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Best Practice Benchmarking in Australian Agriculture: Issues and Challenges

by

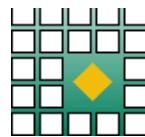
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Executive Summary

In an effort to enhance the viability and competitiveness of its farmers, Australian agriculture is allocating substantial resources to development and extension of comparative business analysis programs in the major agricultural and horticultural industries. Despite exhibiting significant differences in approach, activities, outputs and outcomes, many of these programs purport to be based on "Benchmarking", an activity-based analytical method having its roots in the US manufacturing industry. While "benchmarking" is receiving strong support from rural funding bodies, the methodology used in some programs has been likened to comparative analysis, popular with private consulting, government extension services and farmer groups in the 1960's. Agricultural economists have criticised comparative analysis as "random numbers" and are now criticising "benchmarking" as "rampant empiricism".

This paper examines this long-running debate. The authors agree with advocates of benchmarking that it can be a valuable source of information about farm operations and their associated supply chains. They also agree with critics that much of what is currently called "benchmarking" is difficult to distinguish from comparative analysis, lacks systemic linkage to underlying enterprise processes and drivers of competitiveness and is of limited diagnostic power at farm, supply chain and industry levels.

We suggest that one way to reconcile the polarised positions of critics and advocates lies in:

- a better appreciation of the differences between *comparative farm business analysis* and *benchmarking*;
- a better understanding of the strengths and weaknesses of each approach; and
- more realistic views on the way that farmers can use the information arising from these approaches.

Comparative farm business analysis is based on aggregate measures of whole farm physical and financial performance, such as yield, efficiency, gross margins and farm profit. Benchmarking is an enterprise or activity-based approach that focuses on the physical/technical processes used by a farmer to enact his enterprise plan and the consequences of those processes in terms of unit revenue and costs, enterprise efficiency and enterprise profitability. There are clearly discernible differences in the way in which farmers can use the information from the two approaches to make decisions about strategic, tactical and operational matters.

'Best practice' benchmarking is distinguishable from comparative analysis, and some present so-called 'benchmarking', by:

- being activity-based and systemically linking enterprise processes to efficiency, profit and cost;
- being part of the enterprise and farm information system and a contributor to production economic and whole farm analysis (not an end in itself for decision-making);
- providing unambiguous information, displayed clearly and systematically.

The field is undergoing both rapid development and change, including pressures for conformity to accepted farm accounting and farm management standards and for greater consistency between industry systems. A central issue for industry and government funding agencies and service providers is to ensure that farm performance analysis systems, including comparative analysis and benchmarking, meet a 'fitness for purpose' criterion based on the decision-making needs of farmers and their respective commodity industries.

Challenges for benchmarking in Australian agriculture include:

- professional and industry accreditation of sound benchmarking systems;
- ensuring appropriate context for farmers' use of benchmarking vis-a-vis complementarity to production economic and other financial analyses;
- achieving greater consistency between industry systems;
- lifting participation by farmers in sound industry programs, and
- evaluating the impact of benchmarking programs on improving farm business performance.

1. Introduction

"...statistical comparison of key or efficiency ratios and of historical gross margins between different farms and between activities within the farm, could be met costlessly and punctually by sets of (almost) random numbers."
Roger Mauldon and Henry Schapper, 1970

"Understanding your entire business and being able to benchmark its performance are essential tools in the long-term success of your farm."

Mike Walter, Elders and John Lovett, GRDC, 1998

"It is disturbing to realise we have not only not made any headway in this area in all the years gone by but since then seem to have gone backwards rapidly with massive resources wasted and better opportunities foregone because of the benchmarking emphasis in agricultural research and extension"

Alexandria Ferris and Bill Malcolm, University of Melbourne, 1999

The major agricultural industries in Australia are developing and promoting "benchmarking" as a farm business management tool, with expectations that it will help farmers in the pursuit of better practices and profits. Meanwhile, some contemporary agricultural economists (Ferris and Malcolm, 1999; Malcolm and Ferris, 1999) are unable to distinguish "benchmarking" from the much-criticised comparative analysis of the 1960's (Mauldon and Schapper, 1970). At the same time, benchmarking activities continue to be applied by widening networks of non-farm businesses through the activities of business-supported Quality Associations and Councils in the USA and Australia and management accountants and associations (Camp, 1995; Chenhall & Langfield-Smith, 1999; Spendolini, 1992).

The long-standing difference of views between agricultural economists and consultants/extension specialists about the value of farmers comparing their business performance prompts some obvious questions. Who is right and who is wrong or are both a bit right for different reasons? Industry and government are confidently supporting programs with substantial funding on the basis that business analysis and "benchmarking" skills, of whatever colour, can translate into adoption of best practices, improved resource productivity, better farm profitability and farm family welfare on a sustainable basis. Is this confidence misplaced?

Are the criticisms of agricultural economists justified or is it nit-picking about methodological detail in relation to programs that are of overwhelming benefit to farmers? Are participating farmers really satisfied with "benchmarking" or are they in it because of peer pressure and the fact that their industry levies are paying for it? Will they continue to participate after a honeymoon period, much as happened in the 'sixties'? Are farmers getting good value for their participation in "benchmarking" activities or are they being dazzled with data that they are unable to interpret? Is benchmarking of the 'nineties' simply a clone of 1960's comparative analysis? And is benchmarking delivering clearer messages and better results for the extra cost and effort of measurement compared to a sole focus on own-business analysis through time? This paper explores some of these issues.

2. Evolution of Benchmarking

"Perhaps the simplest one-phrase response to the definition (of benchmarking) would include reference to "learning from others" :....learning something new and bringing new ideas into the (business)."
Spendolini, 1992, p15

"Borrowing the good ideas of others is what benchmarking is all about."

Brown, 1995, p 189

The roots of current farm benchmarking efforts go back to the 1960s, when farm business performance was measured through performance ratios and comparative analysis. State Departments of Agriculture played a major role in developing management studies and comparisons within or between farm samples from a number of rural industries.

A significant weakness of the tools of the day was a reliance on gross margins and financial ratios as the key bases for comparison. The inability to bring to account the full financial performance of the farm and its component enterprises, inclusive of farm overheads and debt-servicing, severely limited the ability of both advisors and farmers to make full use of performance measures in their farm business planning.

In addition, while most comparative analysis approaches maintained a nexus between physical and financial farm performance, the relationships between inputs, costs, output and revenue were not readily available. Despite publication of Top performance deciles and quartiles, few farmers could gain insight into the farming and business practices underpinning the numbers from top-performing farms.

Benchmarking has its origins in the non-farm business sector of the United States in the 1970's and 1980's (Camp, 1995; Spendolini, 1992). Xerox is credited with having initiated the modern era of benchmarking in the late 1970's when they decided to compare their US processes and product costs with those of its Japanese affiliate, Fuji-Xerox. They were discomfited by the discovery that Fuji was selling copiers at a price equivalent to the US manufacturing cost. This discovery led to a major overhaul of the manufacturing processes in their US plants. In 1983, benchmarking was formally incorporated into the corporation-wide improvement efforts of the firm and extended to cover not only production processes but also support processes. Today, many organisations use benchmarking to help drive their continuous improvement programs¹.

Of significance is the fact that the initial Xerox benchmarking effort was based on comparison of the processes used to manufacture a product, rather than a whole business financial performance review. Benchmarking is essentially about converting process data to meaningful process information on which process knowledge and wisdom can be developed. It did not arise from a desire to compare whole business entities, each with its unique mixture of resources, revenue sources and cost centres.

In 1993, the 'National Industry Extension Service Benchmarking Self-Help Manual' made the observation for Australian industry generally that "there is still a lot of confusion around about what benchmarking actually means and how to practice it effectively." Camp (1995) states that "Part of this confusion results from new authors trying to bring a different slant to benchmarking to distinguish their brand from that of others." This confusion about benchmarking is alive and well in Australian agriculture.

In Australia's rural industries, "farm business analysis" and "benchmarking" are often used as interchangeable terms, as if they are one and the same. This is not only confusing but can lead to false expectations and flawed conclusions. One of the problems with benchmarking in Australian agriculture is that analysis of the farmer's whole business is being confused with benchmarking against other like businesses or processes.

Farm business analysis has as its focus the financial performance of the individual business. Farm business analysis typically encompasses balance sheet analysis, profit and loss calculations, enterprise gross margin analysis, whole farm cash flow budgeting, financial ratio analysis and the economics of change or partial budgeting. Farm Business Analysis tools have mainly been used by individual farm managers in analysis of past performance and forward planning for their own farm. From the fundamental financial measures of net worth, cash and profit, calculation of various financial ratios has been a long-used aid to interpretation of the individual business position, more so by banking and financial analysts than farmers (Cook and Ronan, 1994).

Benchmarking, in its proper process-based form, is about what things are done on farm, how they are done and what are the consequent productivity and financial outcomes. However, the process-based roots of benchmarking have been largely forgotten, and, with many whole-farm comparative analysis approaches being badged as "benchmarking" by their proponents, the focus has inevitably shifted away from the processes involved in production of grains, milk, meat or fibre to broad whole business comparisons of aggregate measures. This problem is not unique to Australian agriculture but there are examples in other countries where the amount of effort in benchmark derivation and application, and the type of tools and resources available for this effort, are significantly ahead of Australia (Cleary, 1998).

Probably the first national move into benchmarking in Australian agriculture was initiated in the Grain Research and Development Corporation's (GRDC) Farming and Sustainable Technology (FAST) Project, commenced in 1992. This project generated a range of "Business Health Benchmarks". The BizCheck package by Rendell McGuckian (members of the FAST consulting team) has been a prominent system throughout the nineties (Mayfield et al., 1997; O'Callaghan et al., 1998), and, despite its whole farm focus, has been adopted as a "benchmarking" platform by a large number of the Research and Development Corporations and commodity organisations².

The FAST/Bizcheck "Whole Business" methodology has been criticised in a number of areas by Ferris and Malcolm (1999) including its key measure, Disposable Income per Family (DIF), for unnecessary departures from accepted farm business accounting theory. In addition, since disposable income per farming family may selectively bias benchmark results due to the impact of off-farm income, it is not logical to hold up the farm management and husbandry practices of a high DIF farmer as worthy of emulation by other farmers. These practices may actually be sub-standard.

By the mid-nineties, benchmarking reviews were noting the existence of many farmer group services based on or including 'benchmarking'. However, these reviews were also recording a low overall participation rate by farmers, no consistency between approaches and a focus on numbers – particularly financial measures - rather than the farming processes and practices that give rise to the numbers.

¹ National Industry Extension Service Benchmarking Self-Help Manual 1993

² GRDC's 'BizCheck for Topcrop', MLA's 'BizCheck for Meat', DRDC's 'Dairy Business Focus', NPIDG's 'Pork Biz' and HRDC's 'BizCheck for Horticulture', in addition to activities in the wool, rice, tomato, citrus and grape industries.

Despite its process-oriented, enterprise-based roots, the phrase “benchmarking” has now loosely been applied in Australian agriculture to all forms of business comparative analysis, regardless of whether or not these have a process-based, best practice focus. Under a guiding philosophy of providing better information for business decision-making, this “redefinition” of benchmarking has so broadened the meaning of the term that both *whole farm analysis* and *enterprise analysis* are considered synonymous and interchangeable, with similar analytical procedures and, importantly, *similar best practice outcomes*.

It is as if we set out to discover the best and cheapest way to put a label on a beer bottle, finished up comparing the architectural features of brewery buildings and then couldn't tell the difference!

3. Best Practice - A False God?

Best practice means different things to different people. To some farmers, having a tractor that starts first-time, every-time is best practice. To others, husbandry practices that regularly achieve high physical yields are best practice. To others still, achieving a unit cost of production below the unit market price is best practice. What is common however is the focus on how things are done. It is about the methods and approaches farmers use to carry out the spectrum of production processes involved in their daily business.

For a farming business, there are two key alternative, but not mutually exclusive, pathways to profit - one that focuses on excellence in profitable commodity production and the other which focuses on profitable deployment of human and capital resources into both farm and off-farm endeavour. Analysis of both pathways has a place in providing farmers with better information for improved decision-making but there is a stark difference in the power of each to provide usable, process-based, best practice information.

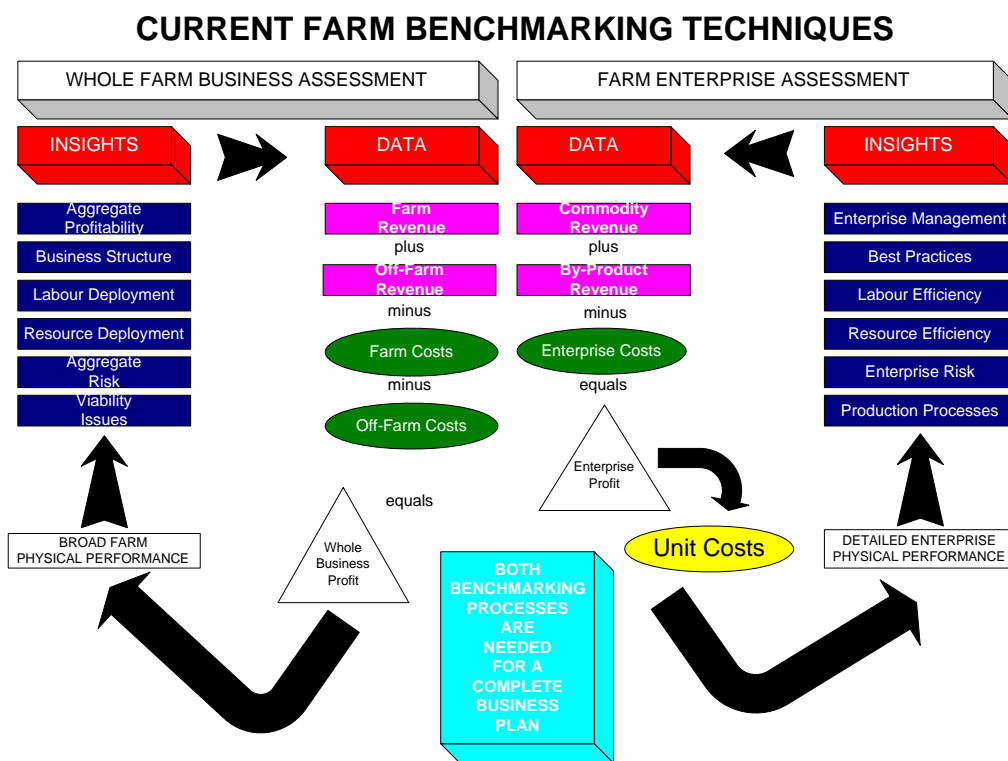
Almost all of the “benchmarking” programs in Australian agriculture have as their primary stated aim to identify what farming practices lead to better productivity and financial outcomes. With some notable exceptions, this stated aim is almost *never realised* because the activity focuses entirely at the whole farm level. “Enterprise analysis” is a claimed feature of some activities but, beyond physical commodity yields and commodity revenue benchmarks, little serious attempt to address enterprise processes and costs is made.

The authors contend that it is a fallacy that whole farm analysis can yield enterprise-based best practice benchmarks and that an enterprise analysis can yield whole business benchmark outcomes. The insights that can be obtained from a whole farm analysis relate mainly to business structure, whole business risk and viability and whole business asset and labour deployment. These are not practice-based issues. Under enterprise analysis, the insights that can be gained relate to enterprise management, resource use and efficiency, best practice processes and enterprise risk.

A difficulty in identifying “best practice business structure” or “best practice asset deployment” for on- and off-farm investment is that there are so many options available to farmers in setting up their trading entity and investment plans. The taxation system has a significant impact on these, as does the personal resources and business objectives of each farming family. The off-farm wage options of each farming family vary greatly depending upon family size, age, gender, geographical location and the nature of the local employment market. Off-farm investment options cover a very wide spectrum and what is “best-practice” for a risk-averting farmer will not be “best-practice” for a risk-taking farmer. Under these circumstances, it is an unrealistic expectation that whole-farm analysis will deliver definitive “best-practice benchmarks”. Figure 1 illustrates the complementarity of whole farm business analysis and farm enterprise analysis: they are both needed for a complete business plan.

An additional problem facing Australia's rural industries is choosing the right balance between best practice benchmarks for a farm sector with a dual character – a segment increasingly dependent on off-farm revenue for survival and another segment of larger, specialised family farms focused on profitable commodity production.

Figure 1



4. Product Cost Competitiveness

"It is important to emphasise that the search for a more relevant cost analysis system leads to the conclusion that costs cannot be controlled as costs. Structure, performance and business processes and primary causes of resource consumption are the only elements that can be directly managed so as to control costs".

Pierre Mévellec (1995) "The French Approach to ABC", Journal of the Australian Society of Certified Practising Accountants, April 1995.

Learning about what drives the competitiveness of your business is the cornerstone of a good benchmarking program. With international agricultural trade flows becoming larger each year, the competitiveness of national commodity industries on the international markets is of growing importance. The competitiveness of an industry's products is influenced by many factors, but the unit cost of production is still one of the most important factors.

The importance of unit costs of production has triggered substantial international effort to identify and compare this cost in different countries, through product-specific benchmarking studies. In no case, to the authors' knowledge, has the unit cost of production for a particular commodity product been derived by whole farm comparative analysis. Enterprise-level costs are used exclusively. Why then the current Australian emphasis on whole-farm benchmarking approaches?

One of the key measures of whether a practice is a "best practice" is the unit cost of the practice. This is what Xerox were looking for when they initiated their first benchmarking exercise. There are a number of reasons why primary producers should know the unit cost of their products:

- ◆ This information is useful in determining how much each enterprise is contributing to the overall cost base and profitability of the farm business and also in projecting future profitability and cash flows.
- ◆ Producers can also use this information to compare the efficiency of their farm enterprises with industry averages or standards.
- ◆ Cost of production information is essential in long range business planning and in analysing future expansion possibilities.

Despite most primary producers agreeing that knowing their unit cost of production is a sound business practice, many do not know their own figures. Many Australian farms operate as mixed farms. Unit costing necessitates the allocation of fixed costs to individual enterprises within the farm business. Different methods for allocating fixed costs to products are available (Activity Based Costing, regression analysis, dividing cost using the distribution of costs on specialised farms etc.) but are substantially ignored by current benchmarking providers. The costs of capital and non-paid labour are given entirely non-standard attention as well.

Part of the difficulty arises from the fact that there is more than one way to calculate the unit cost of production, and each may be useful for a specific purpose when analysing the business or enterprise. The three usual methods of calculating the unit cost of production are the concepts used by the accounting profession, the economic profession and the banking profession³. It is important for a primary producer to understand the differences between these concepts and to use the correct concept for the specific reason the enterprise or business is being analysed. This is perhaps why so little emphasis is placed on enterprise costing within current benchmarking approaches.

Woolmark's "Benchmarking the Wool Enterprise" (Patterson, 1999) is an example of a sound, industry-standardised analytical process to help woolgrowers calculate their unit costs of production. It is arguable that, until a standard analytical format for determining commodity unit cost of production is determined across all commodity industries, it will not be possible to be definitive about best farming practice, particularly if the surrogate best practice indicator "Farm Profit" is influenced by off-farm revenue and costs.

5. The Getting of Wisdom - Benchmarking Metrics

*"Numbers alone do not implement change. A reliance on a program that just generates numbers is likely to fail"*⁴.
Hanlon, 1998

The authors believe that while numbers alone do not make a benchmarking exercise, the quality and nature of the data obtained determines the quality of the "upstream" output of calculated measures and analysis and, from that, the quality of the information, knowledge and wisdom derived from the process.

Unless the derived benchmarks are credible and compiled on a standard, transparent basis, all subsequent efforts at analysis, planning, communicating and implementing best practice initiatives will be seriously constrained.

Worsley (2000), in a recent review of "benchmarking" activities in Australian agriculture⁵, concludes "there is generally a failure to adequately utilise the data generated to inform meaningful decision-making within the farm business." What might this finding indicate? Could it be that farmer participants have some inherent problem or disability in dealing with farm performance numbers? Could it be that extension personnel, consultants and benchmarking providers lack the capability to provide participating farmers with adequate support and guidance to enable them to fully utilise benchmark data in their farm decision-making? Or, lastly, could it simply be that many of the numbers lack sufficient meaning to permit utilisation by anyone?

The problem with measurement and comparison of measures is that it does not always add meaning, which was Mauldon and Schapper's final assessment of comparative analysis⁶. They would have identified with the introduction to Mark Brown's book, *'Keeping score: Using the right metrics to drive world class performance'* which is based on the idea that "it is worse to measure too many things than it is to not measure at all."

However, Brown sees measuring the right variables as important to success and includes benchmarking as one of the best methods to provide ideas for strategies for achieving goals. He qualifies his support for benchmarking

³ The financial approach is useful for determining the viability of the enterprise in the short term. Returns and costs are based on the accrual method of accounting and do not include opportunity costs or charges for unpaid operator labor and equity capital. Depreciation is based on statutory tax regulations, which may or may not represent the actual useful life of an asset. The economic approach is useful in determining the long run viability of the business and analyses how the enterprise competes with other enterprises for limited resources. The major differences between the financial and the economic cost of production concepts are that interest paid or accrued is replaced by an interest charge on capital invested and a charge for unpaid operator labor is included. Depreciation cost is based on the economic life of the asset. The cash approach looks at the sources and uses of cash generated or used by the enterprise and is useful only for analysing the short term liquidity of the enterprise. It includes scheduled term debt principal payments, unfinanced capital purchases and family living expenses, including income tax.

⁴ "Benchmarking – A Framework for Business Evaluation" David Hanlon, RCS P/L, paper prepared for DRDC Workshop July 30/31, 1998.

⁵ Worsley, A. (2000) Review of Benchmarking Programs in Australia's Rural Industries, RIRDC.

⁶ In the first instance, Mauldon and Schapper supported comparative analysis (suggesting hope that the method added information value), then changed their opinion on further consideration.

with the observation that "The problem with benchmarking is that most companies don't do it correctly." Any review of the array of "benchmarking" activities in Australian agriculture would note clear differences between:

- systems that provide a between-farm comparative analysis and systems that provide process-based best practice benchmarks;
- systems that include off-farm income and costs in the farm profit equation and those which do not;
- systems that focus at whole farm level and those which focus on the component enterprises;
- systems that focus on physical productivity figures and those which account for financial performance as well.

In addition, there are clear differences in the formats used to present "benchmarks". At its simplest level, these differences can relate to the use of simple arithmetic means versus weighted means. At a more detailed level, these differences involve the characteristics of the data-set from which the benchmarks are derived, including, for instance, the approach to null versus zero fields⁷. Few systems present the statistical reliability of derived performance figures, as occurs for example with the Australian Bureau of Statistics and ABARE data.

Some systems focus on the range of performance in a given parameter, irrespective of the relationship between that parameter and others. Where such parameters are presented as a column of benchmarks, this is "DO NOT READ DOWN" (DNRD) reporting. This is a useful way to focus on individual problem areas and single indicators but, since the farm sample contributing to each benchmark is not identical for every parameter, the column of benchmarks cannot be "read downwards". Group or industry insights from such data are limited.

Other approaches use "READ DOWN" (RD) reporting where the farm sample contributing to each numerical parameter is identical. Such a column of benchmarks can be "read downwards" and performance in a single parameter can be judged against a background of performance in related parameters. Group or industry insights from such data can be strong. Both methods are important, depending on what the benchmark user is seeking.

This is illustrated in Table 1, from a recent dairy industry study⁸. The "Benchmark" parameters in Column A are all derived from different farms and so cannot be "read down". Column A shows the best "achieved" performance in each separate parameter but does not represent an achievable set of linked targets at which a farmer should aim. Those in Column B belong to a single farm with the highest Dairy profit of the group and can be "read down".

Table 1: "Benchmark" numbers can tell more than one story

"Benchmark" Parameter	Column A		Column B	
	"Best" Result	Farm ID No	"Best" Result	Farm ID No
Stocking Rate (Cows / EDHa)	3.74	37	2.08	2
Pasture UDM / EDHa	12.42 tonnes	38	8.42 tonnes	2
Milk / Cow (kgMS)	10,730	22	6,022	2
Milk / EDHa (kgMS)	21,033	37	12,555	2
Cows / Labour Unit	74	16	67	2
Debt / Cow	\$125	58	\$1,859	2
Pasture Costs (c / kg DM Utilised)	6.80	38	10.74	2
Grain & Conc. (c / kg DM Utilised)	1.66	09	2.48	2
Milk Unit Price (c/l)	46.0	42	41.4	2
Milk Unit Cost of Production (c/l)	29.8	11	35.8	2
Dairy Profit / EDHa)	\$1,508	2	\$1,508	2

* EDHa = Effective Dairy Hectare. Accounts for different pasture productivity values.

⁷ This is best exemplified by the question: "What is the average annual consulting fee paid by farmers to agricultural consultants, given that 80% of farmers do not use a consultant?"

⁸ Bega Dairy Farm Benchmarking Program, Far South Coast Dairy Development Committee, 1999.

6. Diagnostic Power

If a definition and goal for benchmarking programs across Australia's rural industries is required, then perhaps the following summation, which is descriptive of current leading edge programs is appropriate: "A process of effective decision-making that results in continuous improvement of management 'practices' and operating 'processes' within the business". Alison Worsley, NSW Agriculture, 2000

It is important that participants see not only the big picture but also how the things they do and the structures they have impact on farm and enterprise performance. Diagnostic power comes from showing how all the performance numbers are linked to productivity, costs, profit and return on investment. A dairy enterprise example is given in Figure 2.

Benchmarking reports should work like a decathlon scorecard. They should identify not only those "events" in which you are strong and those in which you are weak but also your overall "score". Looking only at one "event", such as a yield parameter, can mislead. A balanced scorecard showing strengths and weaknesses is needed.

On the other hand, farm financial performance, especially profitability, is often used as a key benchmark indicator, but can be a fickle beast. Profitability may not offer reliable insights into what constitutes "best practice". Brown (1995, p 52) observes that "profit can be a very misleading factor in measuring financial success".

In a recent study of the physical and financial records of 51 Iowa pork enterprises over a five year period, Lawrence et al (1998) discovered that only two farms (6%) were in the upper third of the sample based on profitability *in all five years* and that 67% of farms were in the lower third at least once in five years⁹. This variability in performance suggests that attempting to emulate the practices of "leading" farms, based on profitability alone, may lead many astray.

It is clear that getting value from farm benchmarking depends on three things:

- whether the farmer has an existing business plan, budget and physical and financial record system;
- which type of approach is used in the "benchmarking" activity in which the farmer participates, and
- whether and how the farmer uses the information to identify opportunities for gain and implement changes to how he or she does things.

The authors believe that getting the right balance between people, processes and data is the key to a successful farm benchmarking activity. Some benchmarking activities focus heavily on the adult learning and training process but put little emphasis on having quality data on which to make farm business decisions. Others put farmers through a numerical wringer but don't link the numbers to the underlying production processes through which farmers enact their enterprise business plans.

Benchmarking can be used to assess:

- if the planned production levels for farm resources are appropriate or sub-optimal;
- if the planned unit costs of production are appropriate or sub-optimal, and
- how actual outcomes compared to planned outcomes.

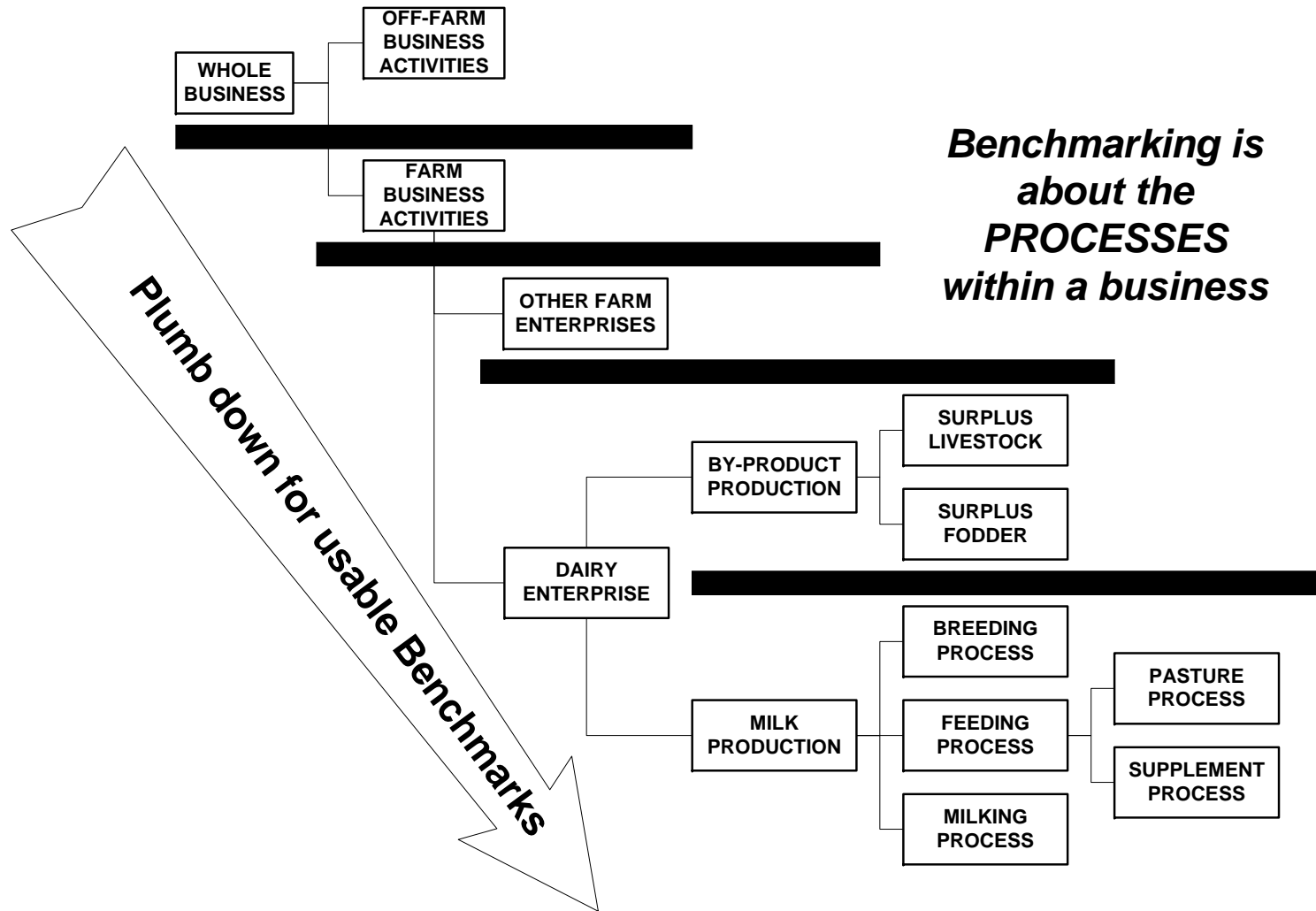
Importantly, benchmarking can highlight the production and management practices and processes that are driving enterprise costs of production and profitability. One farm's "drivers" may differ from that of other farm businesses. Knowing what and why helps the farm manager to review the scope for change.

Benchmarking reaches its best potential when combined with modelling the individual farm business. Such models allow the farmer to apply benchmarks in the context of the business and cater for the achievable rather than the unachievable. Modelling the relative impacts of changes to production and management practices (sensitivity analysis) can identify best-bet options and is an essential step in getting value from benchmarking.

There are many paths to profit. If a primary producer has a decent view of where the farm business is at now, balanced, process-based benchmarking can provide insights into not only where it could be but also how to get there.

⁹ Factors Impacting Production and Economic Variability in Traditional Midwest Swine Enterprises, John D. Lawrence, John Shaffer, Arne Hallam and Thomas J. Baas, (1998) Journal Paper No J17494, Iowa Agriculture and Home Economics Experiment Station, Ames, Iowa, USA

Figure 2



Benchmarking has the potential to add more objective business comparison information to the type of information that farmers have traditionally valued from field days, farm walks, group networks and consulting services. So, while it may be a different tool, it is just another way of getting more of the same 'learning by comparison' information that farmers have drawn upon in the past.

The acid test of a benchmarking activity is if it facilitates change for the better in how farmers do things and the results obtained; that is, sustainable productivity growth and better profits. Australian agriculture faces many new challenges ahead. Without appropriate benchmarking activities, rural industries will be less able to react proactively and appropriately to these challenges. As the 21st century commences, the issues of industry benchmarking standards, farmer participation and systems evaluation are central challenges.

7. Benchmarking in Context

"Performance is better judged when it's in context."
PeopleSoft, 1999¹⁰

"In a wide variety of firms, benchmarking has proven to be the instrumental process in their turning unproductive operations into efficient, profitable ones."
Robert C. Camp, 1995

"The danger of (borrowing the good ideas of others) is that a strategy that worked well in one organisation may bomb in yours."
Mark Graham Brown, 1996

Benchmarking does some things that cannot be expected to gravitate out of individual business analysis or a general awareness of new technology and management innovation possibilities. Process-based benchmarking permits a sequence of data inquiry, mining beneath broad business and enterprise performance outcomes down to processes influenced by management and the environment. It identifies and illustrates production processes which, through systemic linkage to operational approaches, business structures and supply chain arrangements, if changed, can result in improved productivity and profitability. It focuses on the key drivers of competitiveness that managers control (Figure 3).

While benchmarking is a pointer to potential change, it is not a trigger for automatic change. It is a complement, not a substitute, for production economic analysis through the use of planning tools including the above-mentioned 'partial' and 'whole farm' analysis. The suggestion that these traditional planning tools could be used just as effectively without benchmarking fails to get both business analysis and benchmarking into proper perspective.

Analysis without benchmarking assumes perfect knowledge of the full range of production process possibilities. It denies the motivating role to managers of getting their individual performance into the broader perspective provided by relevant comparison with others in the same industry or using the same processes. For example, benchmarking is being applied to specific farm processes such as milk harvesting, where lack of knowledge about productivity-enhancing technology and management is being overcome through a nationwide program¹¹.

To act upon benchmarking results without then doing modelling, cost-benefit analysis or partial budgeting would miss a vital step - 'knowing your own business' is fundamental. Only with a thorough appreciation of an individual business's performance does benchmarking have a place at all.

Innovation and change gives analysis and benchmarking their daily grist. Change from any source prompts analysis of implications. Expansion of production possibilities through innovation is fertile ground for benchmarking as individual businesses benchmark their practices and processes against others applying the new technology.

Chenhall and Langfield-Smith (1999) list benchmarking among six innovative management approaches having a significant impact on change and improvement in (non-farm) business systems in Australia:

1. activity-based costing
2. activity based management
3. benchmarking
4. integrated budgetary systems

¹⁰ Advertisement in Australian Financial Review, 12 October, 1999

¹¹ "Work smarter not harder – a guide to benchmarking labour productivity on dairy farms" (Klindworth, 1999).

5. key performance indicators
6. balanced scorecards.

The extent to which these approaches can be applied within Australian agriculture may have a significant impact on the rate of management change in and sustainability of the farm sector in the future.

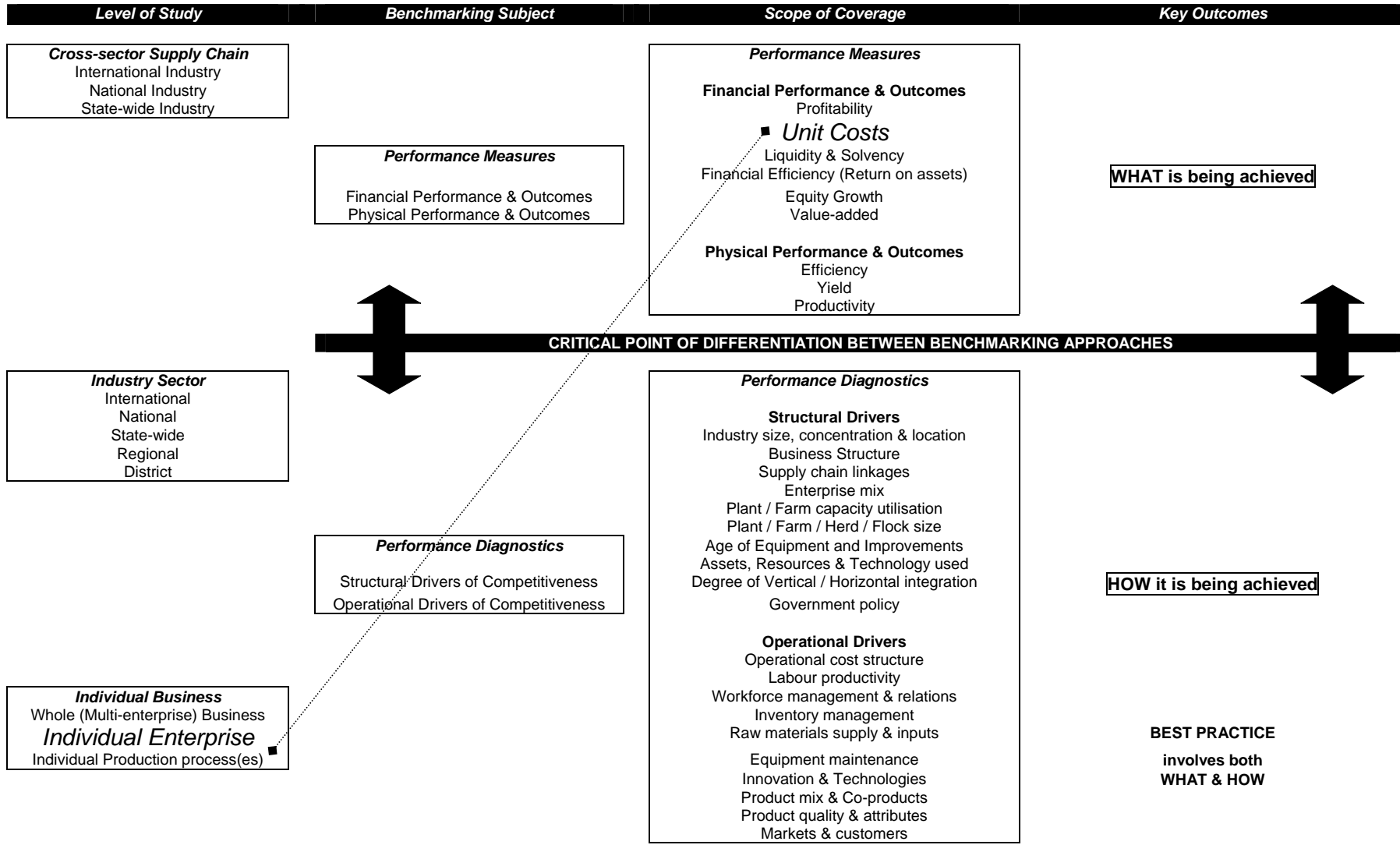
So, the proper context of benchmarking is that it is one of a number of innovative systems in business management. To argue that benchmarking has no place in Australian agriculture is to argue that nothing can be learnt from comparison of like enterprises or processes. To argue that benchmarking is unsound and superfluous to whole farm analysis is to fail to discriminate between good and bad approaches; it fails to recognise that the technique is most sensibly viewed as complementary to whole farm analysis.

When many of the world's best businesses use benchmarking routinely or strategically, where is the farm business that could not benefit? It would be illogical to extrapolate from the existence of some bad "benchmarking" approaches in agriculture to conclude that all benchmarking is bad and that there is no place for benchmarking in agriculture.

8. Conclusions

- Benchmarking is an innovative management tool, with its roots in non-farming. Much 'benchmarking' in Australian agriculture is no different to discredited farm comparative analysis. Some "benchmarking" includes problematic indicators, some offer unsound substitutes for standard farm accounting parameters and some are a poor basis for farmer decisions about continuous improvement. Given the range of "benchmarking" practiced in Australian agriculture, general criticisms by agricultural economists about benchmarking are tarring all benchmarking activities with the one brush. Circumspection is needed to accurately attach criticism and credit where they belong. Agricultural economists and professional advisers can and should take a lead role in the long-overdue renovation of "benchmarking" in Australian agriculture.
- Best practice benchmarking systemically links processes and performance, provides a balance of production, financial, environmental and social indicators and presents information which enables easy, unambiguous interpretation by farmers. It is not a substitute for production economic analysis. It can aid the pursuit of productivity and profits by farmers through richer information about enterprise performance and can provide a catchment of ideas for continuous improvement.
- Best practice benchmarking has a legitimate place in Australian agriculture. Research and Development Corporations and industry organisations have the opportunity to establish 'world best' standards for farm benchmarking, but this will require the setting of quality guidelines, greater conformation to those guidelines and more evaluation of the continuous improvement impacts achieved. Getting benchmarking into its appropriate context and up to best practice is a challenge for all servants of agriculture and mirrors the challenge for Australian farmers to benchmark the performance of their businesses in the context of their industry and their local and global markets.
- In summary, the authors agree with much of the criticism of current benchmarking by Ferris and Malcolm. However, rather than damning an innovative business tool simply because there is little 'best practice' in evidence, we believe that Australian agriculture should accept the challenge to pursue best practice benchmarking in the interests of the farming community. By working to fix current weaknesses, Australian agriculture has the opportunity to stop wasting resources and start gaining an edge in the linkage of farming practices and physical and financial outcomes. It is a crucial and worthwhile challenge but requires the ability to discriminate between present practice and best practice benchmarking and the will and capacity to close the gap between the two. The stakes warrant the effort.

Figure 3: Agribusiness and Farm Benchmarking Scoping Chart



- Level of study, benchmarking subject and scope of coverage are NOT independent. For instance, if UNIT COSTS are required, level of study needs to be at the individual enterprise level. If supply chain linkages are important, level of study needs to be cross-sectoral. Data requirements and procedures underpinning the benchmarking activities vary with the desired level of accuracy and validity. Study costs likewise vary considerably with study scope and scale.

9. References

- Brown, M. G. 1996, 'Keeping score: using the right metrics to drive world-class performance', Quality Resources, New York, USA.
- Camp, R. C. 1995, Business process benchmarking', American Society for Quality, Milwaukee, Wisconsin, USA.
- Chenall, R. and Langfield-Smith, K. 1999, 'Innovations in management accounting', Australian Certified Practising Accountant, September, pp. 76-78.
- Chenall, R. and Langfield-Smith, K. 1999, 'Reasons for Innovation', Australian Certified Practising Accountant, October, pp. 75-77.
- Cleary, G. 1998, 'Aspects of dairy farm benchmarking in USA, Ireland and Denmark', Study Tour Report to Dairy Research and Development Corporation, unpublished.
- Cook, V. and Ronan, G. 1994, 'Ratios and other performance indicators used to assess the business position of farms under financial pressure'. In 'A Positive Approach to Farm Adjustment', Primary Industries South Australia.
- Ferris, A. and Malcolm, B. 1999, 'Sense and nonsense in dairy farm management economic analysis', 43rd Annual Australian Agricultural and Resource Economics Society Conference and 6th Annual New Zealand Agricultural Economics Society Conference, Christchurch, New Zealand.
- Klindworth, D. 1999, 'Cut down on time in the dairy', The Australian Dairyfarmer, November-December, p. 66.
- Malcolm, B and Ferris, A. 1999, 'Benchmarking benchmarking', Paper to Farm Management Society - South Australia workshop, Waite Institute, Adelaide, South Australia.
- Mauldon, R. and Schapper, H. P. 1970, 'Random numbers for farmers', The Journal of the Australian Institute of Agricultural Science, vol. 36 no. 4, pp. 279-284.
- Mayfield, A. O'Callaghan, P. Rendell, R. and Clark, N. 1997, 'FAST business health benchmarks for farming systems in the mid-north of South Australia.
- O'Callaghan, P. Rendell, R. and Finlay, J. 1998, 'FAST business health benchmarks for farming systems in Western Australia', Neil Clark and Associates, Agricultural Consultants, Bendigo, Victoria.
- Spendolini, M. J. 1992, 'The benchmarking book', American Management Association.
- Patterson, A. 1999, 'Benchmarking the wool enterprise: a standard approach endorsed by the industry', The Woolmark Company, Parkville, Victoria.
- Webb Ware, J. 1997, 'Benchmarking for technical excellence: The Mackinnon Project perspective', Veterinary Clinical Centre, Werribee, Victoria.
- Worsley, A. (pending publication), 'Review of benchmarking programs in Australia's rural industries'. Rural Industries Research and Development Corporation, Canberra, ACT.