

USING THE AUSTRALIAN BUSINESS EXCELLENCE FRAMEWORK TO ACHIEVE SUSTAINABLE BUSINESS EXCELLENCE



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This article demonstrates how the Australian Business Excellence Framework can be used to support sustainable organizational development and success. The objective of the study is to identify the challenges and efforts required for an organization to be fully engaged in corporate social responsibility and sustainable business practices. A case study is used to suggest how the required efforts can be implemented. The case study involves a smelter company in the process of making a 'shift' from unsustainable to more sustainable operations, by implementing a new policy. The new policy will affect all aspects of the company – its people, the management of processes and information and, above all, top management's commitment in leading the transformation. An overview of the stages involved in transforming the company is *preparation, transformation, implementation and sustainable*

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INTRODUCTION

Social responsibility, sustainable development and business organizations

The importance of employing socially responsible and sustainable business practices has received much attention in the past decade from environmentalists, legislative bodies, concerned consumers and business leaders. Companies that want to remain in competition and maintain reputable images have to challenge the meaning of the term 'corporate social responsibility' (CSR) in social, environmental, sustainable and ethical aspects. Commitment to CSR should envelop all employees (i.e. their health and well-being), the quality of products, the continuous improvement of processes and the company's facilities and profit-making opportunities.

There is a need to identify the challenges and effort required for an organization to be fully



engaged in CSR. Starting with a new policy to promote sustainable business practices, adapting to changes will affect all aspect of an organization – its people, the management of processes and information and, above all, top management’s commitment in leading the transformation.

Objective

The article aims to first identify the challenges and efforts required in order for an organization to achieve long-term sustainable business success. Next, a case study is used to suggest how the required challenges can be implemented. The Australian Business Excellence Framework (ABEF) is used to support the article’s objectives.

The Australian Business Excellence Framework

The ABEF represents a systems approach to management (Australian Business Excellence Awards, 2000). It consists of seven main categories (see Figure 1), which address the day-to-day management activities of an organization. It contains the necessary assessment items that can help business leaders manage complex changes at all levels of their organizations.

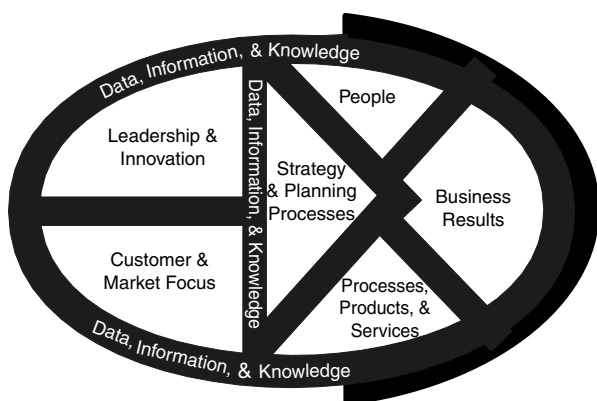


Figure 1. The Australian Business Excellence Framework (Australian Business Excellence Awards, 2000)

The case study

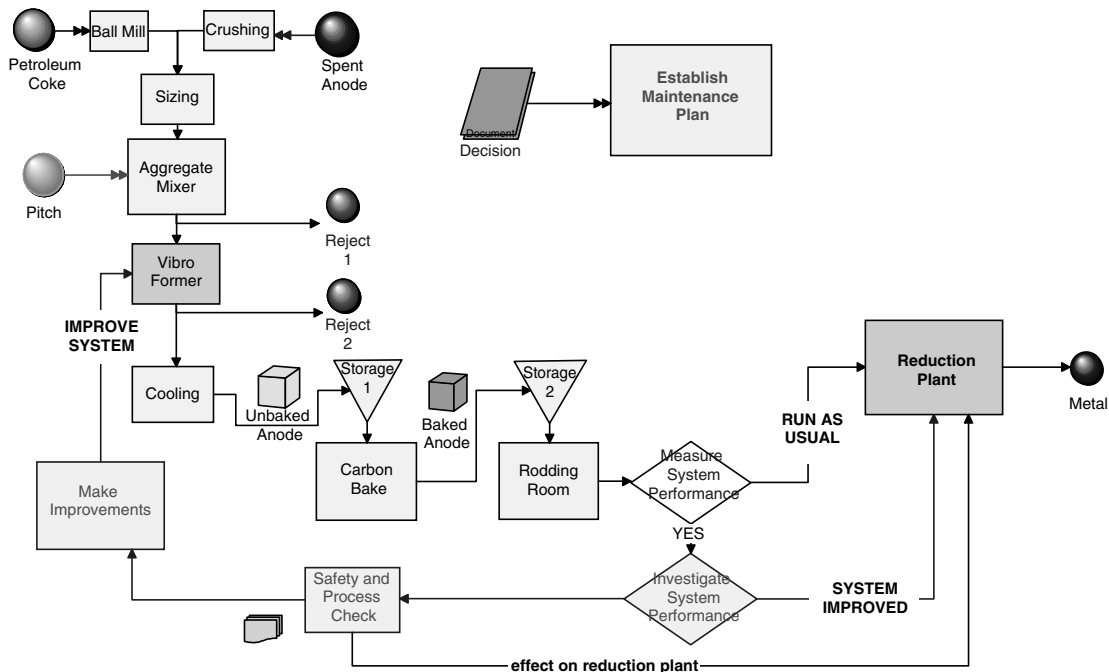
Khoo *et al.* (2001) presented a case study of a smelter plant in Australia, which produced up to 260,000 tons of aluminium annually. By-products such as carbon dioxide emission and solid waste are an integral part of the carbon anode production processes. The plant produces sacrificial carbon anodes, made from petroleum coke and pitch (natural resources), for the production of aluminium. It is a stand-alone facility with a capital replacement value of approximately AUD 350 million.

The case study described how decisions, processes and productivity affected the implementation of sustainable operations within the company. Sustainable manufacturing and development was defined by Khoo *et al.* (2001, p. 94) as

The integration of processes, decision making and the environmental concerns of an active industrial system that seeks to achieve economic growth, without destroying precious resources or the environment.

The above definition was used to illustrate how sustainable development is related to the concepts of progress, economic growth and environmental stewardship. A systems theory and approach, integrated with simulation tools, was applied to test the performance of the smelter company in its attempt to employ more sustainable operations. Figure 2 presents a flow chart of the smelter plant’s main activities, including the flow of materials entering and leaving the system. The implementation of the new management policy is shown as the new ‘maintenance plan’.

‘Hard factors’ such as the amount of pollution incurred, the amount of material and energy consumed and production costs were closely monitored. However, managerial and organizational aspects (‘soft factors’) were not addressed. In this article, the ABEF is used



Main Processes: Aggregate Mixer (where pitch, petroleum coke, and spent anodes are mixed), Vibro-former (where anodes are formed), Carbon bake (where baked anodes are produced), Rodding Room (where rods are formed), and Reduction plant (aluminum metal is produced).

Main resources: Petroleum coke, pitch, new and recycled anodes, and electricity.

Main pollutants: Carbon dioxide and solid waste.

Final product: Aluminum metal.

Figure 2. The smelter plant case study: main processes (Khoo *et al.*, 2001, p. 101)

to address the following ‘missing dimensions’:

- (i) leadership;
- (ii) strategies and plans;
- (iii) information;
- (iv) people;
- (v) customer value;
- (vi) process management and
- (vii) sustainable business results.

This work serves to illustrate the necessary stages required for transforming the smelter plant into a socially responsible and sustainable organization.

LEADERSHIP

Mission and vision, and leadership behaviour

The ABEP first category examines how leaders establish their organizational missions and visions, the personal behaviours of leaders and how they prepare all employees for sustainable success. It also addresses top management’s role in communicating the company’s mission, vision and goals clearly to everyone.

A leader’s behaviour in handling business issues, as well as in making decisions, is crucial due to its high influence on employee behaviour (Johnes, 2000). They must be dynamic and influential decision makers



(Montuori, 2000). They should act as role models or mentors, and influence their employees by displaying in their daily behaviours how business operations should be handled, how working life can be improved and the strong belief that the changes imposed will bring benefit to everyone in the long run. Inspirational leadership is crucial for envisioning and energizing followers (Graetz, 2000). Such leaders are able to encourage their followers to adopt their organization's goals as their own and be committed to making them a reality.

One of the first steps for leaders to take in ensuring that daily business activities are performed according to the company's intended purpose is to 'walk the talk' (Graetz, 2000). Brightman and Moran (2001, p. 253) reported that employees do not trust or have faith in managers who 'talk in one way and act in another'. This type of behaviour causes confusion and makes it difficult for employees to wholeheartedly follow the directions set by their leaders.

Part of the ABEF leadership intent calls also for the demonstration of personal commitment, constancy of purpose and a high level of business ethics. Business leaders have to take into consideration the needs of their people as well as the general public in their quest for profit. Clements and Washbush (1999) identified two types of leadership power. The first type is egoistic, where other people are used for personal gains. The second type is social, where power is used to facilitate organizational cooperation and achievement of greater goals, such as benefiting society. The latter type is required to promote CSR and sustainable development.

Constancy of purpose and business ethics are displayed by leaders who do not waver in their values and principles, for the sake of achieving their goals or ambitions. They possess strong internal values and ideals, and are able to forgo personal pursuits for actions they believe to be morally or ethically correct (Reeves-Ellington, 1998). As an

example, Pasquale Pistorio, CEO of STMicroelectronics (STM), the eighth largest semiconductor company, insisted that sustainable environmental development be treated as a guiding tenet for STM. This management principle was engraved in the company's mission as well as in the CEO's leadership behaviour. Pistorio insisted 'If any commercial activity cannot be made environmentally conservative, it has no place among the company's enterprises, no matter how lucrative it may be (Kador, 2000, p. 72).'

Community contribution

The first ABEF category also determines how leaders contribute to the community beyond their core business interests. The context of 'community' may include geographical regions, the public or society.

In the 'Tragedy of the commons', Hardin (1968) described the 'commons' as a natural commodity available for use by all. The story describes how the 'commons' shared by a community diminished due to overconsumption and greed. This situation can be avoided with wise leaders who are able to establish cooperative guidelines for the conservation of resources. The previous leadership example serves once again to highlight this point. Pistorio's leadership principles were developed based on the understanding that the actions of companies such as STM might have a 'permanent impact on the world his grandchildren would inherit' (Kador, 2000). The basic idea of sharing the earth means that everyone is responsible for causing the diminishing of resources, and that we all need to share in planning for conservation to meet future needs.

STRATEGIES AND PLANS

In the second ABEF category, strategic plans are developed by taking into consideration



various external factors such as economic and social influences, business risks, changing marketing needs and business competition. Montuori (2000) coined an organization's capacity to endure and adapt successfully to external changes as *organizational longevity*. Montuori proposed a systems theory approach to aid in adjusting to conditions of an organization's surrounding environment.

Systems thinking enables the understanding of how events are connected to each other. It allows a 'dynamic, holistic examination of an organization' (Montuori, 2000, p. 63). Harm caused to the external environment by an organization would eventually affect the organization itself. For instance, over-pollution could affect the health of workers, causing loss in time and productivity (due to absenteeism) and money (due to pollution fines). This is an important point to consider in the planning process, not only for the achievement of better environmental performance, but also to retain the workforce's loyalty and commitment.

Many organizations have discovered that well formulated environmental strategies can lead to a number of advantages, such as better quality and reduced cost (Quazi, 2000). The same applies to the case study. Also, apart from introducing and initiating the new company policy, all employees have to be prepared to face new changes and challenges. In a discussion on 'The failure of strategy', Beaudan (2001, p. 66) asserted that change can be achieved by applying two disciplines: *flexibility* and *pace*. Flexibility determines how readily and effectively an organization can respond and adapt to change. Pace is associated with the time it takes to adapt. Leaders must create an organizational culture that is receptive to change and can sustain the strategy over the long run. This type of culture is termed 'learning organization' and will be discussed in the 'People' section.

INFORMATION

The third ABEF category examines how information is selected, collected and created to understand the environment in which an organization operates. The selection of information is crucial for companies to track their progress towards sustainable growth (Hart and Milstein, 1999). Information can be used to analyse a system's progress, or to project an organization's future performance, so that the right decisions can be made.

Changes in the smelter's plant operations will inevitably affect the quantity of environmental discharge. The types of information identified in the case study were (i) amount of natural resources consumed, (ii) amount of pollution released, (iii) amount of solid wastes, (iv) energy consumption, (v) amount of products generated and (vi) production cost.

Khoo *et al.* (2001) applied simulation tools to trace and monitor the information flow (e.g. pollution, productivity etc) in the smelter plant. However, in order to truly learn from the collected information, and perform actions (present *and* future) or make decisions that can bring about positive change, a learning organization must be formed.

PEOPLE

The fourth ABEF category determines how every member of an organization is encouraged to achieve organizational goals and to continually improve themselves. The assessment includes how an organization maximizes its effectiveness through the contribution of its people by providing learning programmes, employee empowerment and guidance for making the right decisions.

Learning organization

The ability to create and disseminate new knowledge to all employees, and to empower them to make decisions, forms the lifeblood



of a learning organization (Montuori, 2000, p. 66). In this sense, information and knowledge should do more than inform. The way knowledge is interpreted will affect people's daily actions and decisions.

In his book *The Fifth Discipline*, Peter Senge (1992) described five disciplines that were designed to create a learning organization. They are: personal mastery, mental models, shared vision, team learning and systems thinking. With systems thinking in place, knowledge and information can be used for seeing patterns of change caused by an organization's actions and that the organization itself is the driving force behind each changing event (Senge, 1992).

With the correct selection of information, such as the types of pollution that are detrimental to human health, the right mental models can be formed. Mental models can be explained by a generalization such as 'harm caused to the external environment by an organization would eventually affect the organization itself' (as quoted in the 'Strategies and plans' section). This creates awareness and makes it easy for employees to see that pollution and waste impact not only themselves, but their families as well (Bimonte, 1995). Employees who understand the costs of environmental incidents will keep in mind potential operational hazards when making critical decisions. This is an important point to consider, especially in today's increasingly empowered workplace.

Ideally, everyone should be involved in implementing the new company policy. This can happen by having a shared vision, or common mission and goals (discussed under 'Leadership'). Team learning and personal mastery involve empowering people to carry out their tasks in the way that they perceive to be most effective – for themselves and for their companies. Empowerment motivates employees to learn, grow and develop. It nourishes team learning and is necessary for wanting everyone to excel (Taborda, 2000). This is also known as 'action learning' (Revas,

1982). Action learning also creates awareness by allowing people to 'learn by doing', thus giving them the opportunity to experience the actual or real effects of their actions, and eventually gain full control over their tasks (i.e. attain personal mastery).

Knowledge, empowerment, action learning and awareness are the building blocks of a learning organization, as depicted in Figure 3. It demonstrates how an organization develops a workforce that has the capability of sensing problems (environmental changes) and responding quickly. This helps organizations to adapt and evolve.

Health and safety

Included in the last section of the fourth ABEF category is how an organization provides a safe and healthy workplace for its employees. Environmental education and awareness programs should include safety issues (Bimonte, 1995). This is to prevent poisonous gas leaks or spills.

Job satisfaction and the quality of life are related. Workers who are frequently in states of poor health, which may be due to an overdose of poisonous fumes from their workplace, cannot enjoy having active lifestyles. Companies that do not provide safe working environments end up bearing high employee turnover. Most people would like to belong to and work in a company that has a corporate image that

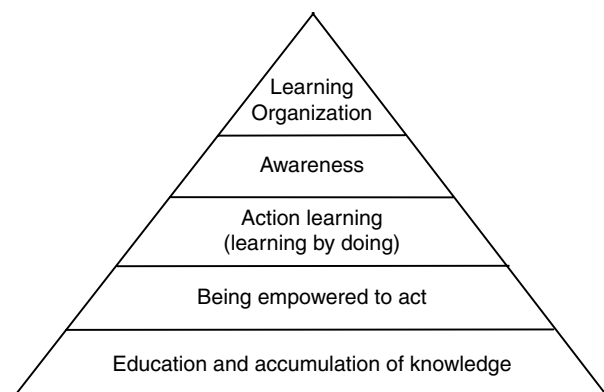


Figure 3. The building blocks of a learning organization



they can feel good about (Reeves-Ellington, 1998). This was shown in a survey involving 403 senior executives worldwide. The survey results revealed that 68% of the senior executives agreed that organizations with poor environmental records would find it increasingly difficult to recruit and retain high calibre staff (Quazi, 2000).

CUSTOMER VALUE

The fifth ABEF category addresses customer needs and expectations, as well as how customers define value. In today's marketplace, consumers play a big role in determining the quality of products and services. Firms have to re-think what value means to consumers. Apart from knowing what a product does, an increasing number of consumers also want to know about the product's impact on the environment. As an example, consumer pressure has influenced companies such as DuPont to behave in a socially responsible manner concerning the manufacturing of its products (Quazi, 2000).

Roarty (1997) asserted that business organizations that do not produce environmentally friendly products, or take charge of the sustainable issues found within their business activities, lose out to competition. Not only can environmentally friendly products be attractive marketing tools, but in many cases they also cost less to produce. This hypothesis was confirmed by the case study of Khoo *et al.* (2001), and will be elaborated on in the last section.

PROCESS MANAGEMENT

The sixth ABEF category examines the management of processes. Included in the assessment are process design and continuous improvements.

In the case study (see Figure 2), the smelter company's processes were highly unsustainable at their initial state. The non-stop operating conditions of the entire system produced a large amount of solid waste and pollution. Operating costs and accident rates were high due to frequent machine breakdowns. Moreover, the production of aluminium metal in the reduction plant was highly energy intensive.

The key bottleneck and quality constraints were found within the mixing and vibration-forming activities (also known as vibro-former) of the plant. The sources of the rejects identified at the bottlenecks were rejected paste from the paste mixer (*reject 1*) and rejected anodes (*reject 2*) from the vibro-former. These two types of reject incur a loss in time, handling costs and purchasing more raw material to meet customer demand. The changes that were suggested by top management included the following.

- (i) The re-scheduling of processes (terminating the non-stop operating conditions).
- (ii) Increase the time for maintenance, impact safety performance and plant housekeeping.
- (iii) Tighter control of resources and energy consumptions.
- (iv) Closer monitoring of the plant's reject rates (*rejects 1 and 2*).
- (v) Monitoring of production costs.

SUSTAINABLE BUSINESS RESULTS

The last ABEF category examines an organization's performance, and by using appropriate measures envisions the organization's future success. The following two performance indicators are germane here.

- (i) Indicators of success over and beyond financial performance.
- (ii) Indicators of sustainability, which include preparation for the future, long-term viability and competitiveness, assessment of



the natural environment and organizational flexibility.

Sustainable business results can be obtained when an organization's activities and functions have become socially responsible and sustainable. A summary of the identified challenges and required efforts that is necessary for the smelter company to achieve sustainable business success is presented next.

CASE STUDY SUMMARY

The formulation of the new company policy in the smelter company started with top management's decision to end the company's unsustainable and inefficient operations. An annual simulation projection of the plant's performance presented an approximate amount of AUD 3.3 million in savings due to reduced reject rates, machine breakdowns and energy and resource consumptions (Khoo *et al.*, 2001).

The implementation of the new policy involved tighter monitoring of machining time and resources, and carrying out more efficient and better planned work procedures. Implementing a sustainable company policy is one thing, *maintaining* the practice is another. Without communicating clear messages (missions, visions and goals) to all employees or creating an appropriate culture (learning organization) to support top management's decisions, the practice of sustainable practices will not last for long. It is highlighted that both 'hard' (manufacturing, technology etc) and 'soft' (leadership, culture etc) factors have to be taken into consideration.

Figure 4 presents an overview of the stages involved in transforming the company from its initial state to a socially responsible and sustainable organization. The stages are *preparation* (involving leadership and strategic planning), *transformation* (involving people and information management) and *implementation* (involving in the smelter company's processes). Finally, the reviewing of the system's

performance is outlined in *sustainable business results*, where true value to customers is provided. Continuous improvement is required for the company to keep up with changing external demands – from customers, the environment and society. In this article, the concepts of CSR and sustainability were well aligned with the company's requirements for development, progress and long-term business success.

CONCLUSION

This article demonstrated how the Australian Business Excellence Framework was used to help implement sustainable business objectives in an organization. The challenges and required efforts that are necessary for an organization to be fully engaged in corporate social responsibility and sustainable business practices were identified. A case study was used to suggest how the required efforts could be implemented.

REFERENCES

- Australian Business Excellence Awards. 2000. *Australian Business Excellence Framework*. Australian Quality Council: Sydney, Australia.
- Beaudan E. 2001. The failure of strategy. *Ivey Business Journal* 65(3): 64–68.
- Bimonte A. 1995. Environmental awareness training. *Professional Safety* 40(10): 22–23.
- Brightman BK, Moran JW. 2001. Managing organizational priorities. *Career Development International* 6(5): 244–288.
- Clements C, Washbush JB. 1999. The two faces of leadership: considering the dark side of leader–follower dynamics. *Journal of Workplace Learning: Employee Counseling Today* 11(5): 170–176.
- Graetz F. 2000. Strategic change leadership. *Management Decision* 38(8): 550–562.
- Hardin G. 1968. Tragedy of the commons. *Science* 162(1243): 48.
- Hart SL, Milstein MB. 1999. Global sustainability and the creative destruction of industries. *Sloan Management Review* 41(1): 22–33.
- Johne M. 2000. The human factor. *CMA Management* 7(3): 30–34.



- Kador J. 2000. Environmental evangelist. *Electronic Business* 26(9): 72–80.
- Khoo HH, Spedding TA, Tobin L, Taplin D. 2001. Integrated simulation and modeling approach to decision making and environmental protection. *Environment. Development and Sustainability* 3(2): 93–108.
- Montuori LA. 2000. Organizational longevity – integrating systems thinking, learning, and conceptual complexity. *Journal of Organizational Change Management* 13(1): 61–73.
- Quazi HA. 2000. Sustainable development: integrating environmental issues into strategic planning. *Industrial Management and Data Systems* 101(2): 64–70.
- Reeves-Ellington RH. 1998. Leadership for socially responsible organizations. *Leadership and Organization Development Journal* 19(2): 97–105.
- Revans R. 1982. *The Origins and Growth of Action Learning*. Charwell-Bratt: Bromley.
- Roarty M. 1997. Greening business in a market economy. *European Business Review* 97(5): 244–254.
- Senge PM. 1992. *The Fifth Discipline: The Art and Practice of the Learning Organization*. Century: New York.
- Taborda CG. 2000. Leadership, teamwork, and empowerment: future management trends. *Cost Engineering* 42(10): 41–44.

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