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Benchmarking winery production

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Provisor Pty Ltd

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Benchmarking

- Background on benchmarking
- National benchmarking project
- Benchmarking unit operations
- Benefits

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What is Benchmarking?

Benchmarking is a process used in which organizations evaluate various aspects of their processes in relation to best practice, usually within their own sector.

This then allows organizations to develop plans on how to adopt such best practice, usually with the aim of increasing some aspect of performance.

Some popular and unusual benchmarks

Helen of Troy – The face that launched a thousand ships

1983 Brabham BMW F1 developed 1500 bhp from 1.5 litre turbocharged engine

2006 France had the highest per capital consumption of wine at 53.7 litres/person/yr (Aust. 22.5)

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Automotive industry benchmarking

Many aspects were benchmarked extensively in the 1980's

Comparisons were formulated to remove variables such as currency and cost of labour

A typical measure is man-hours per unit built

Studies performed on cost of automation to achieve "best practice" man-hours per unit

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National Benchmarking Project Plan

	2008							2009						
Activity	J	J	A	S	O	N	D	J	F	M	A	M	J	J
Determine customer requirements														
Process mapping and data collection templates														
Define metrics, price-points and level of detail														
Write software specifications														
Version 1.0 of software written														
Trial run using modified 2008 vintage data														
Software modifications to produce version 1.1														
Hands-on training and input of 2009 vintage data														
Final version of software complete - version 2.0														
Delivery of complete service and documentation														

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National Winery Production Benchmarking Project

The Project is planned in four distinct phases

Phase 1 – Six major regions in Australia; Barossa, Clare, McLaren Vale, Riverland, Riverina & Sunraysia.

Phase 2 - Expanded to cover the remaining regions within Australia

Phase 3 - Extend service to New Zealand , California and South America

Phase 4 – Include Europe in the service

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What is best for the Australian wine industry?

For higher level measures some examples are:

- Litres of wine produced per tonne of grapes crushed
- Total energy consumed per bottle of wine
- Litres of water consumed per litre of wine produced
- Volume of wine produced per man-hour

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In order to make a fair comparison between varying operations, the wineries will be broken down into individual unit operations

The unit operations to be studied will be:

- Crushing
- Fermentation
- Pressing
- Clarification
- Blending
- Bottling
- In-house Warehousing
- Utilities

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Crushing unit operation

Potential benchmarks

- Energy consumption per tonne crushed
- Percentage downtime
- Labour utilisation
- Water consumption

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Fermentation unit operation

Potential benchmarks

- Ferment average size
- Ferment duration (vessel turn-around time)
- Product losses
- Consumables added per kl

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Pressing unit operation

Potential benchmarks

- Energy consumption per tonne pressed
- Cycle duration
- Percentage downtime
- Product losses

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Clarification unit operation

Potential benchmarks

- Chemical usage per kl wine processed
- Vessel turnovers per month during vintage
- Water consumption per kl wine processed
- Energy consumption per kl wine processed
- Method of clarification
- Equipment utilised

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Blending unit operation

Potential benchmarks

- Kl of tank movements per kl bottled
- Percentage of product lost
- Percentage of incorrect movements

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Bottling unit operation

Potential benchmarks

- Percentage downtime
- Percentage product loss
- Energy consumption per kl processed
- Man-hours per kl processed

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Warehousing (in-house) unit operation

Potential benchmarks

- Movements per kl despatched
- Man-hours per kl processed
- Damage & losses per kl despatched

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Utilities

Potential benchmarks

- Refrigeration power consumption per kl processed
- Operational parameters
    - Temperature
    - Pressure
    - Refrigerant
- Equipment types

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Some of the Industry benefits

- Provides the ability to analyse data by unit operation.
- A winery can compare their performance to “Best Practice”.
- Product losses can be evaluated and compared.
- Optimal use of utilities can be effected.

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Thank You