

Review of the National Innovation System

A Call for Submissions

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1.0 Introduction

Focussing on innovation is extremely important for the prosperity of our nation. Innovation would lead us to a high performing knowledge economy, which can survive even under extreme situations.

At the moment, Australia is not doing well in the area of innovation as compared to similar countries in the world. This is evident from the innovation index calculated for different countries which places Australia in the 15th place out of 27 OECD countries (Gans J, Hayes R., 2005). After undertaking research to compare innovation potential in different countries, Joshua Gans and Scott Stern concluded that “Relative to other advanced economies, Australia is a poor performer in terms of global innovation, both in terms of ideas generated as well as the growth rate of ideas production” (Gans J, 2003). Therefore, this attempt to promote innovation in Australia is highly desirable.

In Australia, we do many things to promote innovation within the country. However, the main objective of this submission is not to highlight what we do well, but to focus attention on areas that we don't do well or the areas that we should pay more attention to.

2.0 Inculcating a conducive culture

Having a culture that values, encourages and supports innovation is of paramount importance to promoting innovation in Australia. This culture should exist everywhere, in society, in workplaces, in schools and even at homes.

In Australia, we do have a culture that promotes sports. This goes through each layer of our society, which helps us to excel in the world irrespective of the fact that we are a nation of just 20 Million people!

I do not suggest that we should focus less on sports, but I would like to see both sports and innovation are given top priority in Australia.

Following is a comparison of sports culture and innovative culture in the country.

Table 1 – Comparison of sports culture and innovative culture

Sports culture	Innovative culture
There are attractive monetary incentives to those excel in sports.	Not enough monetary incentives to those excel in innovation.
Recognition is every where when people excel in sports.	Not enough recognition to those excel in innovation.
Media is crazy over sports, gives much publicity and conveys the strong message that talented sportspeople are highly recognised and valued in the society.	Media does not encourage innovation much. On the contrary, media is looking opportunities to criticize unsuccessful attempts do new things, particularly if attempted by the public sector.
The government and the private sector provide a large number of sporting facilities.	The government and the private sector do not provide sufficient facilities to engage in innovative activities.
Parents and teachers encourage children and youths to engage in sport activities from very young age.	Parents and teachers do not provide much encouragement to children and youths to engage in innovative activities. Creative students are often discouraged and sometimes punished in schools as most teachers prefer obedient students and do not know how to deal with creative minded students.
Practically, there are no obstacles for a person determined take on sports.	Practically, there are many obstacles for a person determined to take the path of innovation such as lack of funds and facilities.
If you give up sports mid way, you do not lose much in monetary terms.	If you give up innovative activities mid way, you lose much in monetary terms.
Patronage to sports is from the highest level, starting from the Prime Minister and Governor General to high profile figures in the society including top	Patronage is comparatively less for innovations.

business persons.	
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Table 2 - Strategies to promote innovation in Australia

Area	Strategies & Actions
Media contribution.	<p>Work with the media to implement a campaign to promote innovation. This may include publicising innovators and innovative activities in the country, providing information on innovation (say half a page in newspapers, programmes in TV and radio).</p> <p>When criticising failures, media is to differentiate between failures due to incompetency/ neglect and attempts do new things, particularly by the public sector.</p>
Government and the private sector assistance.	<p>Public libraries to have a section dedicated to 'hands on interactive items' that facilitate creative thinking and 'hands on' experience in creative areas. These should target young children.</p> <p>Public libraries to have a section dedicated to displaying creative and innovative works by locals in the area, particularly by the children.</p> <p>Government, private sector and media to get together and organise innovation competitions and award ceremonies at state and national levels (government to organise such events, private sector to donate monetary prizes and media to give publicity. The reward to media is the publicity to individual organisations giving prize money).</p>
Schools.	<p>Provide training to teachers to recognise creative talents early and how to handle creative students.</p> <p>Schools to have a culture that encourages, recognises and supports creativity and innovation.</p> <p>Establish young innovators clubs in schools.</p> <p>Schools to have creative and innovative competitions and award ceremonies recognise winners.</p>

Government assistance.	Provide assistance to promising innovators. Assistance can be financial as well as in other forms.
Public sector recruitment.	Encourage public sector to look for employees possessing creative and innovative skills – the private sector will follow. Recruit top level managers who believe in innovation and promote innovations.
Patronage from high-profiled personnel.	Those at the top level of the government and society are to be persuaded to provide commitment to promoting innovation in the country. The commitments should be visible to the general public to encourage them.

3.0 Gaps in promoting innovation

In my view, the attention given to one important side of innovation promotion is not adequate in Australia.

Innovation can be divided into technological and corporate (enterprise) innovation. Technological innovation is the invention of new technology plus the development and introduction into the market place of products, processes, or services based on the new technology (Frederick, B 1998:3). According to the well-known Australian author on innovation, Carolyn Barker, the first involves the development of new technology, whereas the second describes innovation as a culture that permeates organisations. While technological innovation is important, she says that 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).

Technological innovation is generally based on R&D. Unfortunately, governments and other entities mostly support technological innovation as it is easier to see and measure its results. Another reason is the myth that innovation is mostly research and development and producing 'brand new' products and services.

This submission is mostly on promoting corporate innovation and to build a culture that values, encourages and supports innovation.

4.0 Focussing on corporate innovation

Focussing on corporate innovation allows a large number of people to get involved and contribute to innovation, which helps to create more innovations, especially at grass-root levels. Corporate innovation is harnessing innovative ideas of employees in enterprises, which includes creating conducive environment for employees to generate innovative ideas, capturing, developing and using best ideas.

Unfortunately, only a handful of enterprises in Australia are interested in promoting corporate innovation currently. Even out of this, the participation of the public sector can be regarded as extremely poor. This situation needs to be changed if we were to become a 21 century knowledge economy.

Promoting corporate innovation has many benefits to an individual enterprise including efficiency/ revenue gains, service improvements, employee satisfaction, acceptance of leadership status by other organisations and improved credibility.

Without promoting corporate innovation, most ideas of our creative and innovative employees will be lost. The extent of this loss can be assessed from the statement made by the UK Cabinet Office that “Only half of all innovations are initiated at the top of organisations” (UK Cabinet Office, 2003:2).

It is apparent that lack of understanding on the importance of corporate innovation has prevented many enterprises in Australia focussing on corporate innovation. Therefore, it is recommended that the Federal Government through relevant agencies should take a leading role in educating CEOs and top management in enterprises on the benefits of promoting corporate innovation. Inculcating an innovative culture is a prerequisite for corporate innovation in an enterprise and the CEOs and other top managers will be able to provide required leadership for this purpose when they realise its importance.

4.1 Corporate innovation in the public sector

Although it is necessary to promote corporate innovation in both public and private sector organisations, the public sector organisations require particular attention. Dr. Karen Manley of the Queensland University of Technology 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., 2001). It is apparent that public sector innovation is currently at a very low level in Australia.

There are many reasons why most public sector organisations are less active in the area of innovation. The absence of a profit motive and lack of competition are two major reasons for this undesirable situation. In addition, the culture of risk aversion, bureaucratic conservatism, lack of incentives to innovation, a workforce which is unresponsive to and unwilling to change and the focus on short-term delivery pressures contribute to this situation.

In its strategy report, UK Cabinet Office states “Without innovation, public service costs tend to rise faster than those in the economy. Without innovation, the inevitable pressures to contain costs can only be met by forcing already stretched staff to work even harder” (UK Cabinet Office, 2003).

Many countries work hard to promote public sector innovation. Singapore is a classic example. One of the initiatives that gave Singapore an edge was the programme conducted to promote creativity and innovation in public sector

organisations. Under the banner ‘Public Service for the 21st Century’, Singapore launched a massive campaign in 1995 to prepare its public service for the challenges in the 21st century. Innovation and enterprise were promoted, encouraging public service organisations to harness creative and innovative ideas of their staff. An annual sum of 6.8M Singapore dollars was made available as a development grant to undertake relevant activities (Public Sector Review, 1999). Today, Singapore’s situation is much different.

Innovation potential of Singapore was similar to Australia in 2000 (Porter M E et al, 1999 and Gans J, 2003). Today Singapore is in the 7th position on the Global Innovation Index and Australia is in the 17 position, behind countries like Hong Kong (10th) and UAE (14th) (Dutta S. & Caulkins S., 2007).

Usually for a civil service, where we might assume bureaucracy and conservatism to hold sway, Singapore’s public servants are especially upbeat and perceptive about innovation (Lambe P, Singapore’s Innovation Agenda, 2002). Australia is yet to reach this level and I believe that this initiative would help.

One of the actions that can be taken by the Federal Government to promote corporate innovation is to undertake a strong communication campaign. This will help to inculcate a culture in the country with changes in attitudes towards innovation and accepting failures made in pursuit of new ideas.

4.2 Strategies and actions to promote corporate innovation

Strategies that can be taken to promote innovation in Australia

Area	Strategies & Actions
Media contribution.	<p>Work with the media to implement a campaign to promote corporate innovation. This campaign is to cover the benefits of corporate innovation to enterprises, effective strategies and actions that can be used giving examples from successful enterprises.</p> <p>When criticising failures, media is to differentiate between failures due to incompetency/ neglect and attempts do new things, particularly by the public sector.</p>
Recognition of corporate innovation.	<p>Organise most innovative enterprises competition at the state and national level. The objective is to identify and recognise enterprises with ‘built-in’ systems and processes and conducive environment that recognises, facilitates and supports innovative activities. Competition to have two sections – one for the private sector and the other for the public sector.</p>

Public sector enterprises	<p>Encourage the public sector to embrace innovation by sending strong messages by the top level of government hierarchy such as the Prime Minister.</p> <p>Include innovation promotion as a key performance indicator for CEOs and top government officials in the public sector.</p> <p>Introduce a reporting and performance monitoring mechanisms for public sector organisations on promoting innovation in individual organisations.</p>
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5.0 Communication strategy & idea harnessing

It is extremely important that the importance of promoting innovation is conveyed to Australian people through a well-developed communication strategy. As mentioned earlier, this should be done in partnership with the media.

It is to be noted that innovation has become a 'buzz-word' today interpreting in different ways and this has contributed to some myths. This situation is not in the best interest of promoting innovation in the country because this could result in:

- Not giving priority to the areas needed
- Concentrating on policies that are not highly effective.

Therefore, it is advisable to look at some of these myths.

Myth: Innovation is mostly research and development and producing brand new 'cutting edge' products.

Myth: Innovation process is the exclusive province of the creative few.

Myth: People need to be naturally creative or imaginative to be innovators.

Some of these myths occur due to confusing the word 'innovation' with 'invention'. "Invention is the creation of a functional way to do something, an idea for a new technology. Innovation is introducing a new or improved product, process or service into the market place" (Frederick, B 1998:4).

Innovation is much more than research and development. Innovation involves:

- Creating or generating new activities, products, processes and services;
- Seeing things from a different perspective;
- Moving outside the existing paradigms;
- Improving existing processes and functions;
- Disseminating new activities or ideas; and
- Adopting things that have been successfully tried elsewhere.

Therefore, the communication strategy should also be aimed at clearing myths surrounding the word 'innovation'.

Innovation covers the area from minor quality improvements to 'cutting edge' products and services. Not only those with PhDs in laboratories can innovate- we all can innovate. What is necessary is to provide the right environment where innovation is recognised and rewarded and to provide encouragement and facilities for 'all' to innovate. People should be given more opportunities to contribute in new ideas. Prime Minister Kevin Rudd's '20 -20 Idea Summit' is an excellent example to harness good ideas from people. Government organisations should be encouraged to use this approach to get ideas both from their employees and the general public to improve their services.

In some countries, educational institutions such as schools have clubs with facilities to indulge in creative and innovative activities. Interested students have the privilege of developing new ideas into products. It is recommended to establish such 'Young Inventors Clubs' in our educational institutions such as schools, polytechnics and universities.

6.0 Our education system

Conventional education systems do not provide adequate incentives and encouragement for students to develop their creative skills. Some attributes of creative children often frustrate those teachers who do not know how to recognise them. Deliberate programmes need to be introduced for students to develop their creative skills. Creative young talent should be identified and developed.

Singapore has followed in this direction and reaped rich harvest. Its education system was heavily geared to stream, spot and cultivate creative talent from an early age. The public service was supported by talent grooming policies that invested in growing, resourcing and placing people with ideas into positions of leadership (Lambe P., Singapore's Innovation Journey, 2002). It is recommended that Australia adopts similar policies.

7.0 Driving the initiative

It is desirable that this initiative is being driven by a high powered committee. The PS 21 (Public Service for the 21 Century) launched in 1990's, which contributed significantly to make Singapore a highly successful knowledge economy, was driven by most senior public servants of the country (all secretaries to government

ministries). I would like to see the Prime Minister himself provide leadership to this valuable initiative in Australia.

I also would like to propose the following structure to drive innovation in the country, which is to consist of:

1. A 'Think-Tank' to undertake research into best practices
2. A unit to ensure proper implementation of policies and strategies
3. An advisory committee to recommend policies and strategies and
4. A high powered committee chaired by the Prime Minister to approve policies and strategies and to monitor performance.

The functions of the 'Think-Tank' would be to:

1. Study policies and strategies of well-performing countries in the world
2. Study world's best practices
3. Undertake other research to identify and formulate policies and strategies.
4. Prepare a project plan to make Australia a high performing 'knowledge economy' and update this on a continuous basis.
5. Decide on a suitable time frame (say 20 years) and identify achievable milestones at regular intervals during this period.
6. Forward recommendations on policies, strategies and project plans to the Advisory Committee.
7. Provide continuous dialogue, discussion on subjects relevant to this initiative, facilitated by leading experts.

The Advisory Committee needs to comprise of leading researchers and academics on innovation and knowledge economy, representatives of media, representatives of professional bodies and top managers of leading businesses in the country. The function of the Advisory Committee is to guide the 'Think Tank' the directions it should take, amend or change 'Think Tank's' recommendations to suit the local situation and advise the 'High Powered' committee.

The function of the 'High Powered Committee' is to guide both the Advisory Committee and the 'Think Tank' on the direction they should take, approve relevant policies, strategies and plans forwarded by the Advisory Committee after relevant changes/ amendments, monitor the performance of the country at regular intervals and undertake suitable measures to drive innovation to achieve accepted milestones.

The unit will provide administrative or otherwise support to both committees and undertake identified activities (such as organising excellence award ceremonies) to promote innovation within the country.

8.0 Recommendations

It is recommended that:

1. The initiative of promoting innovation in Australia be driven by a 'high powered' committee, preferably headed by the Prime Minister. This committee is to be backed by an Advisory Committee, a 'Think Tank' and a bureaucratic unit.
2. A strong communication plan needs to be undertaken to emphasise the importance of innovation and to clear some myths surrounding innovation.
3. The communication plan also needs to cover the importance of corporate innovation.
4. An action plan needs to be formulated and implemented to encourage employers to focus on innovation within their enterprises.
5. An action plan also needs to be formulated and implemented to encourage corporate innovation in public sector organisations.
6. An action plan needs to be implemented to inculcate a culture conducive to innovation in the country.
7. Our education system should focus on streaming, spotting and cultivating creative talents from an early age.

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