstances, there is a view that many of these existing resources focus on the methods and language (e.g. jargon) rather than the outcomes, and this is barrier to uptake. Development of the Lean Guide is intended to provide the wine industry with a resource that will allow all scales of operation to adopt and benefit from the principles of Lean manufacturing.

The objectives of this project were to:

- Develop a simple Lean Guide for the wine industry, in a format that uses plain and empathetic language, and contain relevant illustrative examples, in order to be approachable and readily accessible and adoptable by the wine industry
- Recommend an appropriate extension strategy and plan for accelerating the uptake of Lean practices in the industry through the dissemination of the Guide and supporting materials.

The Lean Guide project has involved the development of the following deliverables:

- The Lean Guide (downloadable e-document in .pdf format)
- Three case studies of Australian wineries successfully implementing Lean practices (accessible via the Lean Guide)
- Lean Guide Extension Strategy, Delivery Plan & Risk Assessment
- Final Project Report
- Summary report for AGWA website (this document)
- Industry trade journal article.

Some important notes about the scope and structure of the Lean Guide:

- The Guide provides an introduction to Lean Production techniques and some initial guidance on how to apply them to a winery context
- It is not the intention of the Guide to convert operations and management staff into experts in Lean Production; instead the Guide aims to provide enough knowledge about Lean Production such that wineries can make more informed decisions about whether to pursue Lean, what tools/techniques might be relevant and what further steps may be required to implement Lean Production in their operations.
- The Lean Guide presents a core set of Lean techniques and tools that will be relevant to most wineries of all scales and business models. Wineries may discover, however, that some tools are less relevant than others – the Guide provides the means for wineries to 'pick and choose' the techniques they wish to use.

- The Guide is structured such that updates (such as case studies, templates, resources etc.) can be made to the 'Toolbox' section of the Guide, or uploaded to and downloadable from the AGWA website

It is expected that the Lean Guide will be extended over the 2014-15 and 2015-16 financial years, using some of the suggestions outlined in the Lean Guide Extension Delivery Plan, which has been constructed with guidance from the following sources of extension-related information:

- The Lean Guide Extension Strategy
- Feedback from the wine industry
- Engagement with potential 'extension support' stakeholders
- Reflections on the issues/challenges encountered throughout the development of the Lean Guide.

Project Scope & Objectives

Project Scope

Through previous engagement with stakeholders, the Australian Grape and Wine Authority (AGWA) have identified the need for a simple 'Lean Guide' that interprets the Lean technique in the context of the wine industry. While some wineries have already sourced information about Lean production principles, primarily through consultants or other sources, and then adapted the principles to their own circumstances, there is a view that many of these existing resources focus on the methods and language (e.g. jargon) rather than the outcomes, and this is barrier to uptake. Development of the Lean Guide is intended to provide the wine industry with a resource that will allow all scales of operation to adopt and benefit from the principles of Lean manufacturing.

Project Objectives

The objectives of this project were to:

- Develop a simple Lean Guide for the wine industry, in a format that uses plain and empathetic language, and contain relevant illustrative examples, in order to be approachable and readily accessible and adoptable by the wine industry
- Recommend an appropriate extension strategy and plan for accelerating the uptake of Lean practices in the industry through the dissemination of the Guide and supporting materials.

Key Activities

Key activities for this project were executed under eight key steps:

1. **Confirmation of project plan and select industry performers**
    - Confirm project scope and plan
    - Identification of leading 'Lean' wineries.

2. **Preparation of Lean Guide concepts and structure**
    - Review of Lean techniques and methods and interpret definitions
    - Development of 'Lean Glossary' for the wine industry
    - Development of 'Roadmap to Implementing Lean' structure and broader Guide structure
    - Development of summary document to aide industry engagement.

3. **Industry engagement to test Guide concept, structure and proposed features**
    - One-on-one meetings with each winery
    - Development of case studies and Lean Guide structure refinements.

4. **Preparation of Lean Guide extension strategy**
    - Development of extension strategy
    - Development of risk and evaluation plan.

5. **Preparation of draft concepts for format and content of Lean Guide**
    - Preparation of format options for Lean Guide (graphical design)
    - Preparation of content options for Lean Guide
    - Preparation of draft Lean Guide content for industry testing.

6. **Guide testing and industry participation**
    - One-on-one meetings with each winery to test the draft Lean Guide
    - Incorporation of industry feedback and refinements made to Lean Guide
    - Development of final (graphical) version of Lean Guide.

7. **Options for extension delivery**
    - Development of extension delivery plan
    - Review of extension delivery plan with AGWA
    - Refinement and completion of extension delivery plan.

8. **Reporting and publications submitted to AGWA**
    - Develop final project report
    - Provide completed Lean Guide to AGWA
    - Development of supporting publications (summary report for AGWA website and industry trade journal article)
    - Development of three case studies.

Project deliverables

The completed project has submitted to AGWA the following deliverables:

- The Lean Guide (download from http://research.agwa.net.au/wp-content/uploads/2014/10/AGWA-Lean-Guide_FINAL1.pdf)
- Three case studies of Australian wineries successfully implementing Lean practices (incorporated within the Lean Guide A)
- Extension Strategy (refer to Appendix B)
- Extension Delivery Plan (refer to 'Recommended Next Steps' section in this report)
- Extension Delivery Risk Assessment (refer to Appendix C)
- Final Project Report (this document)
- Summary report for AGWA website
- Industry trade journal article

Recommended Next Steps: Delivery of Lean Guide Extension Plan

2XE recommends that AGWA proceed with the extension of the Lean Guide, as per the Extension Delivery Plan. The purpose of this Extension Delivery Plan is to provide a recommended course of action relating to the introduction, distribution and ongoing use of the recently developed Lean Guide to the Australian wine industry. This Extension Plan has been constructed with guidance from the following sources of extension-related information:

1. **The approved AGWA Lean Guide Extension Strategy**, which consists of an Extension Options Framework outlining a suite of potential extension activities based on:
   a. Two types of 'adoption pathways', which define how the Lean Guide will get delivered to the industry ('Do-it-yourself' versus 'Assistance-based')
   b. Three stages of 'business maturity', which categorises extension activities based on a business' level of interest and prior knowledge of Lean practices.

   (Refer to Appendix B for the AGWA Lean Guide Extension Strategy)

2. **Feedback from the wine industry,** which was received throughout the development and early-testing of the Lean Guide, and consisted of comments and suggestions provided by wine businesses as to the most preferred methods for accessing and using the Lean Guide and supporting materials. Initial feedback indicates that while most wineries feel that a stand-alone Lean Guide is useful for accessing information and raising awareness, the most preferred method of extension relates to those activities that assist with the implementation of Lean Practices (e.g. access to one-on-one advice or tools/templates).

3. **Engagement with potential 'extension support' stakeholders** who may be able to assist AGWA with extending the Lean Guide to the market, such as state-based Industry Associations, State Government departments, and Lean consultants. This engagement process investigated how each set of stakeholders could provide reliable 'routes to market', facilitation services (e.g. hosting workshops and seminars), or offer the means to extend the Lean Guide through existing business productivity/process efficiency support programs that are currently active and servicing the wine industry (e.g. NSW Office of Environment and Heritage's *Sustainability Advantage Program*, or Zero Waste SA's *Industry Program*). As a result of this engagement process, a number of the extension activities listed in this plan have included the role of some of these stakeholders to aide extension of the Lean Guide to the broader industry.

4. **Reflections on the issues/challenges encountered throughout the development of the Lean Guide**, and in particular those related to the relevance of Lean production in wineries. Overall, Lean production has been viewed (by both the industry and stakeholders) as an extremely relevant and useful set of management practices to boost productivity, control quality and reduce costs. However the development of the Lean Guide has found that the relevance and applicability of certain Lean tools and techniques to the wine industry depends on a number of factors, including:
   - Winery size
   - Whether the winery has in-house bottling facilities
   - Whether the winery owns their own vineyards
   - Whether the winery is organic or biodynamic
   - Level of demand in the market
   - Types of equipment used.

   For this reason, the proposed Extension Plan incorporates a series of extension activities that relate to the "piloting" of the Lean Guide, which provide the means to work closely with the industry to trial the Lean Guide and supporting materials (and refine Lean Guide content, including additional case studies), observe the process of implementation and monitor/benchmark the performance results that come from implementing Lean practices in a winery operation. This process ensures that the Lean Guide and supporting materials are 'field-tested' and refined to remain relevant to the industry in the medium-term (particularly given that, based on preliminary web searches, the Lean Guide may be the first of its kind for the wine industry globally).

Extension Delivery Plan: Snapshot

The objectives of this Extension Plan are to:

- Provide the most effective means of stimulating uptake of the Lean Guide and lean practices by the Australian wine industry
- Engage the appropriate stakeholders to accelerate extension
- Foster ongoing lean practices and improvement by the wine industry to reduce operating costs and improve productivity.

The Extension Plan has been sub-divided into two sets of activities:

- 2014-15 Extension Activities
- 2015-16 Extension Activities.

2014-15 Extension Activities

Extension Activities	July – September 2014	October – December 2014	January – March 2015	April – June 2015
1. Set-up host page				
2. Disseminate media release				
3. Establish contact with 'extension' stakeholders				
4. Run national Lean Guide info seminars				
5. Develop supporting Lean materials				
6. Collaborate with State/Federal support programs				
7. Run a series of Lean Guide workshops				
8. Consolidate feedback and refine Guide/materials				

2015-16 Extension Activities

The particular structure of this component of the plan is to be determined based on the confirmation/approval of the 2014-15 plan by AGWA, however a number of potential activities have been suggested for the 2015-16 financial year (assuming the full completion of activities proposed in the 2014-15 financial year).

Extension Plan: Detailed breakdown of activities

2014-15 Extension Activities

Extension Activity	Timing	Stakeholders Involved	Preparatory Activities
1. Set-up a host page to house the downloadable .pdf version of the Lean Guide on the AGWA website.	October 2014	AGWA – Internal (IT and comms team)	• Confirm completed and approved version of the Lean Guide and supporting materials • Prepare introductory text to explain the Lean Guide (to be used as text on the web page)
2. Develop and disseminate media release/notice in newsletters announcing the availability of the Lean Guide on the AGWA website.	October 2014	AGWA – Internal (IT and comms team)	• Prepare media release • Prepare a list of contacts to distribute the media release • Prepare notice for AGWA newsletter
3. Establish contact with key stakeholders that may assist AGWA with extending the Lean Guide to the market – discuss collaborative opportunities.	October 2014	• Industry associations (e.g. WFA, SAWIA, Wine Vic) • State govt. departments (e.g. NSW Office of Environment & Heritage, Sustainability Victoria, Zero Waste SA, PIRSA) • Lean consultants and networks (e.g. Lean Enterprise Australia, 2XE)	• Develop shortlist of key stakeholders • Make initial contact to discuss the Lean Guide, possible extension avenues and collaboration opportunities to aide with the dissemination of the Lean Guide to the wine industry • Decide on the model of collaboration with each type of stakeholder (e.g. formal partnership with industry associations to roll-out the Lean Guide) Either coordinated internally (AGWA staff) or on behalf of AGWA by an external service provider
4. Coordinate series Lean Guide information seminars in each of the major wine-producing states (NSW, Vic, Tas, SA, WA) to introduce the Lean Guide. Use workshops as a form of 'breadth-wise' pilot testing of the Lean Guide – obtain feedback and suggestions for improving the Lean Guide and supporting materials.	October - November 2014	• Extension stakeholders (refer to Activity 3 above) • Either AGWA or external service provider to deliver	• Set dates for October - November seminars (complete in first week of September) • Confirm participation of extension stakeholders • Confirm host venues • Distribute invitations to seminar (over mid-Sept) Either coordinated internally (AGWA staff) or on behalf of AGWA by an external service provider.

Extension Activity	Timing	Stakeholders Involved	Preparatory Activities
5. Develop supporting materials (templates, checklists, staff training materials etc.) to assist wineries with the implementation of the techniques and practices covered in the Lean Guide. Development of supporting materials may also include the development of a Lean Guide for Vineyards (given that the current Lean Guide scope is constrained to wine production and processing).	October 2014 – March 2015	• Either done internally (AGWA) or by external service provider	• Confirm scope of materials development • Develop and test usefulness of materials (in conjunction with the Pilot activities covered in Activity 4, 6 and 7) Either coordinated internally (AGWA staff) or on behalf of AGWA by an external service provider
6. Discuss and collaborate with State and Federal Government agencies on how the Lean Guide can be used in conjunction with one-on-one support programs to assist wineries with the implementation of Lean practices. Use this collaboration as a form of 'depth-wise' pilot testing of the Lean Guide (i.e. with individual wineries through one-on-one support) – obtain feedback and suggestions for improving the Lean Guide and supporting materials.	July 2014 – June 2015	Current State and Federal Government support programs for businesses e.g. • Sustainability Advantage Program (NSW Office of Environment & Heritage) • Industry Program (Zero Waste SA) • Smarter Resources, Smarter Business Program (Sustainability Victoria) • Enterprise Connect (Federal) • Regional Development Australia (Federal State-based industry associations may be used as a conduit to access support for wineries via these Programs.	• Review existing State and Federal Government business support programs and how they can be used to assist wineries with implementing practices suggested in the Lean Guide • Contact relevant Program Managers and discuss collaboration opportunities • Explore how State-based Industry Associations can be used to help wineries access business support programs to implement the Lean Guide Either coordinated internally (AGWA staff) or on behalf of AGWA by an external service provider Note: 2XE is currently 'piloting' the Lean Guide structure with Brokenwood Wines under the NSW OEH *Sustainability Advantage Program*, 'Green Lean Wineries' initiative.

Extension Activity	Timing	Stakeholders Involved	Preparatory Activities
7. Run a series of AGWA Lean Guide workshops or 'master classes' to provide guidance on how to implement the practices covered in the Lean Guide Use these workshops as a form of 'breadth-wise' pilot testing of the Lean Guide – obtain feedback and suggestions for improving the Lean Guide and supporting materials.	April – June 2015	Delivery of workshops led by AGWA and/or with support by external service providers. Engage 'extension stakeholders' to assist with dissemination of invitations and workshop hosting	• Set dates for April - June workshops • Confirm participation of extension stakeholders • Confirm host venues • Distribute workshop invitations Either coordinated internally (AGWA staff) or on behalf of AGWA by an external service provider
8. Consolidate feedback received by industry and stakeholders over all previous activities and use to refine the Lean Guide and supporting materials.	June 2015	Internally (AGWA) and/or with support by external service providers	Consolidation of feedback throughout the timeline of the 2014-15 Extension Plan

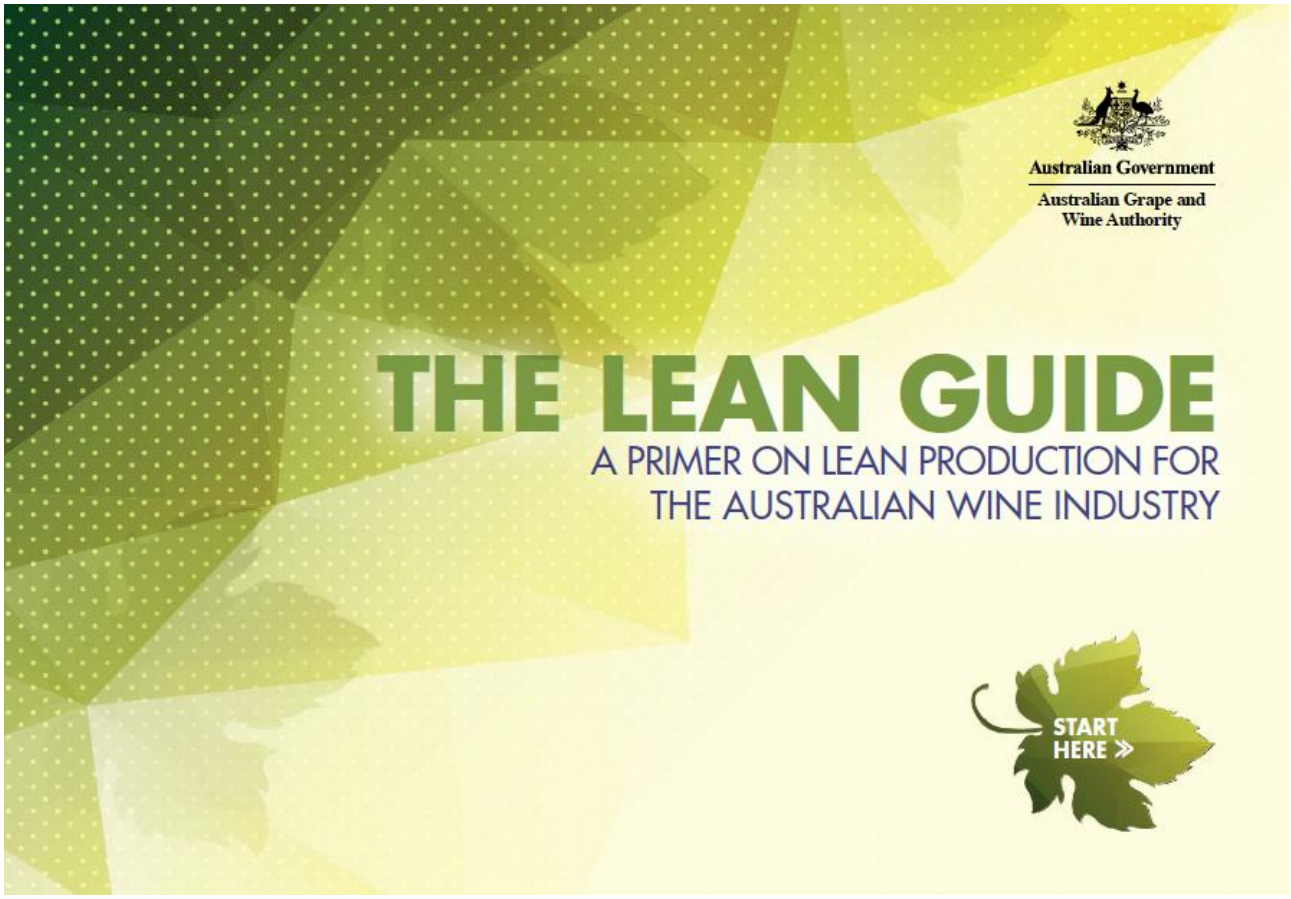
2015-16 Extension Activities

The particular structure of this plan is to be determined based on the confirmation/approval of the 2014-15 plan by AGWA, however the following activities could form the basis of the 2015-16 Extension Plan (assuming the proposed 2014-15 extension activities have been completed):

- On-site 'Guide walkthrough' with a winery that has successfully adopted Lean
- Case studies demonstrating best practice in lean applied to the wine industry
- Development of a Lean Guide phone app or iPhone-friendly version of the online portal hosting the Lean Guide.
- Ongoing Lean Guide training workshops
- Development of a 'lean wineries network', allowing the industry to get together to share experiences and ideas regarding Lean implementation
- Ongoing update of the portal/page hosting the Lean Guide, including additional case studies, articles, blogs and discussions related to aspects of integrating Lean
- Development of tools and benchmarks to assist the industry with continuous improvement through lean
- Public recognition of wineries exhibiting best practice in lean (e.g. through industry or regional associations).

Appendix A: AGWA Lean Guide

(download at http://research.agwa.net.au/wp-content/uploads/2014/10/AGWA-Lean-Guide_FINAL1.pdf)



Appendix B: AGWA Lean Guide Extension Strategy

Overview

The primary objective of the Lean Guide Extension Strategy is to provide the most appropriate way forward for encouraging the uptake and successful application of lean principles and practices in winery operations across Australia.

With the Lean Guide as the central source of content, AGWA has the choice of a variety of extension pathways commonly used by the wine industry to disseminate information and encourage the adoption of Lean practices. Choosing the most appropriate pathway is dependent on a number of elements, including:

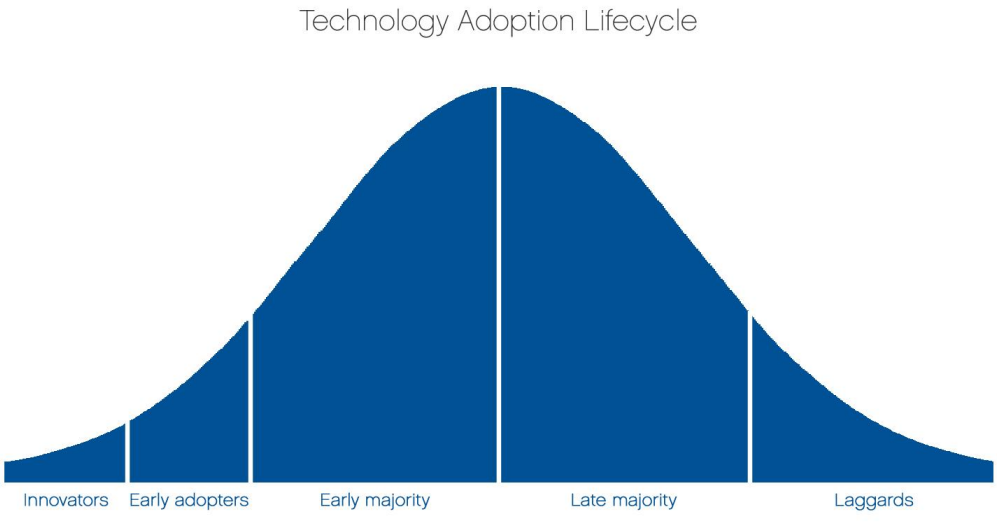
1. Defining the target market (our audience)
2. Understanding what leads to a successful extension of business improvement materials in the wine industry (based on what has worked in the past)
3. The level of interest that businesses have in adopting lean (i.e. those that are interested in learning how to apply Lean in their operations, versus those that simply want some introductory information)
4. The extent to which businesses want 'Do It Yourself' materials, versus those that prefer tailored support packages.

The Lean Guide Extension Strategy outlined in this document addresses these elements, and provides a Strategic Framework for assisting AGWA with choosing the most appropriate extension pathways for which to proceed with planning.

1. Defining the target market

The content and structure of the Lean Guide is targeted at the 'decision-maker' level of winery operations (i.e. CEOs, owner/operators, Operations/Plant Managers), and specifically suited to wineries, contract processing and bottling facilities. The Lean Guide is not structured to provide guidance specifically to vineyard managers, however some of the suggestions contained within the Guide may be picked up for the application to this audience.

As in any industry, the adoption lifecycle of technologies and practices (such as Lean) in the wine industry occurs at various extents and speeds – with the more innovative businesses being the first to adopt a new technology, and the laggards typically being the last (if at all). Figure 1 below provides an overall representation of this 'technology adoption lifecycle.



The Technology Adoption Lifecycle was developed by Joe M. Bohlen, George M. Beal and Everett M. Rogers at Iowa State University built on earlier research conducted there by Neal C. Gross and Bryce Ryan.

Figure 1. Technology Adoption Lifecycle

In line with the technology adoption lifecycle, the Lean Guide extension strategy shall be targeted towards both the 'Early adopters' and the 'Early majority' wine businesses in the industry:

- The *early adopters* represent a relatively small proportion of the industry who are highly proactive, well-resourced and self-sufficient in adopting new technologies and practices. Once new information (such as the Lean Guide) is provided to them, they are generally quick to determine how to apply such information to their operations, and implement new technologies and practices with a 'do it yourself' mindset. They are considered 'fast followers' to the Innovators of the industry, and are a critical bridge between turning an innovative idea into a commercially available solution for the industry.
- The *early majority* represent a much larger proportion of the industry that is generally proactive in adopting new technologies and practices, given that these practices have been proven to work and are commercially available. They are not considered as self-sufficient (or as well-resourced) as the *early adopters*, with many preferring to access external forms of support in order to assist them with implementing new technologies and practices such as Lean.

The Lean Guide extension strategy shall not target:

- *Innovators* – these businesses would have already adopted Lean practices some time ago and may not benefit from using the Lean Guide
- *Late majority* – while these businesses would benefit from the Lean Guide, they are somewhat reactive and resistive to new technologies and practices. Extension activities designed to 'convince' the late majority would require significant effort for (potentially) little gain – such businesses are better influenced through the progress demonstrated by *Early majority* businesses.
- *Laggards* – these businesses are highly resistive to change, and are typically amongst the last (if at all) of the industry to adopt new technologies and practices. It is expected that the level of interest in the Lean Guide among theses businesses will be very low.

2. Understanding what will lead to a successful extension of the Lean Guide in the wine industry

Based on previous examples of successful extension programs of Guides, toolkits and other similar materials targeted towards the *early adopters* and *early majority* businesses of the wine industry (such as the SA Wine Industry Association's *Winery Energy Saver Toolkit*), the following features are important to consider as part of the Lean Guide extension strategy and roll-out:

- **Endorsement by trusted stakeholders**. The extension strategy should obtain the endorsement of the Lean Guide by stakeholders trusted by the wine industry (such as industry associations and State government agencies), as this will boost credibility of the guide and accelerate up-take.
- **Alignment with existing service delivery programs**. Many State Government agencies and industry associations have existing programs in place to assist the wine industry with boosting productivity and reducing waste; working with these programs to integrate the Lean Guide as part of an existing service delivery (or capital grants) program to the industry will boost uptake and take advantage of existing program structures, resources and sources of funding.
- **Fostering of peer-to-peer learning.** Businesses are more likely to use the Lean Guide and adopt lean practices if they can learn from and engage with other wineries that have successfully implemented Lean.
- **Considering implementation over the long-term**. Implementing business improvement programs such as Lean requires a concerted effort by businesses over a length of time (typically 12 months or more). The Extension Strategy must therefore provide extension activities (or link to existing service delivery programs) that provide support to businesses (either in a group format or one-to-one support) over a longer period of time, to support uptake and achieve successful outcomes that the broader industry can learn from and use as a source

of motivation to use the Guide for adopting lean practices.

3. Extension Options Framework

Based on the target audience and previous examples of successful extension programs, an Extension Options Framework is outlined below that provides a suite of potential extension activities for taking the Lean Guide to the industry.

The Extension Options Framework consists of two key components:

1. Two types of 'adoption pathways', which define how the Lean Guide will get delivered to the industry:
    - ***Do-it-yourself pathway*** – extension activities where the businesses themselves learn how to apply Lean practices on their own by using the Lean Guide. Types of delivery formats that support this pathway include workshops, webinars, access to an online portal, YouTube clips depicting how to apply particular tools, or even an on-site 'Guide walkthrough' with a winery that has successfully adopted Lean (such that wineries can get a practical appreciation for how Lean is applied to wine production).
    - ***Assistance-based pathway*** – extension activities where the industry receives assistance with using/implementing the Guide through a third party e.g. via existing industry support programs offered by State and Federal government departments, or the adoption of the Lean Guide by service providers to the wine industry such that they can learn how to deliver Lean to the industry in an appropriate manner. Done in this way, the Lean Guide becomes a tool for service providers, as well a resource for the wine industry.

2. Three stages of 'business maturity', which categorises extension activities based on a business' level of interest and prior knowledge of Lean practices:

    - **Awareness** – extension activities that focus on raising the industry's level of interest in and awareness of the Lean Guide and benefits of adopting lean practices.
    - **Application** – extension activities that provide detailed guidance on how to apply lean practices (and the Lean Guide) to improve the productivity of their operations.
    - **Adaptation** – extension activities that assist with the ongoing integration of lean practices over a longer period of time, to enable lasting change to occur.

The Options Extension Framework is outlined in Table 1 below.

Table 1. Lean Guide Extension Options Framework[1]

<table>
<tr><th>Adoption Pathway</th><th>Awareness</th><th>Application</th><th>Adaptation</th></tr>
<tr><td>Do-It-Yourself</td><td rowspan="2">• Lean Guide information sessions (AGWA)
• Online portal/page hosting the Lean Guide
• Case studies demonstrating best practice in lean applied to the wine industry
• Integration of Lean Guide within existing information programs offered by Industry Associations, regional bodies
• Media Releases/articles in newsletters/journals on the availability of the guide
• Presentation of the Lean Guide at conferences
• Development of a Lean Guide phone app or iPhone-friendly version of the online portal hosting the Lean Guide.</td><td>• Development of supporting materials (templates, checklists, staff training materials etc.) to assist wineries
• AGWA Lean Guide Workshops
• AGWA Seminars/Webinars
• YouTube Clips on how to implement Lean in wineries
• On-site ‘Guide walkthrough’ with a winery that has successfully adopted Lean</td><td>• Ongoing Lean Guide training workshops
• Development of a ‘lean wineries network’, allowing the industry to get together to share experiences and ideas regarding Lean implementation
• Ongoing update of the portal/page hosting the Lean Guide, including additional case studies, articles, blogs and discussions related to aspects of integrating Lean
• Development of tools and benchmarks to assist the industry with continuous improvement through lean
• Public recognition of wineries exhibiting best practice in lean (e.g. through industry or regional associations)</td></tr>
<tr><td>Assistance-based</td><td colspan="2">• Use of Lean Guide in one-on-one support programs (delivery of lean support to wineries) currently offered at the State and Federal Government Levels e.g.
- Sustainability Advantage Program (NSW Office of Environment & Heritage)
- Industry Program (Zero Waste SA)
- Smarter Resources, Smarter Business Program (Sustainability Victoria)
- Enterprise Connect (Federal)
- Regional Development Australia (Federal)
• Dissemination of the Lean Guide to existing service providers to the industry (such that they can deliver support to wineries if they prefer an external service provider)
• Use of Lean Guide as a means of identifying opportunities for major capital works (to proceed with applying for grant funding where appropriate)</td></tr>
</table>

[1] Please note that this Framework provide a non-exhaustive list of extension options.

Appendix C: Extension Delivery Risk Assessment

The attached 'Appendix C - AGWA Lean Guide Risk Register.xls' provides a register of the key risks to AGWA associated with the roll-out of one or more of the extension activities outlined in the 2014-15 an 2015-16 Extension Plans, and possible control strategies to mitigate these risks.[2]

Choosing the appropriate method and metrics for evaluating the performance of the Lean Guide extension is highly dependent on which extension activities are selected to proceed with the extension delivery plan. However most of the extension options outlined in the proposed Extension Plan can be evaluated through both quantitative and qualitative means over the short- and long-term (refer to table below).

	Short-term	**Long-term**
Quantitative	• Number of attendees at Lean Guide seminars, workshops, webinars, site visits • Number of hits on GWRDC Lean Guide webpage; number of downloads of the Lean Guide, case studies and supporting materials • Number of businesses agreeing to participate in assistance-based extension activities (i.e. via State or Federal Govt. programs) • Number of service providers using the Lean Guide	• $$ saved through adoption of Lean practices • $$ invested in facility upgrades for implementing Lean practices • Number of wineries across Australia actively adopting lean practices • Number of service providers actively using the Lean Guide
Qualitative	• Industry feedback (via surveys and during workshops) of the usefulness/ relevance of the Lean Guide and supporting materials • Overall level of interest in the Lean Guide by industry and other stakeholders (e.g. government, educational etc.)	• Industry feedback (via surveys and during workshops) of the usefulness/ relevance of the Lean Guide and supporting materials • Overall level of interest in the adoption of lean practices • Referencing of the Lean Guide by other sources • The level of direct/indirect influence that the Lean Guide and supporting materials has on industry programs or industry policy (at a State or Federal government level).

[2] Note that this register provides a non-exhaustive list of key risks; the register can be used as a live document for noting additional risks and for monitoring and updating the risk levels as new control strategies are defined.