

Continuous Business Improvement: An animal difficult to domesticate

Kate Roberts* and Mark Paine**

Abstract

Recent events such as the deregulation of the dairy industry in Australia focused attention on the importance of business management practices and the need to react to and be proactive about change from an informed position. Service providers responded to this need by providing a range of business and continuous business improvement (CBI) products and services. This paper reports on a study of two of these products and services (*Continuous Improvement and Innovation* and *Balanced Scorecard*). A literature review was conducted before field work involving four case studies. Case study research was then used to document the practices that participants used in a group based CBI program. Observations focused on how program participants applied the principles and processes of continuous improvement. Three other case studies are also introduced in this paper as part of a cross case analysis. Analysis of the case studies determined that principles of CBI relevant to advisory services were highly aligned with action research. The action research methodology therefore provided a way to implement CBI for professional development and product development possibilities for advisory services.

Keywords

Continuous Business Improvement, Action Research, Advisory Services

This paper introduces the concept of Continuous Business Improvement (CBI) as it is used in the Australian Dairy Industry and then reports on a study involving four extension programs that in some way used a continuous improvement approach to design and deliver their services.

Background

Two initiatives in the Australian dairy industry have accentuated the demand for advances in CBI. The first was the deregulation of the milk supply market in Australia. It has resulted in severe price reductions for many farm businesses. These price reductions place additional pressure on farmers to use every possible means to improve their business performance. The second initiative has been the national delivery of projects to support farmers coping with the changing business environment, particularly the *Dairy Business Focus* and *Decisions for Action* projects. These projects have effectively primed many farmers to adopt a more inquiring approach to their farm management with respect to goal setting, monitoring of business performance and the handling of communication and human resource issues. Rendell McGuckian in their final report on *Decisions for Action* explicitly refer to the principles of continuous improvement as being the basis for building a benchmarking philosophy in the dairy industry (1999, p.31) “Continuous improvement is about continual learning and is not about having done or not done some training on a subject”. To really understand and adopt the principles CBI requires a question to be regularly asking: “how can I do this better?” To answer this question requires a process that defines what the aim/goal is, how a practice is performed now, and how new ideas are created.

* Roberts Research and Evaluation Pty Ltd, Suite 311, 343 Little Collins Street, Melbourne 3000 Australia.

** Institute of Land and Food Resources, University of Melbourne, Victoria, 3010, Australia.

A number of programs had been operating across Australia that in some way were using a continuous improvement approach, however no study had set out to determine the effectiveness of the approach with a view to guiding the design and evaluation of future program designs. Dairy Australia¹ therefore commissioned a research project with the objectives to:

1. Determine farmer perceptions of their need to continuously improve their business performance;
2. Develop a methodology that assists service providers to make the shift from the delivery of technical services, to services for improving farm management processes;
3. Recommend changes in the design and development of business management programs and processes for farmers.

Literature Review

A literature review was used to explore and compare the concept of CBI, as used in the business management literature, with what occurs in the Australian dairy industry. This comparison aimed to identify relevant concepts that may be adopted and modified to fit into a dairy context. Action research was examined given that the bulk of the training in CBI for this project (*UM 10837: Continuous Improvement in the Dairy Industry*) was underpinned by action research principles and practice.

The objective of CBI in this context was to improve overall business performance and to provide clear links between improving quality, customer satisfaction, market share and ultimately, profit (Povey, 1996). A range of tools fall under the banner of CBI. These are benchmarking, self-assessment, measurement, continuous improvement, and business process re-engineering (Povey, 1996). We will restrict our discussions here to benchmarking and continuous improvement.

Benchmarking is the process of comparing and measuring an organisation's operations against those of others inside or outside industry. The notion of best practice is closely associated with benchmarking. There are distinct types of benchmarking: process, performance and strategic benchmarking. Davies and Kochlar (1999) made the point that benchmarking often fails because not enough time is committed to determine if it really makes a difference to business performance. They insist that benchmarking requires a long-term focus.

CBI is an on-going cycle of obtaining feedback from the various sectors of the business such as management, customers, suppliers and using this feedback for decisions on goals and indicators of success. Continuous improvement is used as a tool to improve quality and in some cases is associated with total quality and so requires employee participation across all levels of the organisation. It is thought that this knowledge gives organisations a competitive advantage because it cannot be replicated. This is similar to the *Balanced Scorecard* approach offered by Kaplan and Norton (1996).

Action research forms the basis of some continuous improvement processes, particularly those associated with the work of Clark, Timms and Roberts (1999). Action research is collaborative research based on an egalitarian approach. It integrates the principles of adult learning and has a defined structure that examines the outcome of activity. The structure is in four parts: action, observation, reflection and change (planning). Emphasis is placed on the reflective phase to ensure that actions are thoroughly analysed before decisions about change are made.

¹ Dairy Australia is a national dairy organisation that funds research from funds derived through dairy farmer levies.

One application of continuous improvement to Australian agriculture and in particular the dairy industry, has been through the training offered by Clark and Timms (2001). They attempt to deal with continuous improvement at the practice, process and systems levels. There have been issues of uptake with all the processes used. With some, the training failed to reach expectation and with others, the information generated by the process was not used.

When practices in the dairy industry and corporate business were compared, it was found that both have a poor understanding of benchmarking, particularly process benchmarking. They differed in that corporate business was more aware of the needs of their customers than dairy farmers. The suggestion was made that if dairy farmers were more aware of their customers, they could plan ahead more effectively.

Advisors serving rural Australia have adapted the findings from international and Australian research to local requirements. The *Continuous Improvement and Innovation* (CI&I) product developed in Queensland by Clark and Timms has drawn on diverse sources to build an integrated training program appropriate for both farmers and service providers (Clark and Timms, 2000). CI&I uses a modified form of soft systems thinking to address issues of innovation and change. The focus is primarily on the innovative behaviour of people and business performance and is treated as an outcome of management performance (i.e. the ability of people to manage effectively). Clark & Timms describe innovation as, ‘a process of generating ideas and concepts and developing these into a product or process that achieves change in the real world.’ (op. cit., p12.). CI&I is, therefore, a product to initiate and advance innovative processes by individuals.

The continuous improvement process as defined by this study, is one that has four propositions at its core. The first is a defined, cyclical structure of action that moves logically from one step to the next. The second is, the individuals who undertake these actions, especially if they are carrying them out as a group, are bound by a set of principles. The third is that the cycles of action are repeated until the issue at hand is no longer in need of improvement. The fourth proposition is that data from the monitoring of actions are recorded so that they can be analysed and used to inform decisions (Kemmis and McTaggart, 1991; McNiff, 2002).

An investigation of CBI in the Australian Dairy Sector

A project was undertaken to investigate the development of social technologies (cf. biophysical products and services) that enabled individuals and groups to advance CBI in their dairy farm management. Four case studies of dairy advisory services were used to examine CBI in practice. Each of these case studies investigated an approach to CBI that differed in context, problem situation and scale of activity:

1. New Product Development (Vic, New CBI product),
2. Farm business management (NSW, Dairy Check),
3. Program management (Tasmania, TOP), and
4. Learning and change management (Qld, Dairying Better and Better).

These investigations identified the design criteria and specifications for a methodology that advisors can use when they are determining farmers’ business management needs. A cross case analysis was used to develop a generic decision framework for a second stage of the project that specified how to integrate monitoring, use of analytical tools and the role of advisors with respect to farm management decision

making. This second stage is not reported in this paper. The framework addressed both farmers and advisors' development requirements for improving current business management programs and identified possibilities for new project initiatives. The CI&I model of training (Clark and Timms, 2000) was associated with three of the four case studies. The Balanced Score card was used in the fourth case study.

Case Study 1: New Product Development

This case study investigated the development, piloting and statewide delivery of a new CBI product for farmers. The Victorian Department of Natural Resources and Environment (DNRE) development team within the Target 10 group used the CI&I materials to develop and pilot a group learning based product for farmers.

Case Study 2: Farm Business Management

DairyCHECK is a project within the Dairy Do It program operating in New South Wales. Dairy Do It is designed to provide comprehensive farm business support to cope with the challenges posed for farmers through deregulation. DairyCHECK specifically addresses the decision-making skills of the farm management team through the provision of information and new management tools.

Case Study 3: Program Management

Targeting Our Profitability (TOP) is a Tasmanian extension program that has recently set a new target to have local dairy farms improve their return on capital and achieve at least 10% (on-farm improvement of at least 2%). The project began in June 2001 and involved a combination of farming systems research work, discussion group activities and linkages with private sector consultants.

Case Study 4: Learning and Change Management

Dairying Better and Better (DBnB) (Queensland) used the CI&I training materials to design the facilitation and delivery methods for participants. The managers of DBnB are observing considerable variability between the performances of the different groups involved in the program. This case has, therefore, used the same generic process as Case Study 1 but has used a less standardised approach to applying the CI&I process to develop and implement a management support service to farmers.

Case Studies 1 and 4 enabled an assessment of the robustness of the CI&I process when used as a basis for new product development (Case Study 1) and service management (Case Study 4).

Data were drawn using a combination of existing monitoring and evaluation activities. Additional data were sourced from participants in the four case studies using:

- Interviews by telephone (DBnB, DairyCHECK, TOP);
- Face to face discussions meetings and other events (DBnB; DairyCHECK, Target 10); and
- Focussed discussion at evaluation and review meetings (DBnB, Target 10).

The remainder of our paper will discuss the case studies in more detail before summarising our conclusions from across the cases.

Case Study 1: New Product Development – Target 10 Victoria

The CI&I approach was used in this program. The outcome of the continuous improvement process was that it worked reasonably well with the farmers even though they did not necessarily know about its detail. Four different methods to introduce CBI to farmers were tried and in the end it seemed that it did not really matter which method was used. The four methods were a combination of: having or not having a specific project to work on and having the CI&I process made explicit or not. On the whole, farmers valued some of the tools that were part of the process and some thought that there was value in the cyclical nature of the process. There were a number of on-farm changes during the course of the project that resulted from use of the process.

This group benefited from the adult learning approach and some of the tools used in the delivery CI&I, such as ‘specialist questioning’. The use of the cyclic process was not reported as being still used by the team members although there was a statement about the gratification of seeing at least one farmer benefit from its use. The major turning points for this group were: accepting the role of facilitator as opposed to technical expert, and working with undefined outcomes and working with the right people. In future, the CBI approach will be used in other projects such as pasture management, project management, and animal nutrition. There may also be opportunities to integrate the approach throughout the dairy program and the Department of Primary Industries (Victoria).

Facilitators in the Target 10 project, made a concentrated effort to introduce the process methodically to their farmer groups. The use of the process for their work of developing a new product was not so methodical. Even so, the value of their experience, is that the implementation of a continuous improvement process could be finally examined for its usefulness and was not clouded by facilitator difficulties with the concept.

The expected outcome for the CBI program was “Dairy farmers are continuously using improvement processes to identify and act on specific opportunities which improve the enterprise, financial, people and environmental aspects of the farm business” (CBI Team, Sept. 2000). However, this was a first attempt to introduce dairy farmers to the practice continuous improvement and it was a first look at what it may take to help farmers continuously improve and innovate, but more work needs to be done.

There was a change in attitude by most facilitators when it came to research as well as extension. For example, some of the findings were that:

- “changed my perception of how many different ways you can do things; this is a valuable alternative approach to undertaking extension research and development.”
- “we are doing something really original and significant internationally.”
- “the action research approach allows both experienced and inexperienced advisors to participate meaningfully. It doesn’t require any one individual to be highly skilled.”

Monitoring and recording by extension staff has increased considerably as a result of participation in this type of research. In addition, innovative approaches to monitoring have been trialled and adopted (eg a learning log to record observations and reflections and used during, after, and between CBI group and team meetings). The research approach encourages data to be collected and reviewed on an ongoing basis. This resulted in early identification of what was working and what needed changing. This real time assessment resulted in changes to monitoring, data collection and implementation. As facilitators encountered negative reactions by the farmers. The team worked on several modifications to monitoring methods before deciding on an approach that was agreeable to all participants.

The extension team is now in a better position to design and implement an extension action research project as a result of CBI. Members of the team used this experience in designing approaches to potential new RD&E projects. Action research is new to most facilitators and it presents an opportunity to take a flexible approach to research rather than the usual fixed design of traditional experiments. This is particularly suited to technology that needs to evolve over time as new issues emerge.

Case Study 2: Farm Business Management – DairyCHECK NSW

Facilitators in DairyCHECK were at an advantage when it came to implementation because they used products they developed themselves and adapted to the CBI approach. They found these useful. With some modifications, these materials could be used in the future as a vehicle for extension staff to gain experience with the continuous improvement process.

The post workshop evaluations in DairyCHECK encouraged by the continuous improvement process was seen as a useful innovation because review and evaluations were not previously part of usual workshop activities. The facilitators passed their evaluations on to the coordinator of the program who then used them to improve the program and give the workshops a consistency.

A simplified version of the CI&I approach was used in this program. Manuals on various aspects of dairy farm management were developed that incorporated the CI&I process. These manuals covered herd, shed and labour management and farm business management.

There was support from all staff about the value of the DairyCHECK. However, ideas on how it should be used with farmers were mixed. One person felt it was good when the process remained a tool for delivery and not for farmer use with only the content (e.g. pasture management, shed management etc.) ever made explicit.

When extension officers were asked what was different about the DairyCHECK facilitation process, two stated that they did not perceive anything different from what they were already doing (one because s/he was already familiar with action learning and the other because s/he was still carrying out extension in the same way). Two others considered that it was more about facilitating learning than teaching. The remainder felt that they could now deliver a better product because it provided structure, quality materials, and data for review and focused on what was relevant.

However, in almost all cases, farmers were not explicitly told about the nature of the approach. Only one person showed the process to his farmers. Even so, the field staff using this process did not want anything changed. They found it helpful and effective.

There was consensus that the original CI&I training was “over kill”. The coordinator of DairyCHECK simplified the process before releasing it for use by the field staff. All the field staff, apart from one, are reviewing their activities and projects more than they did before DairyCHECK was implemented.

Case Study 3: Program Management – Targeting Our Profitability (TOP) Tasmania

The *Balanced Scorecard (BSC)* approach was the CBI process used in this program. With regard to program management, the TOP program has gone from looking at farms to looking at farming systems. Workshops with bankers expanded the process of increasing profit to also include strategic planning and benchmarking. Outputs from the workshops led to topics for discussion groups and field days and

courses in areas where skills were needed. Selecting areas in which to make a difference was done on a whole of industry basis, using evaluation information and a five-year industry survey.

The process to review management of the program is cyclical because the committee met four times a year and reacted to various reviews. Also decisions are made about where to go in terms of what workshops to deliver where. Evaluation was done internally in some cases. However there was no systematic recording of the continuous improvement aspect of TOP.

The program was successfully implemented at the program level because program managers were familiar with the strategic planning process used in the BSC approach. Program managers were committed to BSC and used it themselves. The program is well supported by senior management.

TOP has provided training opportunities for extension staff. Younger staff have embraced this strategic planning process and the chance to deliver what they regard as dynamic learning events involving a variety of projects.

The products developed by TOP were popular and well attended. However, the continuous improvement process promoted by the BSC system was not given to farmers through TOP, only the products developed as a result of the use of BSC at Departmental level.

Case Study 4: Learning and Change Management – Dairying Better and Better Queensland

This project stalled in some regions because of drought and deregulation. In the regions where the CI&I process was implemented, the findings were that the process was too complicated, theoretical, and overburdened with tools many of which were not useful and therefore, did not need to be learnt. CI&I was seen by this team as a tool to use for business improvement but not as a way to change thinking about the business or the system in which the business operated. One of the greatest advantages of the Dairying Better n Better project was the integration of its key stakeholders.

Facilitators in Dairying Better and Better were largely unconvinced by the process and, therefore, had difficult implementing it.

The CI&I process was conceptually appropriate because the principles are universally applicable to dairy farming in an increasingly demanding commercial environment. However, these principles needed to be explained more thoroughly to extension staff and those working with farming groups.

The training package was partially appropriate because it provided an ensemble of tools for farmer facilitators and extension agents. However, the number of tools and requisite knowledge to apply them appropriately, tended to deflate and discourage the time-stressed participants.

Findings Across the Case Studies

An advantage of CBI in the Target 10 Case Study was that the process promoted trust that resulted in frank and open exchange of information and thus, farmers learning from each other. Facilitators in this case study observed that farmers made small, incremental change rather than introduce major innovations to some aspects of the farm. However, it is argued in the report that they now think differently about their farms and that can be regarded as innovative. Facilitators also felt that compared to other extension activities, CBI was resource expensive, in terms of the time and personnel needed to run it.

Facilitators in DairyCHECK were at an advantage when it came to implementation because they used products they developed themselves and adapted to the CBI approach. They found these useful. With some modifications, these materials could be used in the future as a vehicle for extension staff to gain experience with the continuous improvement process.

Facilitators in Dairying Better and Better were largely unconvinced by the CI&I process and, therefore, had difficulty implementing it.

The *Balanced Scorecard* approach stimulated thought about an holistic approach and TOP evidenced very sound beginnings of that holistic approach to farming.

For the future, greater effort may need to be made to work with the current practices and environment of extension staff so that they have ample opportunity to learn a new process properly before they are expected to use it with farmer groups. Through interactive and reflective discussion with peers, managers and advisers, the transition from traditional extension to a different form (in this case, continuous improvement) may be less disruptive and threatening. If the ultimate outcome is one supported by extension staff then it is more likely that it will lead to a dairy industry that is more competitive internationally.

Three themes about the emergence and influence of CBI on advisory programs were identified from the cross case analysis. These themes are discussed before making a concluding comment on the current status of CBI in Australian dairy advisory programs.

Theme 1: CBI as a philosophy

The effectiveness of CBI as an approach to changing management practice depends on the extent to which each practitioner grasps and embodies the philosophy that underpins its use. It is unrealistic to assume that the simplicity of the approach (i.e. the six steps in the CI&I training that are arranged in logical cycles of action learning) ensures widespread understanding. A concise statement of the CBI philosophy will only partially resolve this need for understanding, because the power to innovate and continuously improve is primarily understood through the *doing*. It is by taking action and following through on all the steps that people come to understand the subtle influence of the philosophy on their actions. Notwithstanding this caveat, a more concise documentation of the principles is required than those currently provided in the current CI&I manual.

Theme 2: CBI as a toolkit

A toolkit metaphor has been popular among people working with CBI. This is not surprising given the extensive listing of tools in the CI&I manual. A number of these tools were effective for enhancing performance as facilitators and as practitioners of CBI. A concern is that no facility currently exists that helps with the selection of tools; checking that they are applied correctly to the issue; or evaluating how these tools are performing in practice. There is a risk that CBI is viewed as a toolkit only without an adequate grasp of the action learning philosophy that underpins continuous improvement. The tangibility of *tools* accentuates this risk (conversely the abstractness of action learning makes it less attractive). A third element to CBI is, therefore, required to ensure philosophy and tools are combined using a capacity building framework.

Theme 3: CBI as a means of capacity building – process in practice

Facilitation of CBI requires a comprehensive understanding of the process, and competence with tools that help participants to *give it a go* in their own situation. A facilitator may possess an extensive technical knowledge of a topic that participants may want to tackle. However, the facilitator needs to frame questions and respond to requests in a way that requires active effort on the part of the participant to construct their own understanding of the issues and solutions to their problem. Alternatively, where the facilitator lacks a technical grasp of the topic, they can act as a critical friend to the participant as they independently build their plans and act on these plans. Effective facilitation of CBI means having sufficient empathy with participants such that jargon is used sparingly, and only when it contributes towards an improved conceptualisation or problem solving/decision-making capacity.

Critical questioning underpins a collective learning by groups that complements the learning of individuals arising from effective recording methods. This questioning cannot occur in poorly constructed groups. We therefore recommend the use of a systematic farmer selection procedure to establish groups with a high likelihood of succeeding in CBI. The development of questioning skills needs to be a focus for all group members - with a special emphasis being placed on the cultivation of strategic thinking skills.

Conclusion and the Future of CBI in extension

Across the four case studies there was evidence that a culture of continuous improvement was initiated through the programs. CBI is starting to establish itself as a relevant process for managing change in the dairy industry. It is important to note that this cultural change is rudimentary and will require ongoing support to become routine practice among current extension staff and farmers. At this stage, knowledge and experience of continuous improvement is not extending beyond those who are interested and convinced by it. Continuous improvement is not gathering its own momentum in the dairy industry. The fact that it has not gathered its own momentum may be due to:

- Recurring difficulties with the content of the CI&I training and its application;
- Difficulty with finding a normal place for a continuous improvement process within the working environment of extension staff;
- Advisors are challenged by this sort of approach because it has a direct impact on their relationship with their farmers as well as their preferred method of information exchange; and
- A reluctance by the farming community to accept the concept of continuous improvement as it has been presented to them.

The influence of CBI on new extension programs appears to have several possible applications:

1. Use with farmers in development and delivery of syndicate

One of the new development areas in the current Target 10 brief, are dairy community syndicates (learning groups). It is recommended that the key attributes of the CBI program, as reported earlier in this document, be used in the development of the syndicate program. CBI will be instrumental in addressing the next generation of problems from the technical solution approach. It will help form different partnerships with farmers, where there are multiple sources of information.

2. Use with farmers in the delivery of current Target 10 productivity programs

There are a number of ways CBI could improve the outcomes of the Target 10 productivity programs. Requiring least development, and possibly having the least impact is to simply add a component as a front end and back end to these programs. With further development CBI could be used as the starting point and context for farmers entry to extension, with technical programs organised around CBI. CBI also has potential for working in different ways with different segments e.g. “high fliers”.

3. Used by dairy program staff in development of industry programs

To carry on working with and utilising existing and new skills to continuously improve and innovate on how industry programs are delivered, to achieve better outcomes. There is also an opportunity to use this knowledge in the development of new programs, for example in the development of the Vic - Gatton business management program, for equipping farmers and other industry people with business skills.

4. Use for the management of Target 10

Both within the government supported dairy program as a more effective process of allocating resources, and as a process for the management of extension, and use with the Target 10 regional committees to improve the outcomes for that committee. For example as a process for the committee to achieve improved participation of people who are not currently Target 10 clients, or improve collaboration with other organisations and private industry.

5. Use as a development framework for how RD&E co-operate

This area would need further development, however a few different approaches could be trailed with different research groups.

References

- Clark R.A and Timms, J. (2001). Achieving and Enabling Continuous Improvement and Innovation. The Better Practices Process: focussed action for impact on performance. Department of Primary Industry, Queensland.
- Clark R.A. and Timms, J. (2000). Enabling Continuous Improvement and Innovation. The Better Practices Process: focussed action for impact on performance. The Rural Extension Centre, Gatton, Queensland.
- Clark, R.A., Timms, J. and Roberts, K. (1999). Group Processes for Rural Development: ideas, principles and success factors. The Rural Extension Centre, Gatton, Australia.
- Davies, A.J. and Kochhar, A.K. (1999). Why British companies don't do effective benchmarking. *Integrated Manufacturing Systems*, **10**, 26-32.
- Handy, C.B. (1978). *Understanding Organisations*. Middlesex, England, Penguin.
- Kaplan Robert S, and Norton, D.P. (1996). *The Balanced Scorecard: Translating Strategy into Action*. Boston MA, Harvard Business School Press.
- Kemmis, Stephen and Robin McTaggart. (1991). *The Action Research Planner*. Melbourne, Deakin University.
- McNiff, Jean and Jack Whitehead. (2002). *Action Research in Organisations*. London, Routledge.
- Povey, B. (1996). *Continuous Business Improvement: linking the key improvement processes for your critical long-term success*. Berkshire, England: McGraw-Hill Publishing Company.
- Rendell & McGuckian (1999). Decisions for Action (Benchmarking for a better business) - Final Report to DRDC (pp. 38). Bendigo: Rendell McGuckian, Agricultural & Management Consultant.