Winery management issues

Leon Deans
Orlando Wyndham, Tanunda, SA

Introduction

In the past decade the Australian wine industry has enjoyed unprecedented growth with production soaring from 400ML (1991) to 1,076ML (2001) and sales growing from 370ML to 890ML in early 2003 (Wine Export Approval Report, April 2003).

Australia’s markets have shifted from domestic dominance to three markets—Australia, UK and USA with substantial benefits in return and reduced risk. More than 50% of wine production is now exported, generating more than $2.4 billion per annum from a volume of nearly 500ML. The average unit value of exports reached $4.83 per litre by April of this year, second only to New Zealand in absolute dollar value (Wine Export Approval Report, April 2003). In the near future the industry will see the USA surpass the UK in terms of export value, and some time in 2004 in absolute volume terms.

Despite this success, bad news abounds regarding the wine industry. A sample of headlines is:

- ‘Corker Whine Harvest’
  The Weekend Australian 5–6/7/03
  – 60% of wineries believe worse off than last year;
- ‘Grape glut threatens US quality wine sales’
  The Age 7/4/03
  – The fat returns for local winemakers… may soon evaporate…?
- ‘Small wineries being crushed by giants’
  Australian Financial Review 4/4/03
  – More than 1,600 small producers are fighting over less than 5% of the market…

In addition to the above sample, the theme of declining profit levels in listed wine companies has dominated recent wine commentary in the business sections of our newspapers. The Australian Bureau of Statistics Management Unit notes the return on winery assets declined by nearly 30% from the previous year to 4.2% in 2002–3.

This paper presents a discussion of a number of issues and opportunities facing the industry in the current competitive context.

Competitive context

Today wine producers face an environment that includes:

- Retailer consolidation
- Increased competition
- A rampant Australian dollar
- Deep discounting
- Desperate competitors
- Surpluses in some varieties.

Retailer consolidation is being driven to gain market share and deliver increased value to the owners of the business—the shareholders. In Australia there is effectively an oligopoly—Coles Myer and Woolworths—that holds more than 40% share of the wine market. This gives these two businesses a powerful negotiating position, with the ability to dictate trading terms and price. This phenomenon is worldwide and consequently the wine industry faces significant downward pressure on margins in many markets.

As noted earlier more than 50% of Australia’s wine is sold away from its shores and competes for shelf space with wine from both the Old World as well as other New World producers. There is in fact a surplus of wine in world terms, with many Old World country wine producers enjoying significant taxation advantages and agricultural subsidies, while Australia is relatively heavily taxed. In the past Australia made headway into these markets because it delivered value for money and approachable wine styles compared to many of its competitors. Many of these competitors are catching up and Australia must continue to deliver that value in relative terms…therefore quality improvement and cost management are paramount to ongoing success.

Recently the Australian dollar reached US$0.68, a climb of 20–25% in two years. While this value is more representative of the Australian dollar mid-term average, it effectively means that customers in the USA must now pay 20–25% more than just two years ago to hold producers’ margins. Thankfully there has not been an equivalent appreciation against the European currencies.

Deep discounting has been a feature of the sales environment over the past 12 months. The consequences are bitterly apparent—lose share or reduce margin.

Desperate competitors represent a “wild card” in that for cash-flow needs, some may be prepared to sell at or below cost of production. Whilst this impact may be short lived, the disruption to the trading environment is another stress the business must face. A lost sale can never be made up.

Surpluses in some varieties have also received media attention. This is confined to reds and most significantly Cabernet Sauvignon. It is expected that this will be of relatively short duration with sales growth and the depressed yield from the 2003 vintage serving to deplete inventory levels.
What are the issues?

Businesses fail in tough times! Dunn and Bradstreet* gives 12 key reasons for business failure, including the top seven:

- Inadequate records
- Inadequate costing information
- Inadequate long term capital
- Failure to budget expenses
- Excessive operating costs
- Lack of stock control
- Excessive investment in plant and equipment.

This may sound awfully droll, but the wine industry is in many ways a fast moving consumer goods business. In the past many have thought of the wine industry in vastly different terms—perhaps hard crafting fine wines, tradition-bound and inhabited by unique and interesting characters. It is not to say that the image built up over decades should be lost, but behind the scenes it needs to be recognised that a healthy and profitable business must be the basis for operation.

Overview

A quick view of improvement opportunities is:

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Processes</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>Purchasing</td>
<td>Finished goods</td>
</tr>
<tr>
<td>Financial</td>
<td>Winemaking</td>
<td>Waste</td>
</tr>
<tr>
<td>Raw materials</td>
<td>Packaging</td>
<td>Distribution</td>
</tr>
</tbody>
</table>

INPUTS

Human capital

Inputs include human capital, which frequently receives a lot of focus from a budgeting viewpoint but is often not the highest cost. Motivation is often focused on, however the real issue may be a lack of goal congruence. A trait often seen in larger businesses is loyalty to the “division” ahead of the enterprise—which perhaps gives an insight into one of the major impacts of this attitude: division.

The focus of all employees needs to be toward achieving the business mission. At Orlando Wyndham the author and a colleague often joke—“it’s the brand, stupid”. In a sense, every employee is responsible in some way for achieving the business mission—which perhaps gives an insight into one of the major impacts of this attitude: division.

The strategy needs to be driven through the organisation, to make all employees a part of the big picture. Tools that can be used include:

- Position descriptions;
- Employee performance and development reviews;
- Annual objectives;
- Bonus schemes that reward individual contribution not only for set objectives, but also holistic outcomes; and
- Structures that reflect workloads and relativities in the context of effective business operation.

Identify the decision-makers that impact on the business. They may not be where (or who) you think...

- Wastewater...volume used in wash-down—cellar staff
- Press yield...total extraction is driven by how well the operator interprets instructions and when the operator dumps the batch—cellar staff
- Line flush cut-out of water and product—cellar and bottling staff
- Centrifuge recovery of wine from yeast and grape solids—cellar staff

Their decision-making capabilities should be supported with real time performance tools. The better they complete their task—e.g. pressing out a load of grapes—the better the return for the business.

A business is little more than people and money, but money has no brains.

Financial capital

Finance is often easy to obtain initially and is frequently poorly managed. Money is a measure of success and/or failure and accordingly features in all but one of Dunn & Bradstreet’s 12 reasons for failure. It is necessary to develop business plans, budgets, cost targets and capital hurdles and ensure that all decisions are shaped by these considerations.

The wine business is a long-lead-time business with the typical planning horizon for a premium regional Cabernet Sauvignon aimed to sell at over $25 per bottle being:

- Y0 – Identify land
- Y1 – Plant vines
- Y4 – First crop...commercial grade ($10)
- Y6 – Third crop...semi-premium grade ($15)
- Y8 – Fifth crop...premium grade (The Wine)
- Y9 – The Wine matures, perhaps starting to sell after 18 months

- Y10 – If lucky, finish selling the first vintage of ’The Wine’.

It can be seen that the wine business probably has more reason than many to have good financial disciplines in place.

Raw materials

Raw material often does not receive the attention it deserves. It is more than just a cost—it is a profit opportunity.

Growing levels of sophistication are required to build more certainty into purchasing. “Fit for purpose” has never meant more to business than now. Examples of this include:

- Grape contracts—currently a contentious issue as wine-makers attempt to build more certainty into the wine outcome by colour, sugar and defect measurement which in turn relate to bonus and penalty payments to the grape-grower;
- Lifetime costs—often applied to products that consume a lot of electricity. Air compressors are said to incur up to 70% of their capital value as electricity cost in their first year of operation and accordingly deserve very careful analysis of operating costs rather than just the purchase price;
- Cost plus application—may be considered when purchasing dry goods such as labels. An increased purchase cost may be more than offset by ease of application (and a consequent faster rate of bottling); and
- Free In Store pricing—goods pricing including delivery charges is a simple but often useful arrangement.

The complexity of some of these decisions may require external unbiased advice in order to maximise the value and/or minimise the cost of a particular purchase.

Negotiation can be a very valuable adjunct and the options include:

- Win win—it is not just the price, but terms and conditions;
- Group discounts may be available through “cooperative” purchasing arrangements; and
- Sometimes paying more—for something extra—may return a lot more for your business.

An hour spent negotiating may save $5,000; at $5,000 an hour, who wouldn’t do it!

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* Dunn and Bradstreet
PROCESSES

Typical goals within the winemaking process include:
- Meet the style, quality and volume requirements of the consumer
- Maximise net value recovery
- Minimise wastage

There is general recognition of the first point in this industry, but often the romance of the industry distracts from the other two objectives. The first goal is essential to the development of ongoing and successful markets. The other two goals are a statement of the efficiency and effectiveness of the business and its ability to endure through a range of operating conditions.

Value recovery

There are two drivers of value:
- Volume
- Unit value (related to quality)

Implicit in value recovery is the need to maximise the value of the outputs and to minimise value (wastage) of the inputs.

Value erosion factors can be unavoidable, partly avoidable or avoidable. Examples include:
- Unavoidable—evaporation during fermentation, temperature shrinkage, etc.;
- Partially avoidable—"side-stream" losses such as destemming, pressing, solids removal and the loss of wine along with lees; and
- Avoidable—remnants lost during transfers, bottling and racking operations.

Figure 1 is a representation of a typical winemaking process map. It shows that even before the first measurement in most recording systems, significant losses have already occurred, including stalks, carbon dioxide from red fermentation and grape skins. Whilst none of these are features sought by the consumer, their removal contains a considerable opportunity for the coincidental loss of valuable product.

In addition, transit losses—a part from being the subject of state government legislation on unsecured loads—usually result in the loss of liquid. Whilst the grower is penalised, so too is the winemaker (by virtue of less recoverable liquid per tonne of fresh grapes received).

Most of the examples above refer to lost volume. It is also worth noting that there are many opportunities of "erosion" of unit value as well. In large wineries handling large numbers of products from bag-in-box to super premium the opportunity to lose value includes:
- Forced consolidation of different grades of product to meet shortfalls of storage or intake "slots";
- Placement of volume "balances” may lead to a surprising loss of higher-grade product into lower grade (and value) products. It may warrant a rethink of the investment in small storage to prevent continued losses of this nature;
- The inability to process fruit at its optimum maturity frequently results in a lost opportunity to realise its potential value;
- Secondary processing, e.g. rotary vacuum drum (RVD) filtration of juice/wine lees results in an inferior grade product. The potential to reduce the proportion of RVD filtered material can have a significant impact on value recovery. Changes in clarification at Orlando Wyndham in recent years had a one-year payback on the investment; and
- Management of secondary processing to minimize the time the juice/wine spends in contact with the solids can also substantially and favourably alter the quality and value of the product recovered.

Figure 1. A typical winemaking process map.
It is also useful to consider the recording process in
temporal terms and to understand that the first volume
“reading” may only be obtained two weeks after the (red)
grapes have been received (and pressed).

Clearly the process needs careful management if optimal
value recoveries are to occur. The future may well bring a focus
on reproducible, real time measures of destemming efficiency
and effectiveness, pressing and clarification performance as the
industry seeks to wring every bit of value out of a tonne of
grapes. Any value increment above that currently recovered is
almost free of charge, as the grapes have been purchased,
delivered crushed, fermented, etcetera. The only cost is that
directly associated with the additional recovery and this may
be improved management systems (almost free), modest
measurement equipment (low cost), or additional equipment
(low to high cost, purchase dependent upon the financial
analysis).

Management challenges

Key challenges to implementing better process management
include:

Truth and transparency
Too often, enhanced measurement and reporting systems are
seen as an affront to the individuals involved. For this reason
the data can be easily corrupted (even without malicious
intent) and its value destroyed. In any improvement process it
is essential to concentrate on the benefits rather than the past,
to get the “buy-in” of all participants. It is also essential to
admit a problem exists before any progress can be made toward
a remedy.

When the continuum below is considered the risks of poor
data become obvious. It distorts the information developed,
which in turn creates knowledge based on flaws, which in turn
can lead to poor business decisions, possibly leading to business
failure.

Data—> Information—> Knowledge—> Capital

It is often better to have no data than poor data, because at
least you know if you don’t have any data. The use of key
performance indicators (KPIs) has enjoyed strong support over
the last decade or so. KPI can be a powerful tool, but it is
 imperative that it is based on accurate and appropriate
measurement—poor data will produce meaningless KPIs. In
large, multi-site operations this data must be collected in a
consistent manner to generate meaningful comparisons
between sites.

As the lowest common denominator, the data rarely
receives the attention it deserves.

Robust measurement

There are real challenges in the measurement of:
• Liquid volume early in the process;
• Liquid volumes when surcharged with CO₂ gas;
• Moisture content in the “side-streams” such as skins and
  stalks; and
• Fractionation of white juices, i.e. the free run juice and the
  pressings.

Around 15% of the mass of a tonne of grapes is lost in
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Refined information systems
Data is a building block to information on which operational
decisions are based. It is not sufficient to just gather good
quality data. It is essential to collate and process the data into
something useful in a timely manner. Industry jargon for this
includes “manufacturing intelligence”; respected South
Australian process engineering consultancy, CAMMS refers to
“performance visibility”. Orlando Wyndham used to gather
a lot of extraction rate (litres extracted per tonne of grapes
crushed) data that was analysed with interest in October of
each year. Historical data is useful, but can we influence the
extraction rate six months later? Clearly not!

The ideal is to get this information on a press-load by press-
load basis and to give the press operator the decision-making
tools to achieve the winemaking goal. In this case the ideal
could be a direct read-out of the extraction rate or a dryness
level for the spent grape-skins.

Focused information delivery

This is not a case of one size fits all as, during vintage, staff face
an avalanche of information. They need to get the right
information, with as little clutter as possible, as fast as possible
to facilitate the best decisions. A simple example applicable in
a large multi-site operation may be:
• Group Manager….extraction rates, and trends, to forecast
  the supply/demand balance;
• Site Manager….daily extraction rates, exceptions, with a
  focus on plant and operator performance, etc.;
• Winemaker….variety extraction rates for the day, to enable
  the calculation of additions and fermenter utilisation; and
• Cellarhand….the batch extraction rate, to be confident in
  the press operation, e.g. when to dump it.

The keys are the delivery of the appropriate information to
the appropriate personnel in a format that requires minimal
interpretive effort in real time. In this way the value of that
information can be maximised, with minimal evaluation time
and maximum decision making time. The current operating
environment requires sifting through a set of often-shaky data
and then making a fast decision, or even worse, one based on
gut feeling.

Benefits

The benefits of the above real time information gathering
and distribution is a sense of ownership even to the shop floor
where the humble press-operator has a set of operational and
transparent measurements to guide him/her. Ironically, this
process has the potential to make a significant difference to
the value recovered from a vintage and the operator needs to
be empowered to ensure that the business maximises the value
recovery.

Objective, real time information systems should provide a
pathway to minimising the loss of value throughout the
winemaking process by avoiding adventitious losses in stalk,
grape-skin and solids removal.

In summary, the sort of processes discussed above can do
much to remove many of the major risks of business failure
cited by Dunn & Bradstreet* by:
• Improving record keeping
• Improving costing information
• Reducing operating costs
• Assisting in expense control
• Facilitating stock control
• Avoiding excessive investment in plant and equipment.

* Dunn & Bradstreet
OUTPUTS
Most businesses have two outputs, waste and product. Improved process management has the potential to do much toward improving environmental outcomes by reducing or eliminating much of the waste stream.

In the current straitened times, the temptation of many will be to short change environmental issues. This approach is fraught with danger as customers are increasingly aware of environmental issues and indeed it has the very real potential to be a technical barrier to trade. Australia’s major markets include the United Kingdom where there is a heightened awareness of climate change, an awareness no doubt further reinforced by the recent record breaking temperatures in Europe that contributed to the death of tens of thousands of people.

Wastewater
In the short term, there are opportunities to improve environmental performance as well as the financial performance of businesses. Using some waste-water data (personal communication) from 26 wineries from the 2001 year, it is possible to draw some conclusions on the magnitude of wine losses in their process:
• Assuming a nominal 10,000 tonne crush
• The wastewater contains 250,000–350,000 litres of wine equivalent
• If it were possible to prevent the loss of 50% of this product through improved processing then the value benefit is expressed
  – In a $300,000 contribution (150,000L at $2) to the business by improved yield;
  – Reduced wastewater treatment costs, less BOD (Biological Oxygen Demand); and
  – Enhanced water reuse possibilities, less potassium, phosphates and Total Dissolved Salts.

Surely this is an attractive proposition from all points of view.

Packaging waste
Adherence to the Packaging Covenant has the benefit of replacing land fill costs with accumulation and separate disposal of recyclable materials. Orlando Wyndham have put the emphasis onto the recycling firm to provide collection, consolidation and removal systems for every recyclable on a cost neutral basis with savings estimated in excess of $100,000 pa in land fill avoidance.

Conclusion
The industry is entering a period of more modest growth. Profitable double-digit volume growth may well be a thing of the past for most of the industry.

The challenge faced by all is to focus on clever and holistic solutions to meet shareholder, customer and environmental expectations and ensure that this vibrant industry continues to prosper.

References
Dunn and Bradstreet*

* reference not available from author at time of printing. Please refer all enquiries to the author.