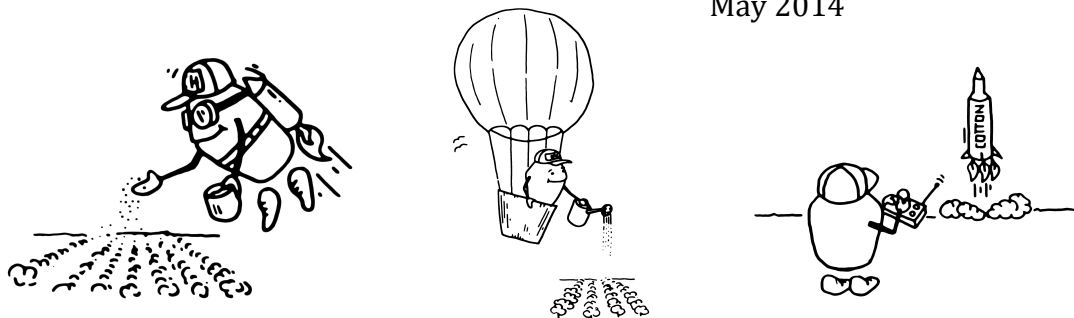


# “Implementing the Futures Themes”

A report prepared for the  
Cotton Research and Development Corporation

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## 1. Introduction

The Australian cotton industry is internationally recognised as innovative, dynamic and hugely successful. This has in part been attributable to the willingness of the industry to invest in world-class research and rapidly adopt this emerging science and technologies.

The environment in which the industry operates at the farm, industry and international scale is rapidly changing however. Increased volatility in production, prices and climate along with rising input costs, general shortages of skilled staff, cotton's declining share of the global fibre market, greater consumer awareness and rapidly emerging technologies all suggest the future for the industry is going to be increasing complex, uncertain and volatile. The challenge for the industry is to continue adapting to these changes and remain profitable, sustainable and competitive in the future.

The Cotton Research and Development Corporation (CRDC) invests in research, development and extension (RD&E) on behalf of the Australian cotton industry and a key aspect of the 2013-2018 Strategic Plan is to invest in areas that ambitiously seek to transform the industry to be profitable, sustainable and competitive in 20 years time and beyond. This is a bold goal given that the future is unpredictable and the challenge for CRDC is how and where to focus these investments.

CRDC's three themes (Profitable Futures, Sustainable Futures and Competitive Futures) provide a clear framework through which CRDC can invest in long term innovations to address its goal. However, the scope of research in which CRDC could invest in order to position the industry to be profitable, sustainable and competitive in the future is currently very broad. To narrow this focus a Futures Forum was held in Brisbane on 9 and 10 December 2013 to narrow and identify the areas of priority and possibility for the industry.

This report follows on from the initial 'Cotton Futures Forum' Report prepared in April 2014 and provides CRDC with:

- feedback from delegates invited to attend the forum.
- an outline of an innovation investment framework.
- recommendations on the next steps in implementing the Futures Themes

## 1.1. Futures Forum Priorities and Feedback

### 1.1.1. Established Futures Forum Priority investment areas.

The areas of focus established and prioritised at the Futures Forum are outlined below.

#### 1. Profitable Futures Theme

This theme looks to initiate RD&E efforts that deliver innovations in cotton production and builds the long-term profitability of cotton farmers. Key areas in order of priority were:

- a) Reducing input costs through new technologies e.g. Nitrogen fixing cotton, insect invisible cotton, stress tolerance, self defoliating, pupae busting alternatives
- b) Integrating big data and emerging technologies for improved profitability e.g. Decision support, sensors, data analysis.
- c) Transforming ginning and picking. e.g. combined activities, using robots, self ginning cotton
- d) Maximising the whole cotton system. e.g. the whole plant, fallow periods, use of machinery, incorporate two shorter crops.
- e) Reducing human error in the farming process

#### 2. Sustainable Futures

This theme looks to identify and consider solutions for both those challenges and opportunities that will impact on the future sustainability of the Australian cotton industry. Key areas in order of priority were:

- a) The sustainability of our whole supply chain
- b) Responding to rising energy costs
- c) A proactive, transparent and visible industry. One brand across the industry.
- d) Maintaining an engaged and supportive community. e.g. labour costs, social fabric, development of capability, social license.
- e) Preparing for a combination of physical drought and imposed water constraints.

#### 3. Competitive Futures

This theme aims to transform the way in which customers demand Australian cotton products and innovations that continue to make Australian cotton competitive. Key areas in order of priority were:

- a) Identifying markets and creating products. e.g. mosquito repellent clothes, functional garments, non-lint products including seed oil, food, pharmaceuticals, energy, consider lint as a raw material.
- b) Creating a market niche and brand for Australian cotton
- c) Transforming the supply chain logistics. e.g. improved traceability, improving efficiency, maintaining control through to the consumer, awareness of what we deliver and how it is delivered.
- d) Understanding why people choose and use a cotton product verses an alternative. Closing the loop for research, production and development.
- e) Transforming the product manufacture process. e.g. textiles, 3D printing, working with others to deliver new and useful things

### 1.1.2. Survey of Delegates

Delegates who were invited to attend the Futures Forum were sent a copy of the 'Cotton Futures Forum' report, which outlined the event activities and documented the resulting prioritised areas of focus for each Theme area established at the event. Accompanying this report was a survey aimed at drawing out further feedback of the event. The delegate survey consisted of 10 questions focussed on the following three areas:

- About the Forum – this section sought feedback on the event itself and its value to delegates
- Results from the Forum – this section sought feedback on the priorities established on the day
- Future events – this section sought feedback on how CRDC may continue to engage delegates and the broader industry in this area of investment.

A full list of questions asked in the survey is outlined below.

#### **Section A. About the forum**

1. Did you find the forum itself a useful way to explore and consider the future of the industry?
2. How could it be improved next time?
3. Who should we include next time?

#### **Section B. Results from the Forum**

4. Are the priorities established by the group at the forum (page 6 of the report) the most important ones?
5. Did we miss some priority areas on the day?
6. Do you have some suggested specific goals for any of these priority areas eg: By 2029 Australian cotton will be traceable back to the grower and specifically marketed under an Australian cotton brand.

#### **Section C. Future events**

7. Would you like to continue to be involved in this part of CRDC's strategic plan?
8. What are some ways in which we can engage the whole of the industry in this type of research?
9. How might CRDC consider procuring this type of research?
10. Should CRDC consider running an annual event like this?

### 1.1.3. Delegate Feedback

A summary of key feedback from the delegate survey is provided below while the collated individual results are outlined in Appendix 1.

#### 1.1.3.1. Section A. About the forum

Questions 1 to 3 focussed on the forum event itself and asked delegates whether it was a useful way to explore future industry issues, how such an event could be improved and what could be included next time.

Overall, 96% of the delegates found the forum to be a useful way in which to explore and consider the future of the Australian cotton industry. In terms of how a forum could be improved in the future, feedback can be largely classified under five key categories; those being:

- 1) **Timing** – Delegates feedback on this issue was related to both the timing of the event itself (ranging from too short to too long) and also the time of the year in which it was held (inconvenient timing for growers to attend in terms of the cotton season).
- 2) **Facilitation** – There was a mixed response to the facilitation of the event. Some delegates felt a different facilitator would have been better while others enjoyed the facilitation and thought it was well planned and executed.
- 3) **Format** – Feedback on the format of the forum was generally positive and ranged from some delegates wanting more time for brainstorming and sharing ideas, while others thought it was a long process and could have been shortened.
- 4) **Forum follow-up** – A small number of delegates indicated that they would have liked a clearer outline of the follow-up process from the forum and also quicker post forum feedback to the delegates.

The final question in this section related to who should be included in planned future Forums. Delegates suggested that representatives from the CA Panel members, growers, customers, cotton processing chain, NRM specialists, the Minister's office and representatives from outside the industry should be included in future events. It is worth noting here that representatives from most of these groups mentioned were in fact invited to the forum but were unable to attend for various reasons.

#### 1.1.3.2. Section B. Results from the Forum

Questions 4 to 6 addressed the priority areas of focus established at the Forum and asked delegates to consider whether these were still the most important priority areas, were any additional areas missed and did the delegates have any suggested goals for these priority areas.

In terms of whether the established priority areas were still considered to be the most important, the overwhelming majority of delegates indicated that they were still the most important. Some delegates provided additional detail about these priority areas that is worth noting here. These comments include:

- *Sections 1 and 2 (Profitable and Sustainable Futures) will help the industry do what it does better. Section 3 (Competitive Futures) is key if there is a real and founded concern that that the current end product will not be competitive. Then doing current cotton*

*better will prolong the ability to compete but perhaps not change the end result. A call will have to be made as to the seriousness of the threat and then balance doing it better to doing it very different.*

- *I think there is some question about who plays what role in some of the priorities.*
- *There are so many, your next challenge is to articulate the priorities of the priorities*
- *The question is whether the priorities identified will assist more with meeting future needs, coping with disruption/challenges and making better decisions. The list is looks comprehensive.*
- *A challenge in defining importance is quantifying the difference addressing them could make.*

When delegates were asked whether there were some priorities missing from the established list, there was a mix of responses ranging from no obvious priorities missed to one delegate indicating that the big transformational priorities were missed (they offered no suggestion as to what these were). Overall most delegates offered specific suggestions of the priorities they thought were missed and these have been broadly classified under the three different theme areas of:

- 1) Profitable Futures
  - Soils and the role of soil biota
  - Water and irrigation
  - Energy
  - Making cotton a more reliable and easier crop to grow.
- 2) Sustainable Futures
  - Biosecurity
  - Climate change
  - Attracting and retaining people in the industry
- 3) Competitive Futures
  - Competition of ALS cotton with other types.
  - Customer needs
  - The role of current industry initiatives (BCI, Cotton Leads, myBMP)

The final question in this section asked delegates to suggest a specific goal for any of these priority areas. Suggested goals are listed here in their respective Theme areas.

- 1) Profitable Futures
  - *By 2029 input/bale (ML/bale water, kg N/bale, energy/bale) has improved by 25%.*
  - *Energy will be the biggest threat to our industry. We need baseline data sets now to benchmark what we know and then set aspirational targets to reduce total energy units by 25% 2029*
  - *Measurability of yield progress benchmarked to system. Same for quality*
- 2) Sustainable Futures
  - *Within 5 years, Australian cotton will become a proactive, transparent and visible industry in which one brand across the industry. And also a market niche and brand will be created for Australian cotton.*

- *In 2029 there will be an Australian Cotton Industry supporting an important product needed by the world population*
- *Sustainability of the supply chain = By 2029 Australian cotton production is resilient to seasonal impacts and can consistently produce the worlds best quality cotton in increasing quantity.*
- *By 2029, the Australian cotton industry will be populated with capable and productive people directing its growth along the supply chain.*

### 3) Competitive Futures

- *By 2020 a series of new end uses of cotton/cotton derivatives will be identified to enable the development of new markets if the threat of man-made fibres eventuates.*
- *Align Australian Cotton with Country Road (or the alike) to use & promote Aussie cotton - they have just done a great promo with Australian Wool.*

In addition to the goals presented, other delegates suggested the establishment of more short-term goals that enables greater agility in terms of adapting to future changes and also demonstrates early progress.

#### **1.1.3.3. Section C. Future events**

The final section of the survey (Questions 7 to 10) focussed on future involvement in the Futures Themes, ways in which CRDC could engage the industry, ways in which this type of research may be procured and the timing of events to continue progressing this area of investment.

When delegates were asked if they would like to continue to be involved in this area of CRDC's R,D&E investments, an overwhelming 96% of delegates responded positively which shows strong support for this area of CRDC investment.

Delegates also provided an extensive range of suggestions as to how the broader industry could be engaged in this type of research. These suggestions have been categorised under the following headings.

- **Cotton Conference** – use short break out sessions to inform industry and discuss established priority areas.
- **CRDC website** – develop dedicated pages that are interactive, current and contain blogs, short videos, updates etc which inform and promote the efforts being undertaken in this space.
- **Regional Sessions** – Gather feedback on priority areas more broadly from industry and growers via regional meetings.
- **CA Panels** – Work with the Panels to build their knowledge and understanding of these theme areas.
- **Key Industry Forums** – Use key industry forums as an opportunity to promote and provide updates on this research. Investigate the possibility of having this topic as a standing agenda item at industry meetings and create dedicated thinking meetings.
- **Priority Focus groups** – establish groups focussed on a particular priority area to contribute to the priority area focus and be an advocate for the research.
- **Communicate to broader community** – disseminate reports, invite agencies and people

to express interest in future events. Provide regular communication on progress and paint a compelling image of the future to gain buy in.

Following on from how to engage the broader industry, the delegates were then asked for their thoughts on how CRDC might look to procure research in these areas. There were a range of suggestions on procurement and also some ideas on preparing for the procurement stage. Key comments from delegates that capture these ideas are presented below.

#### **Procurement preparation**

- *Indicate the main priorities in the call for expressions of interest for new research proposals*
- *Facilitating workshops with industry and non-industry on key issues.*
- *Ensure the RIGHT research question is asked and then put it out for EOI as widely as you can (don't be limited by current R&D organisations)*
- *Identify clear desired outcomes and let the providers work out how to deliver.*
- *Establish close ties with customers of Australian cotton and their organisations.*
- *Engage the research providers directly with the suggestions in the document*
- *Employ Darren Hill (or similar) to do a workshop specifically for all Panel members.*
- *Allocate 10-20% of total budget to blue sky research aligned with an identified priority area*

#### **Procurement Process**

- *Through open tender. Though for truly innovative ideas some confidentiality will need to be guaranteed.*
- *CRDC can't go it alone, and needs to develop genuine collaborations with public and commercial organisations. It should not be viewed just as a procurement process, but as a transitioning process. For each goal, bring together the relevant parties and begin to map out where the investment is needed/best spent.*
- *Perhaps invite expressions of interest around clearly defined goals. Encourage cross agency, cross industry collaboration. Work with the parties that express interest to put together final projects which use the best skills into teams - even if this means across agencies.*
- *We need to use methods other than newspaper ads and websites. Use social media, go internationally, find groups to help.*
- *Open innovation could be a useful approach depending on the nature of each priority.*

In the final survey question, delegates were asked how frequently CRDC should consider running an event such as the Futures Forum. The overwhelming majority of delegates felt that once every two years would be sufficient for a similar Futures Forum event. One suggestion was to hold such a forum in the off year to the Cotton Conference so that feedback could then be provided to industry on progress and the longer-term issues being considered.

Many did support the hosting of more specific forums that focussed on a particular priority area. These specific forums could be used to delve deeper into a particular priority area and ensure the key research questions are being asked.

## 2. Innovation investment framework

### 2.1. Framework for considering the Futures Theme investments

Given that it is impossible to predict the future, one way of dealing with uncertainty is have systems and processes that which are flexible and agile enough to find different paths for success. A potential process for investing in innovation research and development is outlined in Figure 1. In this model, the innovation process consists of two conditions (an innovation strategy and an innovation culture) and three phases (identification, ideation and implementation).

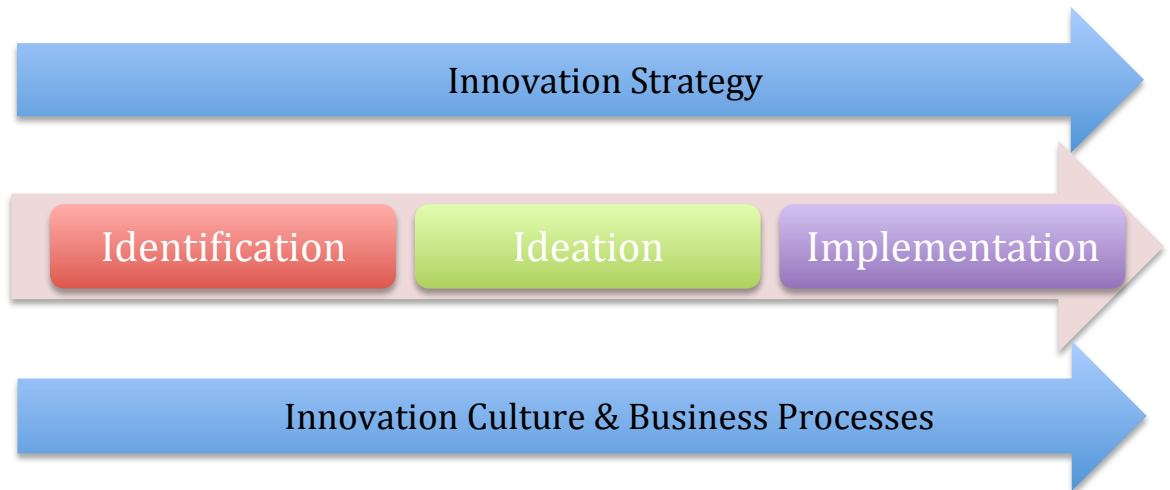


Figure 1. A process for investing in innovative research and development.

Source: Adapted from <http://coinnovationconsulting.com/innovation-process/>

#### 2.1.1. Innovation Conditions

Innovation conditions relate to the environment that is created in order to support innovation. Included in this definition is the presence of an innovation strategy that outlines where the organisation will focus its efforts and an innovation culture and business processes that support the innovation.

##### 2.1.1.1 Innovation Strategy

Table 1 shows the general differences between traditional approaches to strategy and strategic innovation. The strategic innovation approach isn't based on the linear principles of traditional strategic planning that attempt to predict the future or provide customers with what they say they need. The strategic innovation approach is a holistic and systematic approach that starts with the end in mind and focuses on fulfilling the future needs of consumers which they currently can't even articulate.

**Table 1. Differences between traditional approaches to strategy and strategic innovation**

<b>Traditional Approach</b>	<b>Strategic Innovation Approach</b>
Adopt a 'present to future' orientation – takes today as the starting point	'Starts with the end in mind' – identifies long-term opportunities and 'bridges back to the present'
Assumes a rule-maker / taker (defensive follower) posture	Assumes a rule breaker (revolutionary) postures
Accepts established business boundaries / product categories	Seeks to create new competitive space / playing fields
Focus on incremental innovation	Seeks breakthrough, disruptive innovation – while continuing to build the core
Follow traditional, linear business planning models	Marries process discipline with creative inspiration
Seek input from obvious, traditional sources	Seeks inspiration from unconventional sources
Seek articulates consumer needs	Seek unarticulated consumer needs
Are technology-driven (seek consumer satisfaction)	Is consumer inspired (seeks consumer delight)
May have a 'one size fits all' organisational model	May experiment with entrepreneurial 'new venture' or other organisational structure.

Source : <http://www.innovation-point.com/Strategic%20Innovation%20White%20Paper.pdf>

An innovation strategy specifically defines where the business / organisation / industry will focus its innovation efforts. The strategy allows the investor to devote its finite resources (both human and financial) to the innovation initiatives that will contribute most significantly to the outcomes defined. An innovation strategy goes beyond the usual business strategic plan in that it considers issues not typically captured in organisational strategic plans. These include:

- the innovation need and innovation environment
- innovation goals and objectives
- the innovation process
- the innovation focus
- the innovation culture and business processes
- the required resources

A template for the development of an innovation strategy is presented in Appendix 2.

**2.1.1.2. Innovation Culture and Business Processes**

Creating an innovation culture and employing business processes which support this is vital to being successful in this area of investment. One of the key business processes that need to be considered is programme and project management and whether traditional research and development processes are suitable for innovation programmes and projects. Table 2 compares the difference in stages and processes between traditional programme management and innovation programme management.

**Table 2. Comparison of programme management processes.**

Traditional Programme Management	Innovation Programme Management
<p><b>Project End Result</b> – The ‘what’ of the project, why it’s important to the organisation and what are the deliverables.</p>	<p><b>Searching</b> – In this phase, ideas that meet needs, respond to opportunities, or advance the organization’s strategic goals are deliberately hunted and gathered. At the end of the phase, opportunities will have been defined, there will be many ideas, and those beginning the innovation journey will be challenged and inspired. At the end of this phase there will be many ideas needing to be evaluated.</p>
<p><b>Critical Success Factors</b> – The make-or-break issues that need to be resolved for the project to succeed. This includes management of the risks that could be damaging to the project.</p>	<p><b>Exploring</b> – Ideas and opportunities are organized, debated, and analysed in order to understand them in depth. Ideas need to be tested to demonstrate that they are practical and to ensure (as far as possible) that the proposed innovation is wanted by potential internal or external customers.</p>
<p><b>Project Scope</b> – The interdependency of resources, time and features of the project. This is the tool most project leaders use to understand the impact of changes on the project.</p>	<p><b>Committing</b> – This is the phase where we move from “what could we do?” to “what should we do?” The focus is on what to do, what not to do, and how to get the right people committed to support you.</p>
<p><b>Key Relationships</b> – Managing the politics –engaging the support and resources from internal and external team members to get the deliverables of the project accomplished.</p>	<p><b>Realising</b> –In this phase the emphasis moves to execution—from the “what” to the “how.” It’s all about achieving goals.</p>
<p><b>Scheduling</b> – The planning and articulation of the deliverables and milestones of the project. (This is where most inexperienced project leaders leap before understanding the above items).</p>	<p><b>Optimising</b> – In this phase the emphasis is on maximizing benefits: increasing the degree to which the idea has been exploited fully. Optimization or exploitation is central to the concept of innovation—otherwise a firm is engaging in invention or adoption, not innovation.</p>

Source: Adapted from <http://www.barnesconti.com/resources/projectleadership.html>

The innovation management process represents a fundamentally different way of thinking about a programme and project especially in its early phases. These ‘Searching’ and ‘Exploring’ phases typically take longer and cover a broader range of areas than traditional approaches. Innovation management requires looking for new perspectives, being open to new ideas, using divergent thinking, and multiple levels of problem definition. CRDC’s commissioned projects are often formulated using the innovation management process.

### 2.1.2. Innovation Phases

Innovation Phases represent the process or steps through which innovative projects can be developed and established. The three innovation phases articulated in Figure 1 consist of the identification, ideation and implementation phases respectively.

#### 2.1.2.1. Identification

The **identification** phase has two objectives. The first is to focus on identifying and understanding the problem or opportunity that will be the focus of the innovation initiative. This objective involves searching for an innovation focus. The second objective is to generate new and creative ideas. This often requires investigating specific priority areas to gain further insight and then translate them into workable ideas.

Key activities that support and enable this phase include:

- Workshops, collaborative and ideation forums
- Encouraging and supporting idea generation
- Awareness of the brain's processing and potential hurdles
- Defining winning/excellence
- Balancing big picture and details
- Challenging assumptions
- "What if?" thinking
- Changing perspectives

The CRDC Futures Forum was specifically designed to facilitate the first objective of this phase and included many of the elements above that supported the development of priority areas.

#### 2.1.2.2. Ideation

The **ideation** phase focuses on separating 'the wheat from the chaff', as potential ideas and opportunities undergo a rigorous screening process. New ideas are discussed, tested, evaluated, and compared for their potential to add value, generate new revenue streams, or accomplish a specific innovation goal. The primary objective is to identify the highest-value opportunities and determine the feasibility of turning them into reality.

Key activities that support and enable this phase include:

- Undertaking scoping and feasibility studies where necessary
- Creating and supporting an idea evaluation framework
- Taking risks
- Balancing day-to-day versus longer term
- Accepting and being open to ideas
- Looking for opportunities to add to ideas, i.e. "and" versus "but" solutions
- Encouraging some failure (within limits)
- Thinking cross-functionally and organisationally
- Accessing external perspectives

#### 2.1.2.3. Implementation

The **implementation** phase focuses on turning these ideas into reality. This phase involves making sure that the high-value opportunities identified during the earlier phase align with your organisational capabilities as well as the commitment of time, money, and resources to make the innovation happen. This is followed by close tracking of the business performance of the new product or service, as well as measuring the process used to develop the innovation

and looking for ways to improve it.

Key activities that support and enable this phase include:

- Detailing the design of the project / concept,
- Rapid prototyping and developing business / actions plans.
- Continually communicating the need for innovation as a strategic focus
- Linking innovation to key strategies
- Investing in innovation projects
- Incorporating innovation reports into the business review processes
- Developing risk management strategies and approaches
- Capturing and sharing innovation learnings
- Learning from failures

## 2.2. Current CRDC progress

In the context of the approach to innovation outlined in Section 2.1, this section discusses where CRDC is along the innovation investment continuum.

### 2.2.1. Innovation Conditions

#### 2.2.1.1. Innovation Strategy

CRDC has recently begun operating under its new Strategic R&D Plan 2013-18. This Plan is the organisation's key planning document and sets the direction for the operation and investment in cotton research, development and extension over the next five years.

*"The Plan builds upon the strong direction established in the preceding 5 year Plan. One that recognises the evolution of challenges to the industry's sustainable competitive advantage and responds with an even stronger focus on improving profitability, sustainability and competitiveness"* (CRDC Strategic R&D Plan 2013-2018 pg4).

Central to this plan is the inclusion of three theme areas (Profitable Futures, Sustainable Futures and Competitive Futures) which *"deliberately emphasises the importance of forward-looking RD&E investments, and it is anticipated that these would:*

- *Access innovative and potentially transformational ideas across the program areas.*
- *Engage with a broader audience to create greater demand driven research.*
- *Develop and support a culture of innovation within the industry*
- *Bring to industry a greater diversity of cross-disciplinary RD&E. "*

(CRDC Strategic R&D Plan 2013-2018 pg26).

The current Strategic R&D Plan however does not contain within it a detailed strategy for how these three Theme areas are to operate, what the research focus will be or how the desired outcomes are to be achieved.

CRDC Board and Management would benefit greatly from the development of an innovation strategy that provides this level of detail and outlines both the conditions and phases to support the investment in these three Themes. A template for the development of an innovation strategy is presented in Appendix 2.

#### 2.2.1.2. Innovation Culture and Business Processes

Within the Strategic R&D Plan 2013-18, CRDC has committed itself to an innovative culture and business processes through striving to lead the execution of the Strategic R&D Plan 2013-18 with *"vision, innovation and commitment to the strategic objectives"*, *"business process will be open and accountable"* and *"will operate with:*

- *Leadership and commitment*
- *Innovation and impact*
- *Rigorous, transparent, accountable results*
- *Connectedness and integration*
- *Partners and relationships "* (CRDC Strategic R&D Plan 2013-2018 pg10)

Already, the need for further consideration of the culture and business processes that CRDC must create and implement to support the investments in the Futures Themes has been

recognised and discussed amongst CRDC Board and Management. At the November 2013 CRDC Board meeting, key questions were presented to the Board for consideration that address these issues (Table 3 and Table 4).

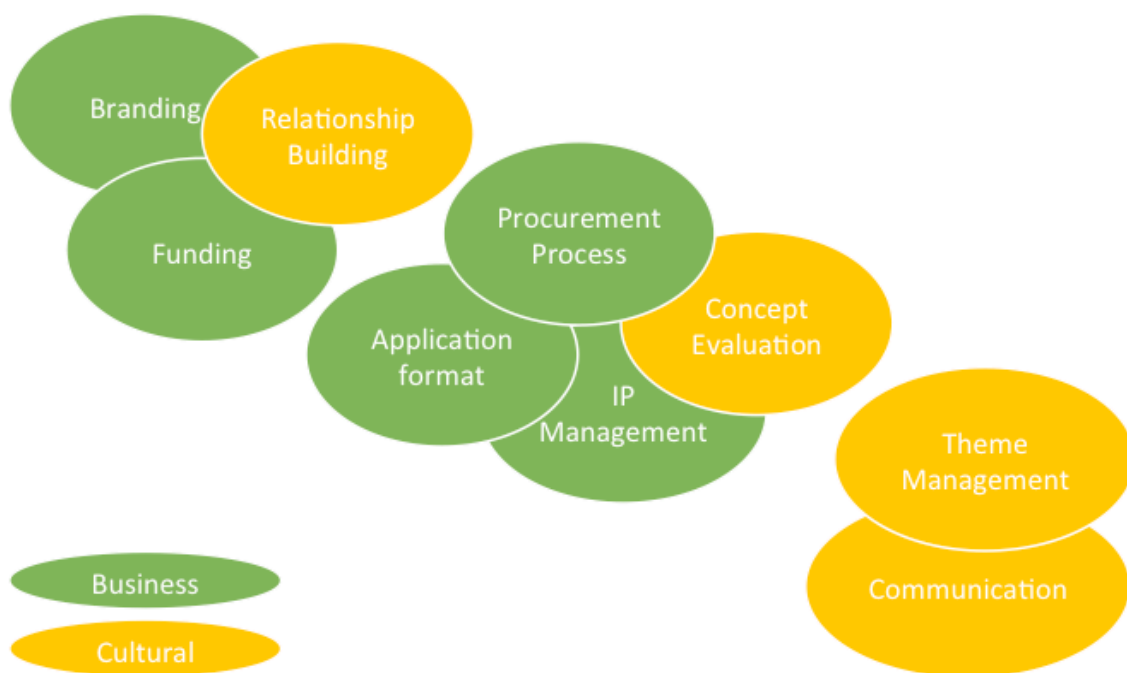
**Table 3. Key questions for consideration in the development and support of an innovative culture**

Organisational and Industry Culture
Do internal ideas and projects that threaten to cannibalize the current business model get squashed or nurtured?
Will your employees say that failure is a career-limiting move, or that the company celebrates experimentation?
Are you willing to create a sandbox to explore transformational business models? Would you carve out a part of your current business/market to serve as an ongoing real-world innovation lab?
Do executives with responsibility for exploring transformational business models report to you, or to another line executive responsible for today's business?
How much time do you spend strengthening and protecting the current business model, versus designing the next one?

**Table 4. Key questions for consideration in the development of business process that support innovative investments**

Business Operations
Do you agree transformational innovation goes beyond breakthrough products to include business model innovation — entirely new ways to create, deliver and capture value?
How much time do you spend strengthening and protecting the current business model, versus designing the next one?
Does your organization invest in R&D for new business models as it does for new products, services, and technologies?
Do you have a process for allocating resources for transformational innovation projects that lies outside of the control of business units?
Do you have clear and discrete objectives for both incremental and transformational innovation? Do you organize differently for each?

Additionally, some of the more specific cultural and business processes that have been discussed amongst CRDC Board and Management are outlined in Figure 2. This is not a comprehensive list and only focused on those issues of immediate importance.



**Figure 2. Specific cultural and business processes that require CRDC consideration.**

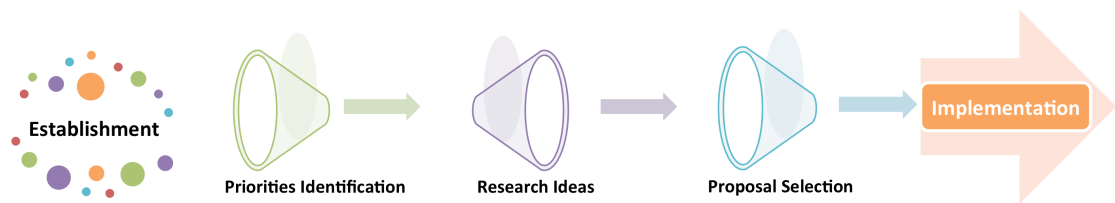
Further consideration and clear definition of the culture and business processes CRDC is committed to employing in order to support the investments in the Futures Themes would be beneficial not only to Board and Management but also to industry and researchers. Section IX and XI in Appendix 2 outlines some key questions and considerations for articulating the innovation culture and business processes that CRDC intends to employ.

### 2.2.2 Innovation Phases

In earlier internal briefing papers to the CRDC Board, a process for developing and implementing projects in the Futures themes was proposed (Figure 3). This process was developed based on the recognition that:

- The potential areas of research focus in these themes could be vast.
- A different method for project development and procurement is required to attract a broader research base.
- Investment in such innovative, future focussed projects requires broader input from all stakeholders.
- CRDC Board and Management need confidence that the investments align with the direction of the industry.
- A culture of genuine innovation (involving research providers beyond the current CRDC cohort) needs to be established.

This process is consistent with the three phases of innovation outlined in Section 2.1 and suggests that while still in its infancy, the approach already being employed by CRDC is a positive and structured approach to the development of innovation research projects.



**Figure 3. Proposed CRDC process for Futures Themes project development and implementation.**

The Futures Forum represented the first stage of the identification phase and more specifically addressed the first objective of this phase, that being to focus on identifying and understanding the problem or opportunity that will be the focus of the innovation initiative.

The event itself involved:

- Engaging potential stakeholders in a discussion about the future of the Australian cotton industry.
- Creating a space where all delegates could creatively be exposed to new ideas and explore their own ideas.
- Sending clear signals to all delegates that this is an area of investment that CRDC is committed to and will look to innovate itself.
- Providing CRDC Board and Management with some key priority areas for each Theme area.

CRDC is now at the stage where it can move to address the second objective of the identification phase, which is to generate new and creative ideas. This will require investigating specific priority areas to gain further insight and translate them into workable ideas. Given that there are five areas of focus for each theme and limited resources available, it is likely that in undertaking the second objective, there may be a need for a further narrowing down and prioritisation of focus. The likely level of investment required and potential magnitude of impact would be a useful lens through which this narrowing down could be considered.

### 2.3. Suggested Context for Futures Themes Investment.

Given that CRDC is still in the initial stages of developing and investing in an innovation programme, some suggested context for how these Themes might be considered is outlined in this section. This includes both some background consideration and context for the development of an innovation strategy (including a suggested vision and goals) and also a framework to consider current levels of innovation investment and suitable business processes.

#### 2.3.1. Context for an Innovation Strategy

Individually, the outcomes for the three Futures Themes are:

- Profitable Futures – Innovations in cotton production
- Sustainable Futures – An industry achieving its vision
- Competitive Futures – The demand for Australian cotton is positively transformed.

Collectively, the underlying principle behind these three themes is that CRDC will invest in RD&E that seeks to transform the Australian cotton industry into the future. This is ambitious and a way that assists with thinking about how this could be achieved is in the context of competitive advantage.

In the context of Australian cotton R&D outcomes there are two possible approaches to gaining a competitive advantage, those being:

1. 'Similar but Enhanced'
2. 'Different and Enhanced'

In the 'Similar but Enhanced' approach businesses / organisations / industries attempt to compete with one another by developing 'best practices' which allow them to perform the same type of activities more effectively or efficiently than their rivals.

In an Australian cotton context, it might be argued that this is the main strategy being employed whereby the greatest effort is focussed on improving the yield and quality of Australian cotton while reducing the input costs in order to remain cost effective in the international market.

There are a number of problems with this approach however, firstly, it fails to achieve a significantly different competitive position from other international producers and in the eye of the customers it generally looks like the same product. The second problem is that it is difficult to maintain a sustainable competitive advantage because it is so easy for others to copy and adopt the enhanced practices and technologies. Thirdly, it fails to take into consideration other competitors such as those developing man-made fibres. Finally, it assumes that the future use and market for cotton will remain essentially the same as it has in the past.

The 'Different and Enhanced' strategy however, involves businesses / organisations / industries delivering superior value by performing their activities differently to their competitors or by performing completely different activities altogether. Using this approach, businesses / organisations / industries are able to claim a competitive position that is substantially different from its competitors and potentially more sustainable because it is difficult to imitate. It also has the potential to create totally new markets / industries for the product which are of higher value.

In the context of the Australian cotton industry, this latter strategy is the one being attempted by the three Futures themes, which aims to transform the Australian cotton industry and work towards the achievement of CRDC's strategic vision of 'A globally competitive and responsible cotton industry'.

An innovation strategy that clearly articulates the approach CRDC intends to take in terms of transforming the Australian cotton industry and building the competitive advantage of the Australian cotton industry is therefore vital to the success of the Futures Themes.

If this type of approach to thinking about CRDC's investments in the Futures Themes were to be adopted then CRDC might consider using the following vision and goals as the basis for its innovation strategy.

**Innovation Vision:** RD&E that transforms the Australian cotton industry and the competitive advantage of Australian cotton.

**Innovation Goals:**

1. *Profitable Futures* - Build the long-term profitability of cotton for Australian growers
2. *Sustainable Futures* – A responsible industry leading innovation in agriculture.
3. *Competitive Futures* – Transform the use of Australian cotton and cotton products

**Innovation Outcomes:** (taken From CRDC's Strategic R&D Plan 2013-18)

1. *Profitable Futures* - Innovations in cotton production
2. *Sustainable Futures* – An industry achieving its vision
3. *Competitive Futures* - The demand for Australian cotton is positively transformed.

As part of CRDC's annual strategic review and also the development of an innovation strategy, the outcomes articulated in the current Strategic R&D Plan may need to be revised in order to be consistent with the stated vision and goals.

**Innovation Measures of Success** (taken From CRDC's Strategic R&D Plan 2013-18)

1. *Profitable Futures*
  - Improving gross margins for Australian cotton production
  - On-farm innovations and partnerships established to drive profitability
2. *Sustainable Futures*
  - Innovations and partnerships established to drive cotton industry sustainability
3. *Competitive Futures*
  - Provide the Australian cotton industry with knowledge of fabric innovations and future market opportunities
  - Development of alternative and high value cotton products.

Similar to the current outcomes for these three themes articulated above, CRDC may consider revising these measures of success in line with the priority areas once they have been further refined. Delegates have already provided some suggestions as part of the survey feedback outlined in Section 1.1.3.

### 2.3.2. Context for Business processes

In addition to the development of an innovation strategy, one approach which maybe useful to consider in the development of suitable business processes and also the on-going management of innovation projects is to have an understanding within the organisation as to the level of innovation investments across the entire R&D portfolio.

Outlined in Table 5 is a classification and characterisation of different R&D projects in terms of innovation. The three columns represent the level of intensity of innovation and the rows represent the different characteristics of these different levels of intensity.

**Table 5. Innovation project types**

	Intensity of Innovation		
	Imitation	Incremental Innovation	Radical Innovation
<b>Purpose</b>	An endeavour undertaken to create a product or service, new to the customer / organisation, but already existing somewhere in the market.	An endeavour undertaken to create a product or service, as a substantial improvement of products or services already existing on the market.	An endeavour undertaken to create a unique product or service, absolutely unique on the market.
<b>Project Goals &amp; Objectives</b>	Clearly defined	Clearly define	More vague and broader
<b>Uncertainties</b>	Lower Level	Medium Level	Higher Level
<b>Competitive Advantage Approach</b>	'Similar but Enhanced'	'Similar but Enhanced'	'Different and Enhanced'
<b>Research Activities</b>	Reverse engineering of products, imitation, low value added, minimum learning and innovation potential	Improvements in existing products.	Breakthrough R&D and radical changes to products.

Source: Adapted from - [http://www.pucsp.br/icim/ingles/downloads/papers/TL\\_038.pdf](http://www.pucsp.br/icim/ingles/downloads/papers/TL_038.pdf)

Table 5 provides a useful lens through which to examine CRDC's current R&D investments, the levels of risk generally attached with these projects, the competitive advantage approach and the type of activities that the research is focussed upon.

In the context of the current CRDC R&D investment portfolio it might be envisaged that the majority of investments would lie in the 'imitation' and 'incremental innovation' categories. It is expected that those investments in the Futures Themes would all lie in the 'radical innovation' category.

A useful exercise would be to categorise each of CRDC's current investments using the three levels of intensity to provide an overall measure of 'innovation investment'. It would also provide tangible data on the balance of investments across the different competitive advantage approaches and identify how all of CRDC's investments contribute to building the competitive advantage of the industry.

Such an understanding would also provide some context for when it comes to evaluating potential innovation projects. Key questions might include:

- Is this concept a radical innovation?
- Will it contribute to a 'different and enhanced' competitive advantage for the industry?
- Are the research activities contributing to breakthrough R&D?

## 3. Recommendations

Outlined below is a list of recommendations to CRDC to continue progressing the investment in the three Futures Themes. These recommendations are considered in terms of creating the innovation conditions as well as implementing the innovation phases.

### 3.1. Innovation Conditions

1. **Develop an Innovation Strategy** – this document will be critical is clearly articulating CRDC’s vision, goals and objectives in this field of investment and also its position and approach to investing in innovation. It will provide a structure through which Management can report, assess and implement the Futures Themes investments and become an important communication tool to both the industry and researchers. It will also provide clarity and purpose to innovation process.
2. **Review current business processes** - identify those approaches that will best support the Futures Themes (project management processes, CRDC’s position on IP, likely procurement processes, the necessary skills of project manager / leader, required resources, etc.). These processes should be captured in the innovation strategy.
3. **Continue to build an innovation culture** – The survey results from the Futures Forum indicate there is strong support from delegates in this area of investment and a willingness to stay involved. This is fundamental to the on-going development of an innovation culture. It is recommended that CRDC continue to build on this support through actively including delegates and the industry in the Futures Themes using some of the approaches suggested by the delegates. This will demonstrate that CRDC has listened and acted upon their feedback. Regular communication and updates will be vital.

### 3.2. Innovation Phases

4. **Address objective 2 of the identification phase** – Following the Futures Forum, CRDC now has a set of priority areas for each theme. The next step is to investigate the specific priority areas to gain further insight and translate them into workable ideas. This could be achieved through the establishment of priority areas working groups (delegates have indicated their willingness to be involved) who assist in the drafting of briefing papers on each of the priority areas. These short and concise briefing papers would narrow down and clearly articulate:
  - The scope of the problem / opportunity.
  - A clear outcome or target to be achieved.
  - An assessment of the feasibility of the outcome or target.
  - Potential magnitude of impact on the competitive advantage of the industry
  - Potential CRDC investment partners.

This approach would provide CRDC with some clear guidance as to the priority areas that are likely to deliver the greatest return on investment should the outcome or target be achieved and is consistent with that suggested by some of the delegates when asked about how CRDC should consider procuring research for these themes.

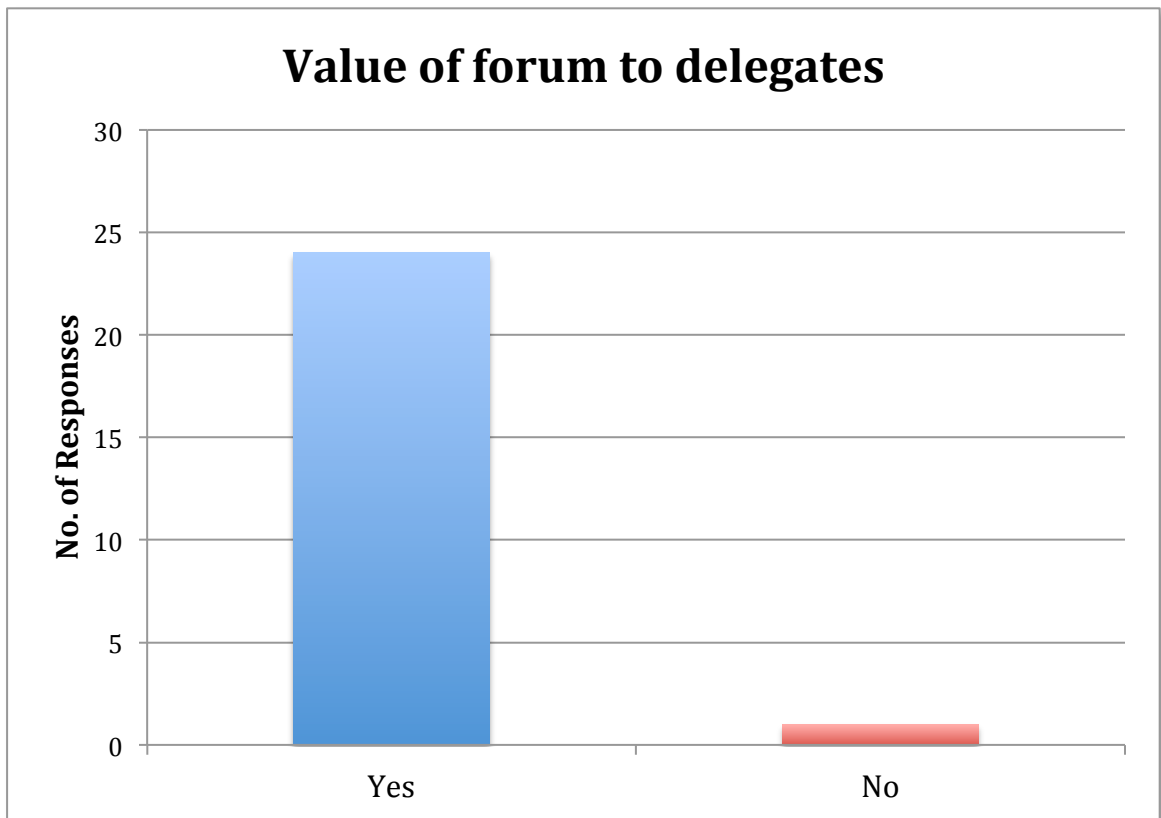
## Appendix 1– Consolidated Survey Results

**Question 1. Did you find the forum itself a useful way to explore and consider the future of the Australian cotton industry?**

Answered: 24

Skipped: 4

	Yes	No	Total
No of responses	23	1	24
%	96	4	100



## *Question 2. How could it be improved next time?*

---

Answered: 23

Skipped: 5

- The structure around what is currently done has meant that there are some good out of the box ideas of doing what we already do but better/cheaper more efficiently etc. Downside less emphasis on very different approaches perhaps starting at a new end point and working back.
- Start earlier in morning (second day) to make best use of time for people that have travelled
- More time for brainstorming, more interchange between tables
- Feedback to participants could be quicker.
- This was a very well planned and executed forum.
- Bring in a little more evidence to map out future paths
- The forum was one of the best I've ever attended. I can't really think of any way to improve it.
- Clearer outline of follow-up process, access to outcomes
- More engaging professional facilitator would have made the day more productive.
- Not sure I enjoyed the facilitators tactics to get ideas (especially when we had time to fill our own thoughts separately and then discuss)
- It seemed quite a long process - maybe a shorter time frame?
- I think it was well run as a brainstorming exercise.
- I thought it was pitched right
- The forum was fundamentally locked into a standard representation of the current supply chain - this makes it difficult to consider the impact of disruptive technologies or alternative opportunities. Perhaps reverse the chain - start with the end products and those that consume them, and then make sure the supply chain works at each point to deliver
- More dynamic facilitator
- Better facilitator, more "outside industry" participants
- Explore needs identified by industry
- Include customers who buy products i.e.: clothing manufacturers, processors, oil crushers etc.
- Assist with costs for those from the private sector you invite to such events - if you value their input enough to invite them.
- I struggle to think of a specific improvement - I was impressed by the format and management of the day.
- Better facilitation
- More grower intel - timing of the next forum is crucial i.e. not in the middle of watering. Maybe next one could be held June - Mid Aug.
- Timing issue - not during the very busy time of cotton season. Too few growers able to attend. Less time gap between event and feedback.

### Question 3 Who should we include next time?

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Answered: 22

Skipped: 6

- Perhaps given the major outside influence of concern is man-made fibres are there significant players in that industry (or ex that industry) that could assist in understanding what they can't do and better understand what advantages that cotton has that can be leveraged.
- A few people from outside the industry to provide different perspectives
- Lots of discussion on the value chain (i.e. post farm gate) but there were no representatives from this area of the industry
- Dr Jason Fox was great!
- The balance in industry stakeholders and researchers/developers was very well thought out. If anything, possibly include some feet-on-the-ground representatives from each of the links in the process chain. They could provide a nice 'reality check' for the groups, although they would need to be carefully managed so as not to detract from the 'free thinking' atmosphere.
- ???
- A goods mix of people was present- as above.
- Other agricultural industries; more growers
- Greater diversity of thinking, professors, academics etc. Not just ourselves
- Same broad mix but tailor guests to the outcome sought by their knowledge. Consider asking non-cotton industry to get outsiders point of view?
- I can't remember who was there this time. But it would be good to have some good representation from other agricultural and even mining industries. I think it would be also valuable to include cotton breeding, biotechnology.
- Not sure it was a good spread
- Consideration of end users / consumers
- Graduates from the "Future Cotton Leaders "program. Cotton Science Scholarship Recipients.
- People from diverse areas beyond the cotton industry
- The Cotton Australia committees that advise on R&D proposals submitted to the CRDC
- Representatives of above
- More private NRM practitioners with experience working strategically in the sector
- Maybe someone from a competing fibre or with solid knowledge of a competing fibre.
- Ministers office
- A spinner - there was a lot of discussion on end market but no one was there to advise what is really going on in our international market.
- Ensure CA Panel members can attend. These people need help in 'creative/outside the box' thinking.

*Question 4 Are the priorities established by the group at the forum (see page 6 of the report) the most important ones?*

---

Answered: 23

Skipped: 5

- Sections 1 and 2 will help the industry do what it does better. Section 3 is key if there is a real and founded concern that that the current end product will not be competitive. Then doing current cotton better will prolong the ability to compete but perhaps not change the end result. A call will have to be made as to the seriousness of the threat and then balance doing it better to doing it very different.
- Yes, those priorities derived from keen observation and thorough thinking. It has provoked wide range of speculation on how to drive the Australian cotton to a profitable, sustainable and competitive scenario.
- Yes the priorities identified seem to be reasonable. I think there is some question about who plays what role in some of the priorities.
- The list is a reasonable ranking of the priorities discussed
- They are probably the ones most worthy of exploration and investment.
- Yes- well captured and synthesised
- There are so many, your next challenge is to articulate the priorities of the priorities
- they are the ones discussed - hard to test relative importance in absence of other sources
- They seem a good starting point
- Yes, I feel the points capture the ideas of the day
- After reviewing the document my initial thought is that the group has captured the most important priorities
- Good summary of what occurred
- I believe so
- That list seems reasonable.
- Yes, they cover most things, beyond conventional strategy already put in place by industry stakeholders
- It's probably impossible to tell. The future is not locked in, and we can only hope to make better decisions to achieve the future we want rather than the one we will otherwise get. The question is whether the priorities identified will assist more with meeting future needs, coping with disruption/challenges and making better decisions. The list is looks comprehensive
- They are the most important for the people who attended the session. It's often hard to identify other priorities from within.
- Yes
- Yes
- Yes - I feel they are.
- They look logical. A challenge in defining importance is quantifying the difference addressing them could make.
- Yes - in regard to traceability we need to be careful about our end consumer choosing what area they want to buy their cotton from.
- Yes

## Question 5. Did we miss some priority areas on the day?

Answered: 19

Skipped: 9

- In terms of competitive futures, it is necessary to considerate how ALS can better compete with Chinese ELS or US Supima through out the whole planting and marketing process from seed breeding to promotion.
- I would have liked to see "reducing input costs through new technologies" changed to reducing input costs through new technologies and/or knowledge". The soils, and in particular the role that soil biota can play is the last untapped resource where the return can be delivered to the grower (as opposed to new technologies, where the return is most often returned to the owner of the new technology).
- Not really
- No
- Not really, but I note water is not in the summary. It is the most limiting constraint to cotton production
- What do growers want? What do scientists say is possible?
- Not that I can see
- Maybe some more low hanging transformational opportunities within in the production system. e.g. energy efficient farming system, what is considered best practice? What are the real economic impacts of energy on the system. Solar powered pump stations, can we use the energy created by irrigation water flows? like turbines? What more can we do with the product? Longer, stronger and finer (biotech break through) Industry value capture not multi international value capture.
- Don't think so
- Was the priorities established reviewed by growers from a number of areas?
- Not sure if we really picked up on biosecurity.
- Maybe climate change
- The game will be won or lost at the consumer end. It is no good being the best are delivering a product if no one wants to buy it anymore. Their needs do factor in the list, but it is (understandably) more from the point of what we can supply rather than what they want.
- I think the really big transformational areas might have been missed.
- Some of the priorities were not grounded in terms of the practicalities, including sidelining the culture of the production, merchant and spinning sectors, in undertaking and achieving the R&D goals.
- Not sure - but something like how can we make cotton a more reliable and easier crop to go would be a good priority
- I can't help think about the impact of irrigation volume and/or rainfall on cotton yield and therefore farm profitability - is there a priority around increasing yield per volume of soil moisture?? Maybe captured in priority 1a.
- I'm sure there may have been a few but the discussions I found were really worthwhile & across all topics. Also the "BCI" & "Cotton Leads" weren't typically covered and this looks like the way Cotton Australia/ Industry is heading (for now!). BMP - where does it 'fit' with Leads & BCI (who actually benefits?)
- We missed talking about the actual people in the industry, those who will implement all these ideas over next 20 years; will they be available, ready and able? Given the aging workforce (baby boomers retiring), what innovative ideas for attracting/retaining people to our industry. This could fall under the 'sustainability of our whole supply chain'.

*Question 6. Do you have some suggested specific goals for any of these priority areas (eg By 2029 Australian cotton will be traceable back to the grower and specifically marketed under an Australian cotton brand)?*

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Answered: 18

Skipped: 10

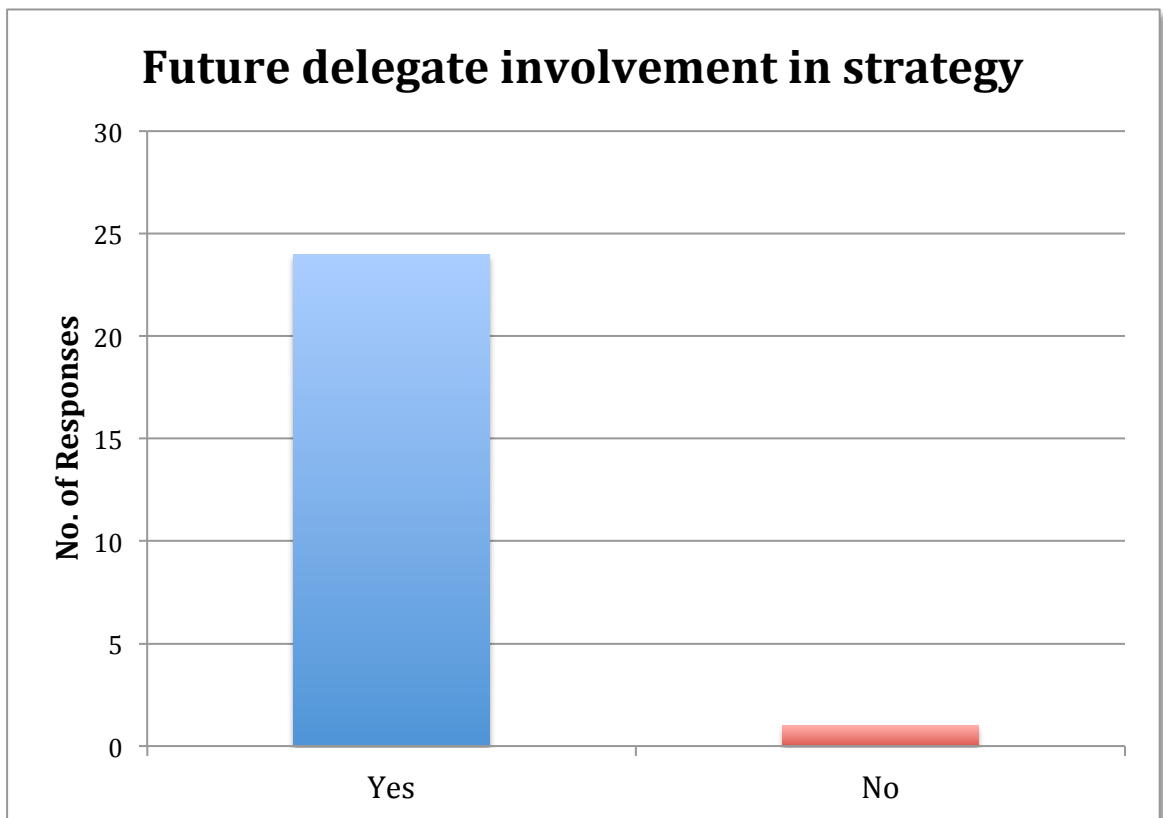
- By 2020 a series of new end uses of cotton/cotton derivatives will be identified to enable the development of new markets if the threat of man-made fibres eventuates.
- Within 5 years, Australian cotton will become a proactive, transparent and visible industry in which one brand across the industry. And also a market niche and brand will be created for Australian cotton.
- By 2029 input/bale (ML/bale water, kg N/bale, energy/bale) has improved by 25%.
- May be helpful to segregate the priorities into those that may be targeted in the short-to medium term and those that are more aspirational.
- I'd recommend more specific shorter-term goals. The future is uncertain, and we need to maintain the ability to adapt. We also need to make sure that we are building momentum and seeing progress early, otherwise the urgent priorities will always take precedence.
- Nil
- No
- Energy will be the biggest threat to our industry. We need baseline data sets now to benchmark what we know and then set aspirational targets to reduce total energy units by 25% 2029
- Not really
- No
- In 2029 there will be an Australian Cotton Industry supporting an important product needed by the world population
- No
- The Australian brand is not for CSIRO to discover. CSIRO can support the 'brand' in terms of quality and information transparency.
- Measurability of yield progress benchmarked to system. Same for quality. Repeat customer retention for products be a nice metric
- Nil
- Sustainability of the supply chain = By 2029 Australian cotton production is resilient to seasonal impacts and can consistently produce the worlds best quality cotton in increasing quantity.
- Align Australian Cotton with Country Road (or the alike) to use & promote Aussie cotton - they have just done a great promo with Australian Wool.
- By 2029, the Australian cotton industry will be populated with capable and productive people directing its growth along the supply chain.

**Question 7. Would you like to continue to be involved in this part of CRDC's strategic plan?**

Answered: 25

Skipped: 3

	Yes	No	Total
No of responses	24	1	25
%	96	4	100



## *Question 8. What are some ways in which we can engage the whole of industry in this type of research?*

---

Answered: 19

Skipped: 9

- Seek the views of industry participants on the results of the forum and capture any ideas missed.
- Besides meetings, it's suggested to create a multi-media approach to gather the thoughts from the experts, observers, professionals, and entrepreneurs etc. by allowing them to voice out their concerns and findings at any time anywhere via CRDC's well-established website, blog, or even Facebook, Twitter. These should be healthy supplements to annual meetings.
- Set up a forum at cotton conference - perhaps in the short breakout sessions
- Focus on and promote a small number targets with the highest priority. Having too many priorities gives an impression of not knowing what is important
- The next step is to run some regional breakout sessions around workshop outcomes. This may provide some extra depth around key industry issues 'on the ground'
- Focus groups and demos of research outcomes
- Grower think tanks / regional meetings ?
- We need to empower the Cotton Australia panels to be more engaged and build their knowledge and understanding around the critical issues for our industry. The panels then can better inform the CRDC on research direction. Adding to this we cross pollinate outside industry knowledge and diverse thinking with the panels views
- Before embarking on one of the goals, use networks to contribute ideas to the strategy of 'how' to go about achieving the goal
- Grower feedback
- As a first step disseminate information about this workshop and highlight some key outcomes. Invite agencies, peoples to express interest in future meetings.
- Provide a summary at key industry forums. Maybe presented by some of the participants
- What do you mean by engage - what is the reason/desired outcome for engaging the whole industry in the research? Participatory decision making forums could be considered (citizen juries etc.) but accept that it will be a bit uncontrollable.
- Paint a compelling image of the future to gain buy in. Target groups of growers (CA Panels) to spread the message.
- Virtual collaboration, standing agenda item at industry meetings and dedicated thinking meetings
- An annual publication/video called the Cotton 2050 that shows futuristic cotton industry scenarios.
- Travelling expo? - need to start educating / become more active with the southern areas
- Regular communication including more forums
- Concentrate on the Panels, and help them with a more systematic approach when interpreting/reviewing research proposals - it is assumed that this is a 'given'. Could lead to greater Panel participation, and time-saving.

### *Question 9. How might CRDC consider procuring this type of research?*

Answered: 15

Skipped: 13

- Through open tender. Though for truly innovative ideas some confidentiality will need to be guaranteed.
- Not sure what this topic is asking.
- CRDC can't go it alone, and needs to develop genuine collaborations with public and commercial organisations. It should not be viewed just as a procurement process, but as a transitioning process. For each goal, bring together the relevant parties and begin to map out where the investment is needed/best spent.
- Indicate the main priorities in the call for expressions of interest for new research proposals
- Tenders
- Facilitating workshops with industry and non-industry on key issues.
- Ensure the RIGHT research question is asked and then put it out for EOI as widely as you can (don't be limited by current R& D organisations)
- Perhaps invite expressions of interest around clearly defined goals. Encourage cross agency, cross industry collaboration. Work with the parties that express interest to put together final projects which use the best skills into teams - even if this means across agencies.
- Engage the research providers directly with the suggestions in the document
- Identify clear desired outcomes and let the providers work out how to deliver.
- We need to use methods other than newspaper ads and websites. Use social media, go internationally, find groups to help
- mmmm not sure - thoughtful engagement with universities and students be interesting. establish close ties with customers of OZ cotton and their organisations.
- Allocate 10-20% of total budget to blue sky research aligned with an identified priority area
- Depends on the nature of each priority but open innovation could be a useful approach
- Employ Darren Hill (or similar) to do a workshop specifically for all Panel members.

### *Question 10. Should CRDC consider running an annual event like this?*

Answered: 24

Skipped: 4

- Annual would be too frequent as things may not have changed in the exterior world enough to warrant a reappraisal.
- Yes, in China the cotton industry do so every year to gather professionals and experts to review the current market and to explore future opportunities.
- Not exactly. Now that some priorities have been identified it would be more useful to focus on a priority (e.g. integrating big data) and CRDC lead the process to identify where we are now, and where this is heading in the short and long term, and what are the gaps that need investment.
- Yes, annual or biannual
- Once every two years might be more appropriate
- Maybe once every 2 years.
- Definitely- it was one of the best workshops I've been involved with and everyone was engaged.
- Not a broad brush on everything every year, I'd put the energy into a specific topic or discipline each year like the farming systems forums
- Or biannually
- May be too frequent - participants would like be interested to hear how procurement of research to address ideas from the previous forum is going, so would be good to allow for enough time for things to have progressed
- Yes
- I believe so
- Not too regularly on the broader strategy however holding a forum to re-test the assumptions (what's changed etc.) on key goals would be useful to remain relevant and ensure the RIGHT research questions are being asked. I think a process to ensure the right research questions being asked will be the key to the success of the 6 goals identified.
- I really enjoyed hearing from everyone in the room and the ideas they had. It was quite a creative process and I believe it was of value so an annual event may be beneficial.
- I think Annual is too often - but certainly every second year - probably targeting a different group of people each time and including some of the younger researchers, consultants etc.
- Every 5 years
- Annual is probably unnecessary. Three times during the live of the program may be useful (beginning, mid-point review, end to capture learnings and point to new directions/next phase).
- Not sure, because the focus was specific this year. It was not inexpensive to host. Perhaps every 2nd year?
- I think annually might be a bit too soon but maybe biennially to say happen in the off Cotton Conference year. Feedback could then be provided to industry on big themes and progress.
- Yes
- I would make it every second year - annually would get a bit repetitive.
- Yes. - or twice a year - focus areas can change and we may need to adapt in a shorter timeframe than expected. - or even regular updates via email on progress.
- Yes, just need to keep it focused with a worthy purpose.
- Yes

## Appendix 2 – Innovation Strategy template

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- IX. Innovation Structure – Areas to Address
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- XI. Culture – Areas to Address
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- XIII. What's Next

Source: Adapted from <http://www.simplyinnovate.net/wp-content/uploads/2012/06/Innovation-Strategy-Roadmap-Template-Simply-Innovate1.doc>

## II. Executive Summary

Explain the basics of what your plans are for innovation and your company. Explain why you are undertaking this endeavour. What do you expect to gain? Who are the owners? What are the major considerations? This section should be concise because all the details will follow in this document.

## III. Innovation Background

In this section you want to:

- Define Innovation for your readers
- Describe the company's historical success at innovation.
- Describe how you got to the place where your company is ready to commit to innovation (was there a catalyst (e.g change in owner, new competition, obsolescence issues, etc?).
- Describe the current environment in your company. Is risk tolerated? Does failure come with a price? Are there departmental silos or is there a robust sharing of information. Are there a lot of politics that have gotten in the way of new ideas?
  - If your company does employee engagement surveys, this can be very useful for this bullet point. Otherwise, you may have to create a list of questions and interview a diverse selection of employees to gain insight into the current environment.
- What strengths does your company have that can help your innovation efforts? What weaknesses exist?
- Are you aware of any processes, products or services that you can improve or enable through innovation?
  - Consider what unmet or undiscovered needs customers have and determine how to deliver those products and services
    - Think about innovating based on what customers want and need, not necessarily what you are expert in doing.

## IV. Company Strategic Plan Overview

This section should have two subsections: the Executive Summary of the Strategic Plan, and then a brief summary of how your innovation roadmap is aligned (or not, if alignment needs to occur) with that plan.

## V. Innovation Mission and Vision

The mission statement is a concise description of the reason you are going through the effort of creating a lasting innovation environment. In a perfect world, it would be five words or less (give it a try). The mission statement should provide direction and focus to your innovation efforts. Communicate this statement freely.

Just to be clear, this is not your company's overall mission and vision statement. This is your **Innovation mission and vision** statement.

The vision statement is an inspirational, compelling answer to the question: What do you hope your innovation efforts will do for your organization and customers?

## VI. SWOT Analysis

In this section, you will spend some time assessing and documenting the environment you will be innovating in. SWOT refers to strengths, weaknesses, opportunities, and threats. Most strategic plans will include these four parts. You may want to break them down even further and complete these four parts separately for your external environment and your internal (inside your company) environment (that's a total of eight primary sections).

To be clear, you are not listing the general SWOTs for your company. That should be in your strategic plan and you should include them as an addendum to this document. This section should be focused on innovation related SWOTs (some of which could be the same as your company's general SWOTs).

An external analysis looks at societal, technological, political, and economic trends affecting the organization ability and desire to innovate (e.g., recent or pending legislation, demographic trends, and competition, customers' attitudes and desires). As it relates to innovation, think about how your industry is faring (e.g. are you in a dying industry), which competitors have are doing well (do they have something new and innovative), and are there regulatory issues that may dictate innovation (e.g. certain cities are banning foam containers which force restaurants to use alternative packaging that can greatly increase their costs).

An internal analysis looks at innovation related issues like risk tolerance, trust, openness to ideas, structure around current projects and success with new endeavours.

## VII. Innovation Goals

Goals are the destination on your innovation trip. Goals are used to bring people together so that they are heading toward the same place. Goals answer the question “Why are you doing this?” Usually you'll have two to four goals. As you look at all the things you need to do to create a lasting innovation environment, there's a lot to pick from to create your goals.

Innovation goals should be SMART (specific, measurable, agreed-upon, realistic, and time-based).

When setting goals, set up reasonable timeframes. This will help you build a longer, sustainable innovation program.

## VIII. Innovation Objectives

You next will come up with 2-5 objectives to support each of your goals. Remember, goals detail why are you innovating. Objectives are what you are going to do. These are the major steps you are going to take to achieve each goal.

An important thing that people overlook is to make sure they are speaking the same language. Objectives are sometimes also known as strategies. That's fine if you want to use the word Strategies in this section instead. Just make sure that everyone in your company is on the same page. As an added note, underneath each objective will be many tactics (also known as action steps), which are the specific tasks or actions that you will take to complete each objective.

## IX. Innovation Structure – Areas to Address

In this section, you are going to not only describe the things that need to be done to create a solid innovation structure, it will also be a great document to educate employees on what innovation structure means. This section is separated into the major components of building your innovation structure.

### **STRUCTURE COMPONENTS**

#### 1. Leadership and Staffing

Who will lead this charge?

- Do you have commitment from the top?(CEO, board, owners)
- Do you have a dedicated leader of your innovation efforts? (Chief Innovation Officer or similar?)
  - Is this person a senior executive?

- Are you going have some initial hires or transfers to staff your innovation department?
- Are you going to give employees time to innovate (you can summarize this here and then discuss this in detail in the culture section)

2. How to Identify Your Innovation Challenge - Deciding where to focus your innovation efforts can come from a number of sources, including:

- Your Company's Strategic Plan
- SWOT from this Innovation Roadmap
- Marketing Research
- Customer Feedback (surveys, social media data, etc.)
- Employee Feedback

3. Idea Collection

- How are you going to collect ideas? Some examples are:
  - E-mail
  - Idea Software
  - Other

4. Filtering Process

- Create an Evaluation Team to be your initial filter for ideas
  - Establish rules for this committee (how often they meet, what to consider when looking at submissions, etc.)
  - Who is on it (you want a cross-section of employees)
  - Create a filtering matrix for the evaluation team to use
- Criteria Selection for the filtering matrix
- Idea rework process if an idea is good but needs more substance
- Create a Screening Committee for the short list of great ideas that have to approved to move forward to the implementation phase
  - Establish rules for this committee (how often they meet, what to consider when looking at submissions, etc.)
  - This committee should be primarily senior executives
  - Create an Idea Presentation Form (could include a PowerPoint) to be used by the person who will be presenting the idea.

5. Pipeline Management – needed to create oversight and visibility of innovation projects.

- It's important that you track the phases of an innovation effort. If you think of the innovation process in context of a flowing river:
  - First, you have a challenge
  - Then, you have a bunch of ideas
  - Then, they are filtered by the evaluation team
  - Then a smaller group of ideas is being prepped to go up in front of the screening committee
  - Then, the best idea(s) is approved by the screening committee to be put into action
  - Then, you have a project beginning
  - Then project has phases: start-up, in-process; testing, roll-out, and complete

If you are a larger company, you ideally want to have a portfolio of innovation projects, and have your innovation projects in different stages so they don't deplete your internal resources. All this is good but needs to be tracked.

- You will need to track and manage the:
  - Number of projects
  - Types of innovation efforts
  - Go/No Go decision checkpoints

6. Tools – Each phase of an innovation process (Identify, Ideate, Filter and Finish) can benefit from innovation tools.

7. Project Management –There is an important distinction between the qualities of project leader vs. a project manager.

- Do you have project leaders
- Do you have project managers?
  - If not, are you going to hire, educate or bring in outside consulting help?
- How are you going to track projects? Some examples include:
  - Intranet (e.g. SharePoint)
  - Google docs
  - Special E-mail folders

8. Measuring Results – **IMPORTANT** – You have three things going on that need to be measured:

- First, you have your overall innovation goals that you created in section VII that should have clear success metrics that you need to track.
- Second, you have your efforts to create a long-term innovation environment that I am going to recommend that you break into three pieces and turn into specific projects. The three pieces are Structure, Ideas, and Culture. If you treat these like projects (with a project leader, manager project charter, project team and project plan), you'll find it's the best way to make all the stuff you have to do much more manageable.
- Finally, you will have the fruit of your labour; specific innovation ideas that have been approved to move forward and worked on and implemented as projects. This is what is going to make you the real money.
- Also, do you need to revise systems to support innovation (e.g. reporting, bonus, performance reviews)

## X. Ideas–Areas to Address

There's quite a bit to creating the best environment to solicit ideas that are going to result in great innovations. In this section, you are going to outline the specific things you will need to do to put structure around your idea collection process.

1. Discuss the different avenues where you might get ideas and how you might harvest ideas from these different sources. Examples include:

Employees

Vendors

Franchisees/Licensees

Customers

Consultants

2. What is your idea collecting philosophy?

- Do you collect ideas for specific challenges (vs. general idea collection)
- Limit the opportunity to submit ideas to a specific time period (e.g. two weeks)
- What are your reward and recognition plans
  - Gamification (believed to be the best way to get engagement)
  - Monetary rewards
  - Recognition

3. Idea Collection (you touched on this in section IX).

- Here, get into more detail on how you are going to collect ideas. Talk about the different options and what your current recommendation is. Also discuss why you picked your choice and what will be involved with implementing it.

## XI. Culture – Areas to Address

Creating a lasting innovation culture is actually a lot of fun, but it's also a lot of work. You've got to be patient, this doesn't happen overnight, especially if your cultural starting point is an environment that is not conducive to innovation.

Innovation is difficult because it requires different methods of thinking, a different level of risk tolerance, and different roles and responsibilities. Therefore, you need to empower people to act in ways that are different from the norm.

There's quite a bit to creating the best environment to solicit ideas that are going to result in great innovations.

1. People – There is a lot you can do with your employees to create an energized group of innovators:

You may want to start with completing a baseline assessment of your current innovation culture in order to be able to measure in the future your success in creating an innovative culture.

Evaluate the different types of creativity of your employees

Educate your employees about innovation, including:

- Specific education for innovation department employees (
- General education for all employees (e.g. 10 minutes during each employee meeting about one facet of innovation)
- Identify training needed to embed innovation into all departments
- Skills training (e.g. project leadership, project management, how to work in teams, how to lead a brainstorming session)
- Create a knowledge management system where people could teach themselves about innovation. Examples include:

Condensed books

Videos

Articles

Newsletters

Reference to blog sites, etc.

Create an environment of trust and transparency

Learn to celebrate failure (for the right reasons).

2. Space

Where are you going to house your innovation department?

- Are you going to create a physically separate unit (ideal but costly) or is it going to part of your current company?

Is your current space conducive to innovation?

- How can it be improved

If you want a great read about creative spaces, read *The Art of Innovation* by Tom Kelley. He is the cofounder of a very famous design firm, IDEO. In his book, Kelley devotes a chapter about how important having a creative physical environment is to the innovation process and what that looks like at IDEO. The entire book is interesting, but this chapter is very helpful for giving you a good visual of what is possible

### 3. Time

Are you willing to give your employees time to innovate?

- If so, how are you going to do that? (see 5 examples in Chapter 6 of Top-Down Innovation)

The alternative is to leave innovation to a small select group of employees or utilize mostly outside resources.

### 4. Communication

How are you going to communicate the company's innovation mission, goals and progress?

Who is going to manage the communication process? (if you have a PR department, it would be great if you could engage them to help you. The other good alternative can be your HR department, since they may be involved with measuring and improving employee engagement).

What vehicles are you going to use to communicate your company's innovation efforts? (e.g. E-mail, newsletters, twitter, videos, etc.)

- Note: There can be a delicate balance between communicating and protecting valuable confidential efforts. Even if you are working on an innovation that needs to be kept secret, you can still communicate about your progress in creating a lasting innovation environment (i.e. not about a specific project but about your progress in creating an innovation structure).

## XII. Resource Needs (Money, Time, People) Recap

Since you discussed time and people in the previous section, let's focus on money.

The reality of working in a larger company that has a real budgeting process is that you aren't going to be able to move forward with creating a lasting innovation environment unless some money is budgeted for these efforts.

That puts the onus on you to do enough work to figure out how what parts of Structure, Ideas and Culture you are going to work on in the next budget year and how much you estimate it will cost you.

So look at your innovation goals, then look at the objectives that support each goal, then list out the specific tactics that you will want to get started in the next year that will cost money. Then do the research to estimate what those tactics will cost you.

It's very helpful talking to vendors; it's also extremely helpful if you talk to people in companies who have implemented a lot of the innovation structural pieces you want to work on. The more thorough your research efforts, the less chance that you will leave out important expenses or underestimate them. You might want to add a separate line item, called contingencies, to account for the unforeseeable since this is a new endeavour. Remember, the more detail and support you have, the better.

Make sure to separate one-time start-up costs from expenses that will be recurring. For example, if you are implementing idea software, you might have a one-time cost for consulting fees of \$8,000, which you should separate from your recurring annual license fee of \$13,000.

NOTE: This section only relates to the money needed to create your lasting innovation environment. Specific innovation ideas that are approved to be implemented should have their own budget developed and should have a return on investment calculation that ideally shows a healthy potential return.

### XIII. What's Next

As we discussed in #8. of section IX, the best way to approach what may seem to be an overwhelming task of creating a lasting innovation environment is to break it into pieces. Think of the Structure, Ideas, and Culture sections as separate projects, each with their own project charter, project leader and project plan.

The Innovation Leader needs take ownership of the Roadmap, and depending on the size of your organization may directly manage one or more of the Structure, Ideas or Culture implementation projects. However, in order not to overwhelm your innovation leader, an example may be to find someone in HR to manage the Culture project, someone in Marketing to manage the Ideas project, and an innovation manager you hire to manage the Structure project.

Monitoring Implementation of this Plan includes the following questions:

- Are goals and objectives being achieved? If they are, then acknowledge, reward and communicate the progress. If not, then consider the following questions:
  - Will the goals be achieved according to the timelines specified in the plan? If not, then why? Adjust the deadlines if necessary but this can be a slippery slope if you keep adjusting. It's important to find out the cause of the slippage.
  - Are there any roadblocks that I need to clear for anybody who is working on these innovation efforts?
  - Do I have adequate resources (money, time, and people) to achieve the goals?
  - Are the goals and objectives still realistic?
  - Should the goals be changed due to valid external or internal factors?

Just like a strategic plan, you should review, enhance, adjust and revise this plan on an annual basis. Your business environment and your company changes, sometimes quickly, and this innovation plan should be flexible in order to capitalize on any changes.