

INDUSTRY DEVELOPMENT

Case Study

INNOVATION THROUGH HARNESSING CONSTRUCTIVE IDEAS OF CONSTRUCTION PERSONNEL

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ABSTRACT

The construction Industry is one of the significant industries to a country. Any improvement in productivity in the industry can have a positive impact on the general economy. Innovation can be used as a leverage to improve the productivity in the construction industry. A form of corporate innovation, which is often forgotten by many, is harnessing innovative ideas of employees in organisations. This form of innovation can be used effectively to improve the performance of construction organisations.

This paper will examine the importance of this form of innovation and the reasons why it is not popular in organisations. The strategies and systems that can be used to capture, develop and utilise employee ideas in construction organisations are identified and discussed. One of the poorly performing sectors of corporate innovation is the public sector. Promoting corporate innovation in public sector construction organisations is given particular consideration in the paper.

Keywords: Corporate innovation, technological innovation, corporate culture, recognition and reward, suggestions systems.

1.0 INTRODUCTION

The construction industry is a crucial driver of economic activity in Australia. In 2002-03, construction was Australia's fourth largest industry contributing 6.3% of GDP. Production of the construction industry measured by GVD (Gross Value Added) was \$ 45,977 million in the same year (Australian Bureau of Statistics, 2005). The industry employed over 7% of the workforce during the year, employing about 730,000 people (My Future Fact Sheet, 2005).

The construction industry consists of those businesses engaged mainly in the construction of residential and non-residential buildings, engineering structures and related trade services (Australian Bureau of Statistics, 2005). Some writers refer to this industry as building and construction industry. However, in this paper, the word construction industry refers to both building and construction industry.

Smarter construction through innovation can improve the productivity in the industry. Peter Scuderi of CRC for Construction Innovation, Australia has calculated that a modest productivity gain of 1 % sustained from 2005 to 2020 would add about \$12 billion to the GDP for Australia (Scuderi P, 2004).

Corporate innovation, which can significantly contribute to productivity gains, is predominantly harnessing creative and innovative ideas of employees for the betterment of organisations. If constructive ideas of construction people can be captured and utilised, Australian construction industry can significantly improve its productivity. Unfortunately not many construction organisations use this effective tool to improve performance. Therefore, there is a need to discuss the importance of this vital form of innovation.

2.0 INNOVATION AND HARNESSING IDEAS

2.1 INNOVATION AND CONSTRUCTION INDUSTRY

The prosperity of any economy depends on its productivity. Innovation contributes to higher productivity. In the absence of sustained innovation, the rate of growth in labour-constrained economies will ultimately fall to zero. Innovation can drive productivity improvement across all industrial sectors (Gans J, 2003:8).

Promoting innovation is particularly useful to engineering organisations involved in the construction industry as it will help to lower construction costs and improve construction performance (Manley, 2003:55). The survey conducted by the Australian Construction Industry Forum shows that innovation has a positive impact on project outcomes and high innovators are much more successful than low innovators at expanding market share and developing new markets (Australian Construction Industry Forum, 2002: 29). In the report, "The Chance to Change", Australia's Chief Scientist referred to innovation as the only way forward for Australia and identified it as the key to competitiveness, employment growth and social wellbeing. (Batterham, 2000).

There is 'much room for improvement' for the construction industry in Australia in the area of innovation. The Australian building and construction industry is experiencing considerable lower returns (cost savings, increased turnover) from innovation than world averages. Even high innovators in Australia are experiencing lower returns than international averages (Australian Construction Industry Forum, 2002: 49). The survey conducted by the Australian Construction Industry Forum shows that 48% of the respondents from organisations in the building and construction industry surveyed indicated that their organisations had no measure of innovation, either qualitative or quantitative (Australian Construction Industry Forum, 2002: 29).

2.2 WHAT IS INNOVATION?

Invention is the result of creative thinking that leads to the creation of a new technology or process. Innovation is the application of the new technology or process to a new product, service, or production or management process (Baker C., 2001:188). Innovation is the practical application of imagination. During the innovation process, an enquiring, curious and

imaginative mind gathers new information, creates new knowledge and develops new perspectives, perceptions and possibilities that lead to new ideas (Baker C., 2001:13). Innovation involves many aspects such as:

- creating or generating new activities, products, processes and services;
- seeing things from a different perspective;
- moving outside existing paradigms;
- improving existing processes and functions;
- disseminating new activities or ideas; and
- adopting things that have been successfully tried elsewhere.

Innovation can be divided into technological and corporate (enterprise) innovation. Technological innovation is the invention of new technology and the development and introduction into the market place of products, processes, or services based on the new technology (Frederick, B 1998:3). Corporate innovation is to use innovation by whole organisations to achieve benefits. Harnessing employee ideas constitutes a major part of corporate innovation. Therefore, the first involves the development of new technology, whereas the latter encompasses innovation as a culture that permeates organisations.

While technological innovation is important, **the contribution to an enterprise resulting from a truly innovative culture is at least equivalent to the contribution from technological innovation** (Barker, C., 2001:23) [Emphasis added]. Governments and other entities mostly support technological innovation as it is easier to see and measure its results. Corporate innovation has not received its due place in many parts of the world, especially in Australia.

2.3 WHY INNOVATION IS NOT GIVEN ITS DUE PLACE IN ORGANISATIONS?

Writing to the 'The Futurist' magazine, the author of the book titled 'Driving Growth through innovation: How Leading firms are transforming their futures', Robert Trucker says "while the world has changed drastically and organisations pride themselves for having a process for every thing, the process of innovation remains ad hoc, unsystematic, piecemeal, seat of the pants, and, ... heavily dependent on luck" (Tucker R. B., 2003).

There are many reasons why most organisations are less innovative. In his book 'Innovation and imagination at work', Barker says: "The main reasons why companies fail to be more innovative are:

- they falsely believe they are more innovative;
- managers get too busy in the day-to-day issues to focus on innovation (working in the business and not on the business);
- there is insufficient drive from the top of the organisation to prioritise innovation;
- staff are not sufficiently motivated to provide creative ideas;
- there is lack of goal congruence between senior management and staff;
- organisational and poor communication limit (or even suppress) innovation; and
- the culture of the organisation is not one which encourages innovation".

(Barker, C., 2001:19).

As compared to the private sector, public sector organisations are not performing well in corporate innovation. Karen Manley of the Queensland University of Technology, Australia points out that "the public sector's capacity to benefit from robust innovation appears to be currently under-utilised, both in Australia and world-wide" (Manley K., personal communication). Lack of profit motivation and fear of failure are two major reasons for this undesirable situation.

3.0 HARNESSING EMPLOYEE IDEAS

3.1 IDEA HARNESSING AND ITS BENEFITS

Ideas harnessing systems or suggestion systems are not new. They have been in operation for over hundred years. The concept was first recorded in Japan in 1721 with the then Shogun offering rewards for ideas (Beddows A., 2001). The first suggestion system was put into operation in 1880 at the Scottish shipbuilder William Denny and Brothers (Robinson A.G, 1997: 60). Today, idea harvesting systems have become a powerful, energising force for corporate creativity for leading-edge organisations.

Harnessing of creative and innovative ideas leads to innovative activities beneficial to employees and to enterprises. Enterprises receive a number of benefits from innovative activities including efficiency and revenue gains, service improvements, employee satisfaction, and acceptance of leadership status by other organisations and improved credibility. As organisations build innovative cultures, they also augment and develop trust, loyalty and commitment among workers, and enhance the job satisfaction of both the leaders and the workers (Baker C., 2001:xi). A recent survey of 60 organisations in UK, representing nearly one million employees showed first year savings of £89 million by harnessing employee ideas. Notably amongst these was the Ministry of Defence with £21 million savings (Beddows A., 2001).

Contributing in innovative ideas is also beneficial to individual employees as they could receive recognition, promotional and other benefits in enterprises. Highly successful innovative ideas contribute to high financial gains for some employees, especially who work for the private sector.

3.2 SYSTEMATIC APPROACH TO HARNESSING IDEAS

A systematic approach is needed for an organisation to harness employee ideas. Such an approach generally includes an idea generation and capturing system and a conducive environment to encourage and support innovative activities. An idea generation and capturing system requires the following for its success:

- a panel or a network (for a large organisation) of persons to assess ideas;
- a panel to accept or reject ideas; and
- identified personnel to develop accepted ideas.

Web-based systems using sophisticated software programs and themed campaigns are two types of idea generation and capturing systems generally used.

3.3 IDEA GENERATION AND CAPTURING

In place of the 'suggestion box' used in the past, today's organisations use web-based systems for idea capturing using sophisticated software programs that acknowledge and track ideas and subsequent activities. Employees are encouraged to submit ideas directly into the system.

Some organisations encourage employees to submit ideas without giving their identities. This is in the belief that the identification of the suggester may allow the evaluator to form pre-judgments. Whether or not a suggestion is selected for further consideration, each suggestion is acknowledged. If a suggestion is not selected for further consideration, reasons for the same are given.

Some organisations require the preparation of a business case by the suggester for further consideration. This will allow the suggester to look at the idea in a broader organisational perspective and see its relevance to the organisation's business plan. Trained officers are available to assist suggesters to prepare the business case. At the time of preparing the

business case, some suggesters withdraw their ideas, if convinced that the ideas are not compatible with the organisation's overall plan.

Another way of idea generation and capturing is the use of themed campaigns. These are also called 'Innovation Challenges'. They are one-off competitions for employees to forward their ideas for a management-chosen topic and the employee with the best idea is recognised and rewarded. Selection of the best idea is generally by a specially appointed panel. The topics for these challenges could involve the following:

- problems faced by the organisation where solutions are not easy to find;
- problems faced by the organisation where solutions require grass-root ideas; and
- organisational issues which require better understanding by the employees.

An example of a 'challenge' for a construction organisation is 'how to improve the construction quality?'

Both idea generation and capturing systems mentioned above require considerable publicity to take the message across to all employees in the organisation.

3.4 IDEA ASSESSMENT, DEVELOPMENT, IMPLEMENTATION AND COMMERCIALISATION

Idea assessment is made by at least one person (three persons preferable) knowledgeable on the subject area and trained on idea evaluation. Independent evaluation reports need to be prepared by these idea evaluators without consulting each other. In large organisations where a large number of ideas is expected, the assessment is made by a selected number of 'innovation leaders' who are trained to do this work.

Evaluator reports are generally forwarded to a special committee to take decisions on the idea. Often this committee consists of senior officers of the organisation and a few external experts. If the idea is selected for further consideration, an implementation team is formed. Often the suggester is selected as a member of this team (if not the leader) and required facilities are given to develop the idea further. If an idea warrants commercialisation, a separate company would be formed with the suggester appointed as an executive.

4.0 CONDUCTIVE ENVIRONMENT FOR HARNESSING IDEAS

4.1 CONDUCTIVE ENVIRONMENT AND THE ROLE OF TOP MANAGEMENT

Without a conducive environment, innovation will not flourish in an organisation and harnessing innovative ideas will be difficult. An environment conducive to harnessing employee ideas include:

- corporate culture to encourage and support innovation;
- encouragement and recognition of innovators and innovations;
- provision of facilities such as funding, training and mentoring; and
- establishment of a dedicated unit to handle all innovative activities.

It is not possible to have an environment conducive to innovation without the top management commitment. In order to promote innovation within their organisations, top management should focus on the following:

- empowerment of human resources;
- robust incentives to innovate;
- tactics to overcome obstacles to innovation; and
- building support networks, internally and externally.

The top management not only needs to support innovative activities, but also visibly demonstrate their commitment. Actions to encourage and support innovative activities may include personally recognising and rewarding innovators and innovations and emphasising the importance of innovations when they make presentations and issue personal messages to employees. There are many CEOs in high performing companies who invite successful innovators for lunch as a way of recognising them. Innovation often results in failures and mistakes. Accepting mistakes in the process of innovation should be part of the culture and senior managers should provide leadership by admitting their own mistakes in public.

4.2 CORPORATE CULTURE

An organisation with a culture oriented to facilitate innovation has distinguished characteristics including the following:

- trust of employees with a degree of freedom of thought and action to act in the direction of organisational goals;
- encouragement for the development and exploration of ideas;
- understanding and a belief of management that creativity, imagination and innovation are intrinsic to their roles;
- toleration of mistakes if done in the process on innovation;
- recognition, encouragement and support from all levels of employees towards innovative activities;
- high level of knowledge flow within the organisation;
- effective knowledge content management;
- availability of networking facilities within and outside the organisation; and
- strong relationships with clients and stakeholders.

4.3 RECOGNITION AND AWARDS

People will not innovate unless they get some reward, either financial or motivational. Private organisations generally provide monetary rewards for successful ideas. However, those organisations with small or non-existent budgets resort to awards that are more imaginative. These cost little, but have a high-perceived value to the recipient. They can include lunch with the CEO or providing car parking facility. Inexpensive 'give-aways' such as pens, mugs, diaries, calendars and other items of desk stationary are also being used by some organisations as rewards. They have a double effect of saying a 'cheerful thank you' to the recipient and keeping the innovation program in public view. Organisations also use some forms of point systems to reward ideas and the points can be accrued and later exchanged to some form of monetary value for store vouchers or gifts from catalogue. Rewards also can be in the form of company shares, promotions and leadership positions.

Providing monetary rewards is often difficult for public organisations, which generally use recognition and publicity as rewards. Announcing the winner in public alone is a satisfactory reward for many innovators. Organisations use internal publicity to publicise the names and photos of those with adopted ideas. Many organisations have 'excellence award ceremonies' annually to recognise and reward employees engaged in innovative activities. These are highly publicized events with top management participation. When rewarding best ideas from employees, it is also advisable to recognise 'implementers' of ideas. Implementers play a significant role in successful innovations and therefore, need encouragement and recognition.

The best ideas that go into commercialising phase could earn the suggester a substantial financial gain. Many organisations establish new ventures for commercialising ideas with suggesters given high positions to enable them to receive substantial financial gains.

4.4 TRAINING AND OTHER FACILITIES

It is necessary that all who involve in innovation related work are given training. Intensive training is required for those driving innovation related programmes and those who act as innovation leaders and idea evaluators. It is also preferable that at least a section of employees is given general training to understand the importance of promoting innovation in organisations. Depending on the persons to be trained, training may cover areas such as the importance of promoting innovation, how to look outside existing paradigms, problem solving and creative thinking, how to become involved in innovative activities, how to promote innovation and associated values and behaviours and how to evaluate innovative ideas. Innovative organisations also establish mentoring networks to assist innovative thinkers.

It is difficult to manage innovation without a dedicated unit to coordinate and implement innovative activities, unless the organisation is very small. Organisations leading in innovation generally have dedicated units to implement innovation programmes. These units are often established directly under the CEO, with a high profile position as the head of the unit to ensure its prominence in the organisation and the direct involvement of the CEO. The unit is allocated with necessary funding to undertake required activities.

5.0 CONCLUSIONS

The construction industry is one of the significant industries to a country. Any improvement in productivity in this industry can have a positive impact on the general economy. Innovation can be used as a leverage to improve productivity in the construction industry.

One of the most important areas of innovation, which is often forgotten by many, is corporate innovation. Corporate innovation is predominantly harnessing creative and innovative ideas of employees for the betterment of organisations. If constructive ideas of construction people can be harvested and utilised, Australian construction industry can significantly improve its productivity. Therefore, it is necessary to emphasise the importance of harnessing employee ideas to the construction industry.

Harnessing creative and innovative ideas of employees needs considerable efforts and resources. The systems that can be used to capture, develop and utilise employee ideas in construction organisations were identified and discussed in the paper. One of the requirements highlighted was having an innovative culture, which requires strong commitment from the top management. There is less enthusiasm for harnessing employee ideas in the public sector construction organisations, especially in Australia, which needs to be addressed to improve performance.

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