



What is the Future of the ICT Industry in Australia?

Summary Report prepared for ACS Victoria Branch

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What is the Future of ICT in Australia?

Everyone is interested in knowing what the future will be. As the leading industry body for Australian information and communication technology (ICT) professionals with over 20,000 members, (5,000 of them in Victoria) the Australian Computer Society is well positioned to provide leadership in this area to both its members and to the wider community.

With this initial project, the ACS Victoria branch has taken a leadership role by creating and surveying the membership base to understand what they think about the future of the ICT industry. The focus of the survey was on identifying the critical uncertainties and drivers of change likely to have an impact on the ICT industry in Australia over the next 10-20 years. Key critical uncertainties are those drivers of change identified by the survey participants as likely to have a significant impact on the future of the Australian ICT industry. However, the exact nature of the impact is uncertain, as there are options for how the driver could develop which varies the impact of the change.

The survey was conducted in September and October of 2011. Of the Victorian membership invited to participate in the survey, 421 members responded.

The survey reveals the **forces driving change** that are likely to have significant impact on the future of the Australian ICT industry over the next 10-20 years as viewed by the members are:

- ICT security concerns (54%)¹;
- The continuing globalisation of industries (28%);
- The availability of high speed networks everywhere including developing nations (27%);
- Shift in business models and methods of supply and delivery of goods and services (26%);
- And the increased volume of consumer related data (24%).

ACS members view **cloud computing** (34%), **the continued offshoring of operations** (43%), and **security** (43%) as **critical uncertainties** and would like to further explore the impact they may have on the ICT industry's future.

Other **areas identified for further exploration** include:

- How can Australia become globally competitive in ICT rather than lagging behind.
- Education and training in ICT skills.
- The ability of society/business/government/legal systems to keep up with the pace of change.

To assist the industry and membership to reduce uncertainty and be better prepared for the anticipated changes **members would like to see**:

- Strategic scenarios developed to explore the likely impacts and available options.
- Education around the issues identified in the survey be made available.
- Better political and economic recognition of the significance of the ICT industry to the future of Australia.
- ICT investments provide long term solutions to major social, environment and health related problems.
- Those within the industry think more about the industry from a business and customer perspective and be able to communicate the value effectively.

¹ This is a summary of the results highlighting answers and combining questions. Percentages in this section do not equal 100%.

These results **highlight opportunities** for ACS to build on the results of the survey and provide industry leadership through:

- Publishing the results of the survey to both the membership and the wider stakeholder community.
- Providing education to both members and the wider community through undertaking more detailed research in the form of an environmental scan and subsequent report of what is currently happening globally and within Australia that may impact the industry.
- Workshops with members to consider possible impacts of these uncertainties on the ICT industry in Australia in the future.
- Creating strategic scenarios for the Australian ICT industry. These strategic scenarios can be used to develop robust policy and strategy today by ACS and by members within their own organisations.
- Undertake the survey at the ACS National level to provide a national industry wide view of the future.

The following report explores the survey results in greater detail.

Project Overview

Part 1: Qualitative Survey with the ACS Board and ACS SIG Convenors

An initial survey was sent to twenty-two members. This was the ACS Board and the ACS SIG (Special Interest Group) Convenors. The survey was open for completion 13 September thru 23 September, 2011. Five people anonymously completed the survey. This is approximately 25% of those asked to complete the survey and while not a large number of respondents the quality of the responses was high and allowed for the creation of a multiple choice survey which could be sent to the entire membership in Part 2 of the project.

This first survey was a series of open ended questions used to elicit those issues thought to be important in shaping the industry over the next 10-20 years. The questions were structured to elicit a wide range of responses and identify social, environmental, technical, political, and economic factors driving major change within the ICT industry and creating uncertainty about the future. The goal was to elicit a diversity of views and a wide range of factors were identified through this survey.

A copy of this initial survey is in **Appendix 1: Survey of ACS Board and ACS SIG Convenors (Qualitative)**

In order to check the survey for both completeness and clarity a small subset of the ACS Board comprised of five members reviewed and edited the survey prior to it being finalised for use in Part 2 of the project.

Part 2: Quantitative Survey of the ACS Victorian Chapter

Using the responses in Part 1 a multiple choice survey created and sent to 3182 people comprised of 2123 Members, 994 Senior Members and 65 Fellows. The survey was open 6 October thru 14 October, 2011. The total number of responses was 421, or a 13.23% response rate.

This is an excellent response rate for a survey of this type and may be reflective of the interest from your membership in the future of the Australian ICT Industry.

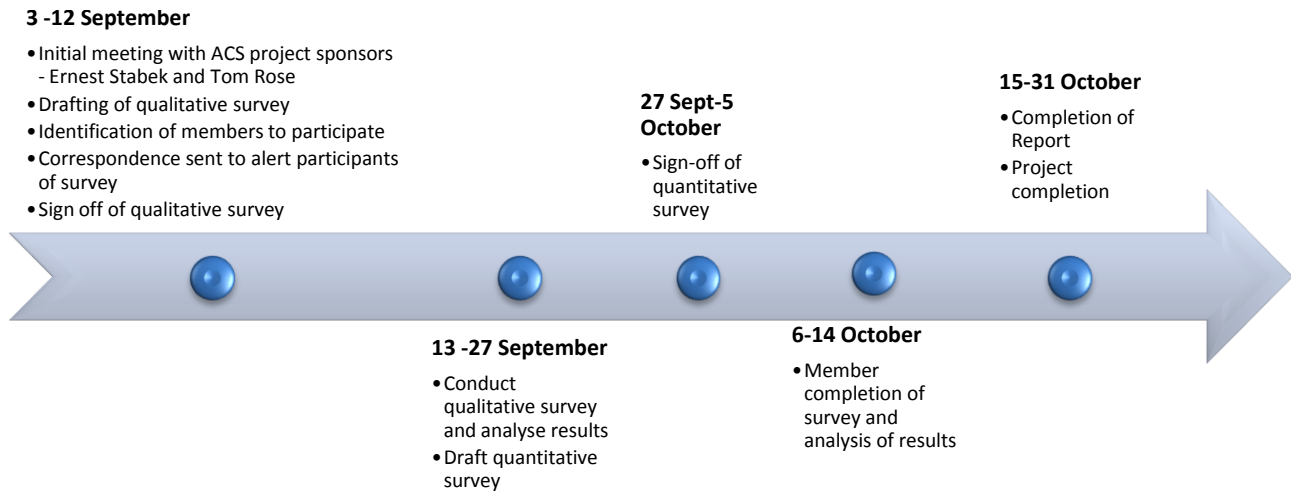
A copy of this survey is included in **Appendix 2: Survey of ACS VIC Membership (Quantitative)**.

The final output of the survey is this report representing both the qualitative and quantitative results and presenting the views of the membership, and as representatives of the Australian ICT industry, the industry view of the key critical uncertainties facing it over the next 10-20 years.

The value of understanding the key critical uncertainties allows the ACS to understand those issues and areas where the members are most concerned and where ACS can also target activities toward the member base to help address or better understand future possibilities and reduce uncertainty.

Project Timeline:

The project duration was 8 weeks. The activities for each week are detailed on the timeline below.

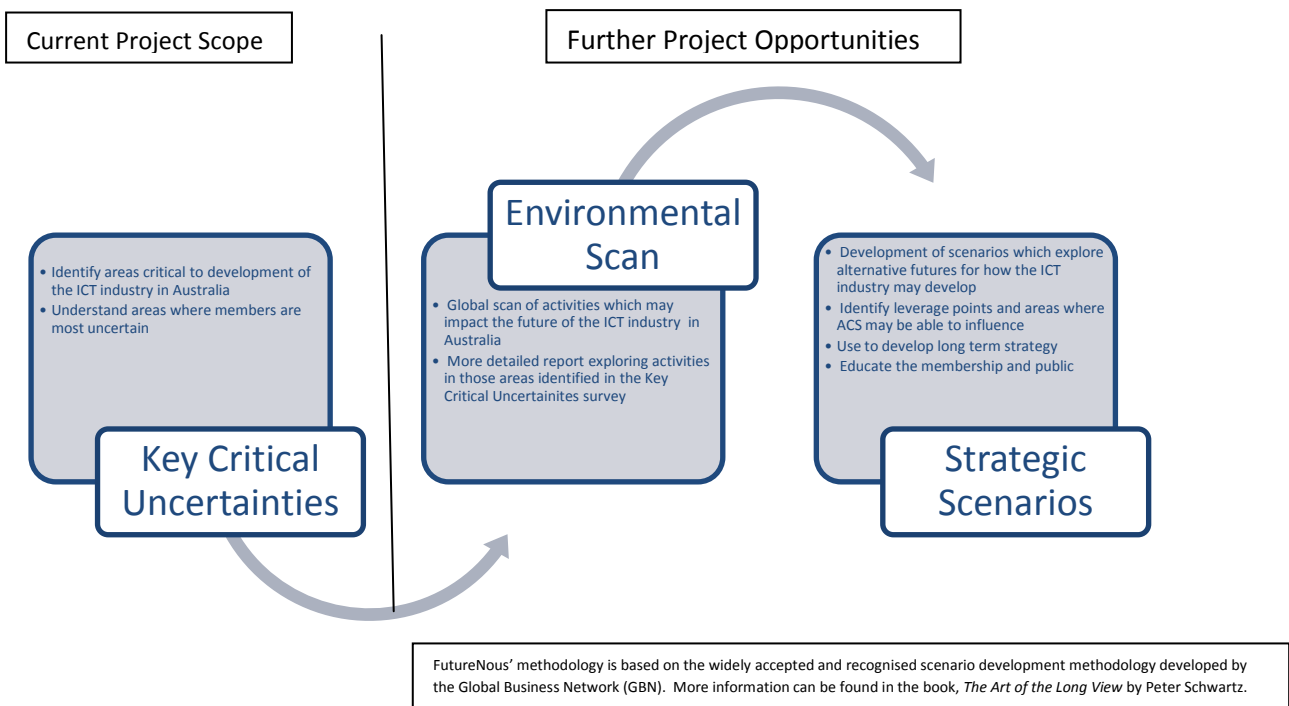


Summary Results from the Survey

The goal of the survey was to identify those areas and issues which the membership views as both critical and uncertain to the future of the Australian ICT industry.

The value of understanding the key critical uncertainties is twofold- it allows the ACS to understand those issues and areas where the members are most concerned and where ACS can also target activities toward the member base. In addition it provides an input to allow the ACS to undertake further strategic foresight work in the form of an environmental scan and/or the creation of strategic scenarios to further explore how the ICT industry may develop in Australia.

This process is represented in the diagram below.



The survey focused on identifying several things:

- Those areas driving major change in the Australian ICT industry (driving forces)
- Those areas of uncertainty within the industry (critical uncertainties)
- Actions to assist the industry and membership to deal more effectively with the anticipated changes and reduce uncertainty.
- Areas for further exploration.

A full copy of the results of the survey is included in **Appendix 3: Survey Results of ACS VIC Membership**. It is worth noting that in administering the survey *the choices for each question were listed in random order so that respondents were not influenced by the order in which the responses appeared*. The report was also completed anonymously with no personal data recorded.

The highlights from the survey results are included within this section of the report.

Driving Forces of Change within the Australian ICT Industry over the Next 10-20 Years

Areas driving major change in the Australian ICT industry are referred to as driving forces. These are long term changes and trends which are much broader than the industry itself. They include social, economic, political, environmental, and technology trends. These are likely to impact the industry but the impact is uncertain, it could be positive or negative. At this point we are not concerned with the direction of the change, only that members believe these are the forces that will shape the industry over the next 10-20 years. This was explored in question 1 in the qualitative survey and question 2 in the quantitative survey.

What are the most significant drivers of changes you can see coming in the next 10-20 years you think have the potential to make a major difference - either positive or negative - to the Australian ICT industry?

The results identify 5 areas members are most concerned about: (% do not equal 100 as up to three responses could be selected)

- ICT security concerns (54.2%)
- Continuing Globalisation of Industries (27.8%)
- Affordable High Speed networks everywhere (including developing nations) (26.8%)
- Shift in Business models and methods of supply and delivery for goods and services (26.4%)
- Increased volume of consumer related data (23.5%)

These and some of the other responses within this question could be further explored through undertaking an environmental scan and workshops with members of the industry.

Critical Uncertainties within the Australian ICT Industry (Next 10-20 Years)

Those areas believed to be uncertain and also to have a major impact on the future of the industry are termed critical uncertainties. This identifies areas which merit further exploration. Critical uncertainties are in contrast to other things uncertain about the future but which are seen as not having a major impact on the ICT industry, i.e. the price and availability of coffee. There are also areas for which many believe the future is relatively certain, i.e. the population. These areas, while present in the future, are not areas seen as critical to the Australian ICT industry in the next 10-20 years by the members surveyed.

This was explored in question 2 in the qualitative survey and question 3 in the quantitative survey.

Thinking about the future of the Australian ICT industry over the next 10-20 years, what issues from the list below are you most concerned about? Think here about what you believe is uncertain - those issues you think will have an impact, but for which you can see multiple possible outcomes.

Those areas identified as critical uncertainties for the Australian ICT Industry (next 10-20 years) are:
(% do not equal 100 as up to two responses could be selected)

- Continued Offshoring of Operations (43.2%)
- Security (42.8%)
- Cloud Computing (34%)

These are areas for further exploration through the development of strategic scenarios for the Australian ICT Industry. How the forces identified as major drivers of change develop may positively or negatively influence the future of these uncertainties.

Anticipating Change and Reducing Uncertainty

As part of the survey, members were also asked what they would find effective to assist them to deal effectively with the changes and what issues they thought needed to be addressed. These areas were addressed through several questions the results of which are summarised below:

What would assist you to be able to deal more effectively with the issues you selected . . . Think about what you don't know, but also what you do know and need to know more about.

(Percentages do not equal 100 as up to two responses could be selected, and only the most selected answers are highlighted here.)

- Scenarios for the likely impacts and available options (35.2%)
- Availability of education around these issues (34.2%)
- Government Policies (33.7%)
- Business strategies for the commercialisation of ICT (32.5%)

Three areas were identified as areas that have made an impact on the industry over the last 20 years. This was asked as advice you would give someone in 1990 about the future. It was question 4 in the qualitative survey and 5 in the quantitative survey.

If you could go back in time to around 1990 to talk to people in the ICT industry, what is the one key thing you would want them to understand about their pending future? That is, what advice from the list below would you give them about action they need to take immediately?

These areas are worth keeping in mind as you undertake exploration of the next 10-20 years, as they are viewed as something that would have been helpful to know because it was important to understand in order to be successful in the future. (The percentages do not equal 100 as only the top answers are highlighted here)

- Preparing flexible corporate approaches to cater for the uptake of new technologies (21.2%)
- Offshoring risks/opportunities (14.3%)
- Taking risks early and encouraging innovation (12.3%)

As the ICT industry operates within the broader context of Australia and Australian industry what actions the industry could take to demonstrate the value of investing in ICT as a long term strategy to contribute to Australia's future were also explored.

What actions could the industry take today that would demonstrate the value of investing in the ICT industry as a long term strategy to positively contribute to Australia's future?

The top three actions seen as best able to demonstrate value include:

- Lead ICT investments to provide long term solutions to major social, environmental, and health related problems (30.3%).
- Think about ICT from a business perspective (28.6%).
- Educate business of the benefits of ICT as an enabler (24.1%).

The second two responses above indicate the industry itself needs to think more about their future from a business perspective, or the needs of their customers. Taken together these two answers are 52.7%.

Next we turned to issues or problems that may impact the future of the industry negatively. Two questions focused on these areas:

What obstacles or serious problems may hinder progress in the ICT industry over the next 10-20 years?

Respondents could select two responses. The top three answers:

- The lack of political and economic recognition of the significance of the ICT industry to the future of Australia (34.1%)
- Technical innovation moving faster than society/business/legal/government can cope (30.3%)
- Global financial problems leading to lack of investment (28.9%)

What critical decisions regarding the ICT industry will need to be addressed in the next 10-20 years?

Respondents could select up to two answers.

- How Australia can become globally competitive in ICT instead of lagging behind (67.7%)
- How the laws and legal system can be updated to keep up with the pace of change (31.1%)
- Education and Training in ICT Skills (43%)

In conjunction with the fact the industry believes there is a lack of understanding of its impact on the wider economy, the need for long term projects and a lack of understanding by its customer base, and the previous endorsement by members of the development of strategic scenarios it is a great opportunity to use the development and creation of strategic scenarios to educate those outside the industry as to the long term impact the Australian ICT industry can make to the future of Australia.

The final two questions ask about what might happen within the industry itself in terms of innovation and job roles.

What are the most likely and significant innovations that will drive the future of the ICT industry over the next 10-20 years?

Respondents could select up to two, the top three are:

- Cloud Computing (57%)
- Development of ICT and related international standards, accountabilities, and frameworks (36.1%)
- Biotechnology (45%)

Will you still be working in the ICT industry in 10 years?

- Yes- 68.7%
 - My current role will still exist in the industry (56.5%)
 - My current role will no longer exist (12.2%)
- No- 31.3%
 - Retired (21.9%)
 - Left to work in another industry (4.7%)
 - It will no longer be defined as the ICT industry, it will have been absorbed into other industries (4.7%)

Representative Comments

There was a last question available for participants to write their own comments. While many related to the survey itself or to personal circumstances, some representative comments of other areas for exploration are included in this section.

"I believe the trend towards intelligent systems is in very early stages and within the 20 year time frame will have enormous social and political effects."

"I think one of the most important trends that will affect the ICT industry is the Open Source communities. In particular, the new patenting of intellectual copyright, as the industry as a whole is being held back by patent issues. It is costing the industry massive amounts of money . . ."

"Traditionally the ICT industry has been inextricably tied to business and the world's economic health. Some experts are questioning the sustainability of the world's economic model that depends on endless growth. Combine this with a natural environment that is becoming increasingly inimical to our very existence and you could well believe that the ICT industry is headed towards a very challenging future. I believe the industry must be able to respond to a paradigm shift in the world's economic model and the need to assist in the slowing and turnaround of the world's declining natural environment."

"The unwired enterprise is going to be the biggest transformer of business use of ICT."

Who can take the lead role to bring together disparate agendas across: industry collaboration (private) with public (gov / education / high tech) as well as the vendor & consulting community? If we put our heads together you should yield a far more optimum outcome for ICT in Australia

Appendix 1: Survey of ACS VIC Board and ACS SIG Convenors (Qualitative).

This survey aims to gather your views, as an individual, about the future of the ICT industry in Australia. You have been selected to receive the invitation to participate in the survey because of your participation in, expertise, and knowledge of the ICT industry.

Your responses are anonymous, no personal information is collected, and no tracking information is retained online. The survey will take about 15 minutes to complete. You will need to think about each question before you respond, but it's best to go with the first response that you think of, rather than spending time preparing a response in detail.

While primarily concerned about the Australian ICT industry, it does not operate in isolation; therefore you are encouraged to take as broad a perspective as you wish. The themes emerging from this survey will be used to identify key critical uncertainties for the Australian ICT industry over the coming decade. The will form the basis of a second survey for the broader ACS membership.

It is worth mentioning, as this is a survey of the ICT industry, that major change drivers are not necessarily related to actual technology. Drivers of change cover a broad spectrum including social, environmental, economic, political, values, and last but not least technology. Please think broadly about what factors may influence the industry.

Questions

1. What are the three most significant drivers of changes you can see coming in the next 10-20 years you think have the potential to make a major difference - either positive or negative - to the Australian ICT industry?
2. Thinking about the future of the Australian ICT industry over the next 10-20 years, what issues are you most concerned about? Think here about what you believe is uncertain – those issues you think will have an impact, but for which you can see multiple possible outcomes.
3. What do you need to know about these issues to be able to deal with them effectively? Think about what you don't know, but also what you do know and need to know more about.
4. If you could go back in time to around 1990 to talk to people in the ICT industry, what is the one key thing you would want them to understand about their pending future? That is, what advice would you give them about action they need to take immediately?
5. What actions could the industry take today that would demonstrate the value of investing in the ICT industry as a long term strategy to positively contribute to Australia's future?
6. What are the obstacles or serious problems that may hinder progress in the ICT industry over the next 10-20 years?
7. What are the one or two critical decisions regarding the ICT industry that will need to be addressed in the next 10-20 years?
8. What are the one or two most likely and significant innovations that will drive the future of the ICT industry over the next 10-20 years?
9. If you could add one question to the survey that is sent to the wider membership, what one additional question would you like to ask about the future of the Australian IT industry? Please write your answer in the form of a question.

Appendix 2: Survey of ACS VIC Membership (Quantitative).

ACS Future of ICT Industry Survey- Final for Quantitative Survey

This survey aims to gather your views, as an individual, about the future of the ICT industry in Australia. You have been selected to receive the invitation to participate in the survey because of your participation in, expertise, and knowledge of the ICT industry.

Your responses are anonymous, no personal information is collected, and no tracking information is retained online. The survey will take about 5 minutes to complete. You will need to think about each question before you respond, but it's best to go with the first response that you think of, rather than spending time trying to analyse the answer.

While primarily concerned about the Australian ICT industry, it does not operate in isolation; therefore you are encouraged to take as broad a perspective as you wish. The themes emerging from this survey will be used to identify key critical uncertainties for the Australian ICT industry over the coming decade.

It is worth mentioning, as this is a survey of the ICT industry, that major change drivers are not necessarily related to actual technology. Drivers of change cover a broad spectrum including social, environmental, economic, political, values, and last but not least technology. Please think broadly about what factors may influence the industry.

1. How long have you worked in the ICT industry

- Under 5 years
- Between 5-20 years
- More than 20 years

2. Of the items listed below what are the most significant drivers of changes you can see coming in the next 10-20 years you think have the potential to make a major difference - either positive or negative - to the Australian ICT industry? You may select up to three.

- The continuing globalisation of industries
- ICT Security concerns
- The plateau of Moore's Law
- Carbon pricing
- Availability of capital/credit
- Reduction of US influence on the global economy
- Emergence of a true Asian/Oceanian ICT market
- Shift in business models and methods for supply and delivery of goods and services
- Corporate ACS Boards with ICT savvy ACS Board members
- Increased volume of consumer related data
- Continued focus on productivity improvements
- Open, transparent and collaborative methods to enable more rapid problem solving for key social, environmental and health issues
- Affordable high speed networks everywhere (including developing nations)
- Biotech and smart technology break throughs
- None of the above (you can add an answer in comments at the end)

Appendix 2: Survey of ACS VIC Membership (Quantitative).

3. Thinking about the future of the Australian ICT industry over the next 10-20 years, what issues from the list below are you most concerned about? Think here about what you believe is uncertain - those issues you think will have an impact, but for which you can see multiple possible outcomes. You may select two.

- Security
- Response to climate change
- Cloud computing
- Continued offshoring of operations
- Impact of the NBN
- Continued ICT skills shortages
- Disruption of existing business models and frameworks

4. What from the list below would assist you to be able to deal more effectively with the issues you selected in question number 2? Think about what you don't know, but also what you do know and need to know more about. You may select two.

- Business strategies for the commercialisation of ICT
- Availability of education around these issues
- Government policies
- Status of International standards i.e. regulatory frameworks
- Scenarios for the likely impacts and available options
- Understand the benefits and be able to communicate them effectively

5. If you could go back in time to around 1990 to talk to people in the ICT industry, what is the one key thing you would want them to understand about their pending future? That is, what advice from the list below would you give them about action they need to take immediately?

- Sufficient infrastructure planning
- Carbon pricing
- Cloud computing
- Preparing flexible corporate approaches to cater for the uptake of new technologies
- Offshoring risks/ opportunities
- Impact of government policy on the industry
- Value of collaboration across the industry
- Understand how taking risks early can encourage innovation
- There are opportunities to influence the future to benefit the broader community
- Resource challenges and how to do more with less in periods of scarcity and juggle shifting demands

6. From the actions listed below what actions could the industry take today that would demonstrate the value of investing in the ICT industry as a long term strategy to positively contribute to Australia's future? You may select two answers.

- Education that is relevant to anticipated future needs
- Consolidate the NBN rollout and accelerate it
- Develop domestic software and hardware industries
- Educate business of the potential benefits of ICT as an enabler
- Think about ICT from a business perspective
- Lead ICT investments to provide long term solutions to major social, environmental and health related problems
- Better understanding of the industry influences - both those internal to the industry and those external to it
- Monitor emerging trends which may impact the ICT industry
- Develop industry scenarios to help drive innovation aimed at creating a more sustainable future

Appendix 2: Survey of ACS VIC Membership (Quantitative).

7. From the list below what are the obstacles or serious problems that may hinder progress in the ICT industry over the next 10-20 years? You may select two answers.

- The image of the ICT industry
- Ability to attract and retain people to the industry - including diversity (gender, age, etc) in the industry
- Domestic carbon pricing and cheaper offshore clouds with lower operating costs
- Business as usual attitude driven by vested interests
- The lack of political and economic recognition of the significance of the ICT industry to the future of Australia
- Global financial problems leading to lack of investment
- Less venture capital available for entrepreneurs
- Regression to old business models and protectionism
- Resistance to change
- Technical innovation moving faster than society/business/legal/government can cope

8. Please select the one or two critical decisions regarding the ICT industry that will need to be addressed in the next 10-20 years?

- How Australia can become globally competitive in ICT instead of lagging behind
- Domestic carbon pricing
- How the laws and legal system can be updated to keep up with the pace of change
- Tax incentives for Research and Development
- Education and Training in ICT Skills

9. From the list below what are the one or two most likely and significant innovations that will drive the future of the ICT industry over the next 10-20 years?

- Cloud Computing
- Wearable Computing
- Moore's Law
- Development of ICT and related international standards, accountabilities, and frameworks
- Biotechnology

10. Will you still be working in the ICT industry in 10 years?

- Yes - and my current role will still exist in the industry
- Yes- and my current role will no longer exist
- No- I will have retired
- No- I will have left to work in another industry
- No because it will no longer be defined as the ICT industry, it will have been absorbed into other industries

11. Do you have any other comments you would like to add regarding the survey. (50 word limit)

Appendix 3:
Survey of ACS VIC Membership
(Quantitative)

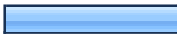







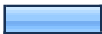
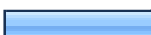

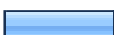



ACS Membership Survey Future of the Australian IT Industry



1. How long have you worked in the ICT industry?

		Response Percent	Response Count
Under 5 years		20.9%	88
Between 5-20 years		32.1%	135
More than 20 years		47.0%	198
		answered question	421
		skipped question	0



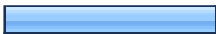




2. Thinking about the future of the Australian ICT industry over the next 10-20 years, what issues from the list below are you most concerned about? Think here about what you believe is uncertain – those issues you think will have an impact, but for which you can see multiple possible outcomes. You may select up to three.

		Response Percent	Response Count
The continuing globalisation of industries		27.8%	117
ICT Security concerns		54.2%	228
The plateau of Moore's Law		3.1%	13
Carbon pricing		14.5%	61
Availability of capital/credit		10.9%	46
Reduction of US influence on the global economy		13.8%	58
Emergence of a true Asian/Oceanian ICT market		13.1%	55
Shift in business models and methods for supply and delivery of goods and services		26.4%	111
Corporate boards with ICT savvy board members		15.0%	63
Increased volume of consumer related data		23.5%	99
Continued focus on productivity improvements		14.3%	60
Open, transparent and collaborative methods to enable more rapid problem solving for key social, environmental and health issues		17.1%	72
Affordable high speed networks everywhere (including developing nations)		26.8%	113
Biotech and smart technology break throughs		15.4%	65
None of the above (you can add an answer in comments at the end)		2.9%	12







answered question 421

skipped question 0











3. Thinking about the future of the Australian ICT industry over the next 10-20 years, what issues from the list below are you most concerned about? Think here about what you believe is uncertain – those issues you think will have an impact, but for which you can see multiple possible outcomes. You may select two.

		Response Percent	Response Count
Security		42.8%	180
Response to climate change		12.4%	52
Cloud computing		34.0%	143
Continued offshoring of operations		43.2%	182
Impact of the NBN		13.3%	56
Continued ICT skills shortages		24.7%	104
Disruption of existing business models and frameworks		21.9%	92
		answered question	421
		skipped question	0










4. What from the list below would assist you to be able to deal more effectively with the issues you selected in question number 2? Think about what you don't know, but also what you do know and need to know more about. You may select two answers.

		Response Percent	Response Count
Business strategies for the commercialisation of ICT		32.5%	132
Availability of education around these issues		34.2%	139
Government policies		33.7%	137
Status of International standards i.e. regulatory frameworks		24.4%	99
Scenarios for the likely impacts and available options		35.2%	143
Understand the benefits and be able to communicate them effectively		29.3%	119
		answered question	406
		skipped question	15





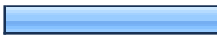
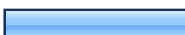




5. If you could go back in time to around 1990 to talk to people in the ICT industry, what is the one key thing you would want them to understand about their pending future? That is, what advice from the list below would you give them about action they need to take immediately?

		Response Percent	Response Count
Sufficient infrastructure planning		10.8%	44
Carbon pricing		3.9%	16
Cloud computing		7.1%	29
Preparing flexible corporate approaches to cater for the uptake of new technologies		21.2%	86
Offshoring risks/ opportunities		14.3%	58
Impact of government policy on the industry		5.7%	23
Value of collaboration across the industry		9.6%	39
Understand how taking risks early can encourage innovation		12.3%	50
There are opportunities to influence the future to benefit the broader community		8.6%	35
Resource challenges and how to do more with less in periods of scarcity and juggle shifting demands		6.4%	26
answered question			406
skipped question			15





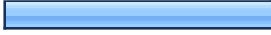
6. From the actions listed below what actions could the industry take today that would demonstrate the value of investing in the ICT industry as a long term strategy to positively contribute to Australia's future? You may select two answers.

		Response Percent	Response Count
Education that is relevant to anticipated future needs		21.2%	86
Consolidate the NBN rollout and accelerate it		19.2%	78
Develop domestic software and hardware industries		22.2%	90
Educate business of the potential benefits of ICT as an enabler		24.1%	98
Think about ICT from a business perspective		28.6%	116
Lead ICT investments to provide long term solutions to major social, environmental and health related problems		30.3%	123
Better understanding of the industry influences – both those internal to the industry and those external to it		13.8%	56
Monitor emerging trends which may impact the ICT industry		13.8%	56
Develop industry scenarios to help drive innovation aimed at creating a more sustainable future		18.5%	75
answered question			406
skipped question			15


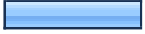



7. From the list below what are the obstacles or serious problems that may hinder progress in the ICT industry over the next 10-20 years? You may select two answers.

		Response Percent	Response Count
The image of the ICT industry		12.2%	49
Ability to attract and retain people to the industry – including diversity (gender, age, etc) in the industry		24.1%	97
Domestic carbon pricing and cheaper offshore clouds with lower operating costs		7.0%	28
Business as usual attitude driven by vested interests		18.9%	76
The lack of political and economic recognition of the significance of the ICT industry to the future of Australia		34.1%	137
Global financial problems leading to lack of investment		28.9%	116
Less venture capital available for entrepreneurs		6.0%	24
Regression to old business models and protectionism		12.7%	51
Resistance to change		19.7%	79
Technical innovation moving faster than society/business/legal/government can cope		30.3%	122
		answered question	402
		skipped question	19






8. Please select the one or two critical decisions regarding the ICT industry that will need to be addressed in the next 10-20 years?

		Response Percent	Response Count
How Australia can become globally competitive in ICT instead of lagging behind		67.7%	272
Domestic carbon pricing		7.7%	31
How the laws and legal system can be updated to keep up with the pace of change		31.1%	125
Tax incentives for Research and Development		28.1%	113
Education and Training in ICT Skills		43.0%	173
answered question			402
skipped question			19

9. From the list below what are the one or two most likely and significant innovations that will drive the future of the ICT industry over the next 10-20 years?

		Response Percent	Response Count
Cloud Computing		57.0%	229
Wearable Computing		21.6%	87
Moore's Law		9.0%	36
Development of ICT and related international standards, accountabilities, and frameworks		36.1%	145
Biotechnology		45.0%	181
answered question			402
skipped question			19

10. Will you still be working in the ICT industry in 10 years?

		Response Percent	Response Count
Yes – and my current role will still exist in the industry		56.5%	227
Yes- and my current role will no longer exist		12.2%	49
No- I will have retired		21.9%	88
No- I will have left to work in another industry		4.7%	19
No because it will no longer be defined as the ICT industry, it will have been absorbed into other industries		4.7%	19
answered question			402
skipped question			19

11. Do you have any other comments you would like to add regarding the survey.

	Response Count
	80
answered question	80
skipped question	341