

The Auditor-General
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Performance Audit

Intellectual Property Policies and Practices in Commonwealth Agencies

Australian National Audit Office

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Canberra ACT
5 February 2004

Dear Mr President
Dear Mr Speaker

The Australian National Audit Office has undertaken a performance audit across agencies in accordance with the authority contained in the *Auditor-General Act 1997*. Pursuant to Senate Standing Order 166 relating to the presentation of documents when the Senate is not sitting, I present the report of this audit and the accompanying brochure. The report is titled *Intellectual Property Policies and Practices in Commonwealth Agencies*.

Following its presentation and receipt, the report will be placed on the Australian National Audit Office's Homepage—<http://www.anao.gov.au>.

Yours Sincerely



P. J. Barrett
Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

AUDITING FOR AUSTRALIA

The Auditor-General is head of the Australian National Audit Office. The ANAO assists the Auditor-General to carry out his duties under the *Auditor-General Act 1997* to undertake performance audits and financial statement audits of Commonwealth public sector bodies and to provide independent reports and advice for the Parliament, the Government and the community. The aim is to improve Commonwealth public sector administration and accountability.

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Abbreviations

AASB	Australian Accounting Standards Board
ABS	Australian Bureau of Statistics
ACIPA	Australian Centre for Intellectual Property in Agriculture
ACT	Australian Capital Territory
AGD	Attorney-General's Department
Airservices	Airservices Australia
ANAO	Australian National Audit Office
ANSTO	Australian Nuclear Science and Technology Organisation
APEC	Asia-Pacific Economic Co-operation
CAC Act	<i>Commonwealth Authorities and Companies Act 1997</i>
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Defence	Department of Defence
DSTO	Defence Science and Technology Organisation
DEWR	Department of Employment and Workplace Relations
DCITA	Department of Communications, Information Technology and the Arts
DRM	Digital Rights Management
FMA Act	<i>Financial Management and Accountability Act 1997</i>
GRDC	Grains Research and Development Corporation
HR	Human resources
IP	Intellectual property
IPNA	Intellectual property needs analysis
IPPSC	Intellectual Property Policy and Support Centre
IPRIA	Intellectual Property Research Institute of Australia
IT-IP	Information technology-intellectual property
NSW	New South Wales
NT	Northern Territory
OECD	Organisation for Economic Co-operation and Development
PMC	Patent Management Committee

Qld	Queensland
RFT	Request for tender
SA	South Australia
T2CO	Technology Transfer and Commercialisation Office
Tas	Tasmania
TPMs	Technological Protection Measures
Vic	Victoria
WA	Western Australia

Glossary

Assignment	A formal transfer of ownership. In the case of intellectual property rights created by legislation, assignments are generally required to be in writing.
Background IP	Background intellectual property refers to all existing material that is brought into a relationship or transaction. It may form the basis on which new, foreground intellectual property is established (see—Foreground IP).
Circuit Layout Rights	The <i>Circuit Layouts Act 1989</i> provides copyright-style protection for the layout design used to build an integrated circuit or computer chip. Like copyright protection, circuit layout protection is automatic.
Commercialisation	The process of taking IP to the marketplace usually through the incorporation into a product or service or through the sale or licensing of IP for commercial gain.
Confidential Information	Confidential information refers to proprietary information that is kept secret (in the generally accepted use of the term) (for example, trade secrets and know-how) and is not available in the public domain. Confidential information is not protected by statute, but by the common law and equity. An agency possessing such information can restrain the unauthorised disclosure of that information through an action for breach of confidentiality, in addition to any action for breach of contractual confidentiality obligations. In certain instances, misuse of confidential information may also breach a statutory restriction.

Copyright	<p>Copyright protection is provided by the <i>Copyright Act 1968</i>. The Act prohibits the unauthorised reproduction or dissemination of information as expressed in a 'material form'. Copyright may exist in many works produced in the course of the normal operations of agencies, for example, software, reports, publications, blueprints, and components of training programs (manuals, videos, notes). However, not all works protected by copyright will be commercially significant.</p> <p>Copyright protection is automatic. Nothing needs to be done to obtain copyright protection, and protection commences as soon as copyright material is created. Copyright protects the original expression of ideas, not the ideas themselves.</p>
Crown copyright	<p>The <i>Copyright Act</i> makes special provision for the ownership of copyright materials by departments of government and some government agencies (referred in the Act as the "Crown"). The Act provides that the Crown is the owner of copyright in original work made, or first published, "by or under the direction or control of" the Crown (subject to any agreement assigning that copyright to another).</p>
Designs	<p>The <i>Designs Act 1906</i> (soon to be replaced by the <i>Designs Act 2003</i>) provides protection for the visual appearance of a manufactured article, provided that appearance is new or original. Design rights are not automatic but require registration.</p>
Digital Rights Management	<p>Digital Rights Management (DRM) refers to the wide range of systems and services that are used for the description, identification, protection, monitoring and tracking of all forms of digital copyright material throughout the lifecycle of the material.</p>

Foreground IP	Foreground intellectual property refers to newly created IP (also known as derivative material) that can be developed from scratch or from pre-existing Background IP. Foreground IP usually results from performance of a contract (for example, under a collaboration or service delivery arrangement).
Intellectual property	Intellectual property (IP) refers to the rights granted by law in relation to the fruits of human intellectual (as distinct from physical) activity. It includes all copyright, all rights in relation to inventions (including patent rights), plant varieties, registered and unregistered trade marks (including service marks), registered designs, circuit layouts, confidential information and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.
IP Australia	The Commonwealth Government agency that administers patents, trade marks and design rights within Australia. IP Australia is part of the Industry, Tourism and Resources Portfolio.
IP Management Plan	For the purposes of this audit, IP Management Plan refers to the formal plan or plans, procedures or practices by which an agency will manage its IP. Where an agency has adopted an IP Policy, the IP Management Plan will usually detail the means by which the agency will implement the IP Policy.
IP Policy	For the purposes of this audit, an IP Policy refers to a formal agency statement, usually endorsed by the agency CEO, executive or board, outlining the course of action to be taken by the agency in managing its IP. The IP Policy may also include the agency's IP Management Plan (see—IP Management Plan).

(To) License	<p>To grant permission to use IP rights associated with an IP asset. The extent and scope of a licence should preferably be settled in a licensing agreement, although in some instances a licence may be inferred or implied from the circumstances in which the material is made available. A statutory licence is a provision in legislation (for example, as in the <i>Copyright Act</i>) that allows the exercise of certain intellectual property rights in specified circumstances without requiring the express permission of the right holder.</p>
Patents	<p>The <i>Patents Act 1990</i> protects the rights in inventions that are useful, novel and not obvious to people skilled in the relevant field. The invention can be a new product or process or improvements to existing products or processes. Business systems and computer programs can now also be patented.</p> <p>Patent protection is obtained by applying for a patent through IP Australia (see—IP Australia). Inventions must usually be kept secret until an application for a patent is lodged to be properly protected. Once a patent is granted, the patentee has the exclusive right to exploit the invention for a limited period.</p>
Plant Breeder's Rights	<p>Plant Breeder's Rights are provided by the <i>Plant Breeder's Rights Act 1994</i> and protect new varieties of plants, fungal and algal species and transgenic plants, provided that the new variety is distinct, uniform and stable.</p> <p>Plant Breeder's Rights are not automatic but require registration with the Plant Breeder's Rights Office in the Department of Agriculture, Fisheries, Forestry—Australia.</p>

Protection	<p>The various forms of IP (copyright, patents, etc.) provide a complex system of legal protections.</p> <p>A single asset may be the subject of protection under more than one regime and this may present difficult choices as to the form of protection on which to rely. For example, an originally developed computer program (including the source and object code) would be protected by copyright but may also be protected by imposing confidentiality restrictions on disclosure of the computer program and/or by seeking patent protection for any new or novel aspects of the computer program.</p>
System	<p>For the purposes of this audit, a system for the management of IP may include formal or informal plans, procedures or practices by which an agency manages IP under its direction or control.</p>
Third party IP	<p>Intellectual property used by an agency that is not owned by that agency. Such IP would normally be used by the agency under voluntary or statutory licence.</p>
Trade marks	<p>A trade mark is a sign used to distinguish goods or services of one trader from those of another. Trade mark protection can be obtained through the <i>Trade Marks Act 1995</i>.</p> <p>Once a mark is registered with IP Australia, there are limitations on the ability of others to use the same or a similar mark.</p> <p>Note, however, that even where a mark is not registered, it may be possible for its owner to take action under the common law or under trade practices legislation to prevent others from using it in a deceptive way, though generally only where the mark has become distinctively associated with the owner.</p>
Uptake	<p>The diffusion, commercialisation or transfer of an agency's intellectual property to another party.</p>

Value

An IP asset may be of operational, commercial or public value. An IP asset may be operationally valuable if it plays an important role in the operations of, or services provided by, an agency. An IP asset may be commercially valuable if an agency can raise revenue from the sale of, or licensing of, certain rights in relation to that asset to a third party. An asset may also be of public value if it benefits members of the Australian public.

An agency valuation of an IP asset may indicate the operational or commercial value of the asset, or the cost of replacement. The value may be expressed in monetary or other terms (for example, 'of high importance', 'of low importance').

Summary and Recommendations

Summary

1. Intellectual property refers to the rights granted by law in relation to the fruits of human intellectual activity.¹ It includes all copyright, all rights in relation to inventions (including patent rights), plant varieties, registered and unregistered trade marks (including service marks), registered designs, circuit layouts, confidential information and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields. Each intellectual property type is recognised and protected under Australian law.²
2. In both the public and private sectors, intellectual property is being recognised as an increasingly important resource, contributing to and enhancing both the operations of an organisation and its value. The Commonwealth government in particular, due to the breadth and diversity of its activities, is a significant generator, acquirer and user of intellectual property.
3. However, the fact that intellectual property assets are less tangible than physical assets, makes managing and accounting for intellectual property more difficult and complex. Organisations are often unaware of the intellectual property they create and use. They often do not recognise the benefits that can arise from the ownership and use of such assets. However, like other property, intellectual property can be bought, sold, licensed, lost or stolen. Intellectual property is a valuable, albeit intangible asset. It should, therefore, be managed accordingly in line with accountability requirements for the 'efficient, effective and ethical'³ management of resources.
4. Intellectual property management is the implementation of measures to ensure that an organisation identifies, adequately protects and controls intellectual property assets and, where appropriate, facilitates exploitation of those assets for commercial, operational and public benefit.⁴
5. The Australian National Audit Office (ANAO) recognises that there is no one-size fits all approach to managing intellectual property. Due to the diverse nature of agency activities, types of intellectual property managed and the extent to which intellectual property is critical to core business, strategies for intellectual property management will differ between agencies and sometimes within an agency.

¹ Department of Communications, Information Technology and the Arts, *The Commonwealth IT IP Guidelines*, Commonwealth of Australia 2000.

² See Chapter 1 for further discussion on intellectual property rights.

³ *Financial Management and Accountability Act 1997*, section 44.

⁴ State of Western Australia, *Intellectual Property Guidelines*, Third Edition, 2002, p.19.

6. However, there is a set of common principles that, in the ANAO's view, should underpin the management of intellectual property in any organisation. During the audit, the ANAO developed a framework for intellectual property management, which comprises a number of integrated management activities. Although generally applicable to any organisation, the framework was developed with specific reference to the public sector environment. It consists of a number of management elements that work together to comprise intellectual property management. It is not intended as a solution, or plan, for all types of intellectual property in all circumstances but provides guiding principles for consideration and implementation.

Audit objective and methodology

7. The audit objective was to:

- form an opinion on whether Commonwealth agencies have systems in place to efficiently, effectively and ethically manage their intellectual property assets; and
- identify areas for better practice in intellectual property management by those agencies.

8. To achieve the objective, the audit was conducted in two stages. The first involved a survey of 74 Commonwealth agencies⁵ to examine the extent to which agencies have structures or systems to support the management of intellectual property.⁶ The second phase involved case studies in seven agencies to further examine and showcase selected intellectual property management practices.

9. The audit examined agency approaches to the management of intellectual property under its control, and identified themes common to the management of all types of intellectual property. The ANAO recognises that, within these general themes, an agency would need to adopt an intellectual property management approach that is consistent with its core functions and objectives, and is appropriate to agency circumstances. The ANAO does not advocate a single solution for all intellectual property types and all agency circumstances, as noted earlier.

10. The audit did not focus upon the appropriateness of an individual agency's approach to intellectual property management; nor did it conduct a

⁵ This included agencies covered by both the *Financial Management and Accountability Act* and *Commonwealth Authorities and Companies Act*. For a complete list of agencies involved, see Appendix 1.

⁶ The results of the survey are limited to the extent that data is based on agency self-assessment. The results do not account for, or distinguish between the different environments in which intellectual property management are undertaken. Thus, the results of the survey provide only an indication of differences in intellectual property management activities between Commonwealth agencies.

comprehensive assessment of the outcomes of individual agency management of intellectual property. The ANAO notes that these areas could be the subject of future performance audits.

Key Findings

Intellectual property and the Commonwealth

11. The tools made available by advances in information and communication technology have greatly increased the potential usefulness and value of the extensive information registers and databases created and maintained by the Commonwealth. The *Commonwealth Consolidated Financial Statements for 2002–03* report intangible assets across the Commonwealth with a value of \$6679 million (\$2284 million in 1996–97). Of this amount, computer software comprised \$3406 million (\$1035 million in 1996–97) with other intangibles amounting to \$3273 million (\$1249 million in 1996–97).

12. The treatment of intellectual property assets in an agency's financial statement is complex and uncertain. Commonwealth agencies are required to report the value of agency software as an intangible on the balance sheet. However, the difficulties associated with valuing and identifying intellectual property mean that much of an agency's intellectual property is not recognised within the agency financial statements.

13. The Commonwealth does not have a whole-of-government policy approach to managing intellectual property. As a result, agencies are responsible for devising their own approaches to the management of the intellectual property they generate and/or acquire. In contrast, all States and Territories, with the exception of one, have either implemented, or are planning to implement, a policy addressing intellectual property management at the whole-of-government level.

Leadership and corporate support

14. Only 30 per cent of agencies surveyed had a policy addressing the management of intellectual property. Of these, 90 per cent rated intellectual property as of medium or high importance to their business. Although most agencies are not involved in the generation and commercialisation of intellectual property, management of intellectual property, is nevertheless, an important part of agency operations.

15. Six of the seven case study agencies had a policy, adapted specifically to the functions and circumstances of the agency. All of the case study agencies had also implemented some form of staff support for intellectual property management,

ranging from a centralised intellectual property group to training, guidelines and websites.

Identifying intellectual property

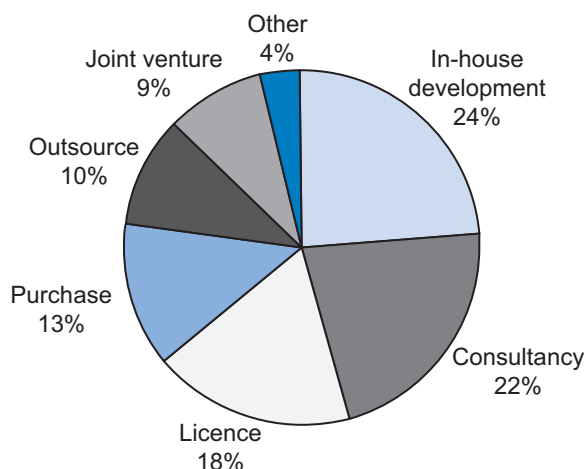
16. Approximately half the agencies surveyed reported that they had mechanisms in place for identifying intellectual property. This would suggest that a significant proportion of agencies do not have systems in place in order to know what assets they own, use or control. This has consequences for the effective and efficient management of intellectual property assets by those agencies. Without such information, agencies increase the risk of ‘giving away’ valuable intellectual property, paying multiple times for access to the same piece of intellectual property and more broadly ignoring intellectual property assets when making strategic resource and operational decisions.

17. Just over a third of agencies surveyed reported that they have an intellectual property register. The case study findings suggest that these databases are mostly used as a means to record and manage intellectual property registration and/or licence details, rather than to inform strategic planning and decision-making in the agency.

18. Figure 1 shows the most common mechanisms identified by agencies used to acquire or create intellectual property. As can be seen, in-house development, consultancy and licensing agreements were the most commonly identified means of obtaining intellectual property.

Figure 1

Commonly identified sources of intellectual property



Source: ANAO, based on survey data.

Managing ownership

19. Fifty-five per cent of the agencies surveyed reported that they had mechanisms in place to decide on the appropriate level of ownership for intellectual property. The survey and case studies demonstrated that the most common approach was through standard contractual agreements, with intellectual property clauses presenting a preferred ownership option. In most cases the agency (Commonwealth) would retain ownership of the intellectual property. However, the audit found that a few agencies adopted more flexible approaches to ownership.

Monitoring and protection

20. Nineteen per cent of agencies had a system in place for monitoring agency use of its own intellectual property; whereas 50 per cent had a system for monitoring agency use of third party intellectual property.

21. The most common means of protecting intellectual property identified was the use of contractual clauses (94 per cent of agencies having adopted such a strategy). Restricting access to intellectual property was next (68 per cent), with technological protection measures and the registration of intellectual property less common (39 per cent).

IP transfer and uptake

22. Only 34 per cent of agencies surveyed indicated that they had systems in place to manage the licensing, transfer, sale or disposal of agency intellectual property. All the case study agencies had systems in place, or under development, for the uptake or transfer of agency intellectual property.

23. Twenty-six agencies (35 per cent of agencies) indicated that they had commercialised intellectual property in the last two years. Twenty-six per cent of *Financial Management and Accountability Act* (FMA Act) agencies, compared with 52 per cent of *Commonwealth Authorities and Companies Act* (CAC Act) agencies, had commercialised intellectual property in the last two years.

24. The ANAO also asked agencies that had commercialised intellectual property to estimate the annual revenue received from commercialisation and transfer of agency intellectual property. Of the 13 agencies that provided an estimate, the average annual revenue was \$1.7 million. Excluding the Commonwealth Scientific and Industrial Research Organisation (CSIRO) (whose annual revenue from intellectual property was \$17.6 million in 2001–02), the average annual revenue over the remaining 12 agencies was \$349 000 (ranging from \$4000 to \$2 million per annum).

Evaluation and reporting

25. Although most case study agencies reported to senior management on the management of agency intellectual property, there was room for better use of this information to inform agency planning and strategic decision-making, as well as for further reporting on, and evaluation of, the effectiveness of the intellectual property procedures and practices in implementing the agency's intellectual property management policy.

Overall Conclusion

26. The ANAO found that, overall, only 30 per cent of agencies have developed specific policies or procedures for managing intellectual property. The agencies involved in the case studies had varying systems in place to manage their intellectual property.

27. The Commonwealth does not have a whole-of-government policy approach to managing intellectual property. As a result, agencies are responsible for devising their own approaches to the management of the intellectual property they generate and/or acquire.

28. The ANAO notes that, although the *Commonwealth IT IP Guidelines* provide useful guidance to agencies on the management of IT-IP (including consideration of ownership options for intellectual property managed by an agency), there remains a need for broader guidance and support for agencies on intellectual property management more generally. The upcoming review of the *Commonwealth IT IP Guidelines* by the Department of Communications, Information Technology and the Arts (DCITA) may provide an opportunity for more detailed assessment of the need for further guidance and support for Commonwealth agencies on the management of intellectual property in general, with input from other interested agencies.

29. A whole-of-government policy on the management of intellectual property by Commonwealth agencies may be one means by which the importance of, and individual agency responsibility for, the management of intellectual property under their control is clarified and brought to the attention of all agencies. A whole-of-government policy could also nominate an agency, or agencies, responsible for monitoring and reporting on the implementation of the policy and provision of appropriate support to agencies. The ANAO has made one recommendation directed to the Attorney-General's Department (AGD), DCITA and IP Australia and other relevant agencies, aimed at developing a whole-of-government approach to address these areas.

30. The ANAO has also made a recommendation aimed at improving the efficient, effective and ethical administration of agency intellectual property. We have also identified areas for improvement and better practice in agency management of intellectual property.

Agency responses

31. The seven agencies involved in the case study, together with AGD, DCITA and IP Australia, were given an opportunity to comment on the proposed report. All agencies responded and the ANAO has taken their comments into consideration in finalising this report.

32. In general, agencies were in agreement with the audit findings and the two recommendations. All agencies agreed, or agreed in principle, to both recommendations.

33. Agency comments in response to the recommendations are provided at paragraphs 2.24 and 2.26. Agency comments on the proposed report in general are provided in Appendix 4.

Recommendations

**Recommendation
No.1
Para 2.24**

The ANAO recommends that, in order to ensure the effective and efficient management of intellectual property, agencies develop an intellectual property policy appropriate for agency circumstances and functions, and implement the required systems and procedures to support such a policy.

All agencies agreed or agreed in principle.

**Recommendation
No.2
Para 2.26**

In order to ensure that the Commonwealth's interests are protected, the ANAO recommends that the Attorney-General's Department, the Department of Communications, Information Technology and the Arts, and IP Australia (along with other relevant agencies), work together to develop a whole-of-government approach and guidance for the management of the Commonwealth's intellectual property, taking into account the different functions, circumstances and requirements of agencies across the Commonwealth, and the need for agency guidance and advice on intellectual property management.

All agencies agreed or agreed in principle.

Audit Findings and Conclusions

1. Introduction

This Chapter provides a background to the audit, including the audit rationale, objective, approach and methodology. It also identifies those agencies involved in the audit and provides an outline of the report structure and content. The Chapter then introduces the concepts of intellectual property and intellectual property management and discusses their relevance and importance to organisations and government as a whole. It also briefly outlines the current policy environment in the Commonwealth and the Australian States and Territories.

Audit approach

Audit objective and criteria

1.1 The audit objective was to:

- form an opinion on whether Commonwealth agencies have systems in place to efficiently, effectively and ethically manage their intellectual property assets; and
- identify areas for better practice in intellectual property management by those agencies.

1.2 The audit assessed intellectual property management practices against the following principal criteria:

- do agencies have the necessary leadership and corporate or organisational structures to support management of intellectual property?
- to what extent do these management systems reflect principles of good practice in intellectual property asset management?

Audit methodology

1.3 In conducting our audit, we undertook the following activities:

- studied relevant legislation;
- studied various Commonwealth and State and Territory Government policies and guidelines on intellectual property, including relevant reports and better practice guides;
- reviewed relevant State and Territory and international audit reports dealing with intellectual property management;
- studied relevant Australian and international accounting standards and policies;

- interviewed various Commonwealth and State Government officials responsible for intellectual property policy and related functions;
- interviewed various State audit office officials; and
- interviewed a selection of non-government organisations and individuals with expertise in intellectual property management and related fields.

1.4 The audit was conducted in two stages. The first involved a survey of 74 Commonwealth agencies⁷ to examine the extent to which agencies have structures or systems to support the management of intellectual property.⁸ The ANAO also reviewed supporting documentation provided with survey responses. Agencies ranged in size from fewer than 20 to over 50 000 employees, with functions ranging from policy development and regulation, to service delivery and research and development. Some agencies were based centrally in Canberra; while others had operations Australia-wide. Total annual revenue for these 74 agencies exceeded \$270 billion.

1.5 The second phase involved case studies in seven agencies to further examine and showcase selected intellectual property management practices. The seven case study agencies were:

- | | |
|--|---|
| • Australian Bureau of Statistics (ABS) | • Department of Defence (Defence), including Defence Science and Technology Organisation (DSTO) |
| • Airservices Australia (Airservices) | |
| • Australian Nuclear Science and Technology Organisation (ANSTO) | • Department of Employment and Workplace Relations (DEWR) |
| • Commonwealth Scientific and Industrial Research Organisation (CSIRO) | • Grains Research and Development Corporation (GRDC) |

1.6 In selecting agencies for case studies, the ANAO considered the existence of a policy or management plan addressing intellectual property, as a core criterion. In addition, the agencies were selected to represent a range of functions, varying in organisational size and types of intellectual property held.

⁷ See Appendix 1 for a list of agencies involved in the survey.

⁸ The results of the survey are limited to the extent that data is based on agency self-assessment. The results do not account for, nor distinguish between, the different environments in which intellectual property management is undertaken. Therefore, the results of the survey provide only an indication of differences in intellectual property management activities between Commonwealth agencies.

1.7 In conducting the case studies, the audit team:

- reviewed agency operational documents;
- reviewed agency intellectual property policies and administrative systems; and
- interviewed selected agency staff members.

1.8 The survey questionnaire was provided to agencies in April 2003; and responses were received in May 2003. The ANAO conducted fieldwork for the case studies during May, June and July 2003 (in Adelaide, Canberra, Melbourne and Sydney).

Audit scope

1.9 The audit examined agency approaches to the management of intellectual property under their control; and identified themes common to the management of all types of intellectual property. The ANAO recognised that, within these general themes, an agency would need to adopt an intellectual property management approach that is consistent with its core functions and objectives, and which is appropriate to agency circumstances. The audit does not advocate a single solution for all intellectual property types and all agency circumstances.

1.10 The audit did not focus upon the appropriateness of an individual agency's approach to intellectual property management; nor did it conduct a comprehensive assessment of the implementation or outcomes of individual agency management of intellectual property. The ANAO notes that these areas could be subject to future performance audits. This is also not an audit of an agency's patent portfolio alone.

Technical panel

1.11 The ANAO sought technical advice from intellectual property experts in state governments, universities and the private sector to ensure that the audit approach was valid and accurate. Experts were also consulted on the design of the survey.

Audit cost

1.12 The audit was conducted in accordance with ANAO Auditing Standards at an estimated cost of \$330 000.

Other relevant audits

1.13 The ANAO has not previously conducted an audit directly on the topic of intellectual property management. However, the following ANAO performance

audits are relevant, in that they address or touch upon issues of intellectual property:⁹

- Performance Audit Report No.35, 1997–98, *DEETYA International Services*—the audit noted that ‘APS businesses should take the necessary action to protect their intellectual property including opportunities for royalty payments as circumstances allow’.
- Performance Audit Report No.41, 1997–98, *Asset Management*—although the audit dealt principally with physical assets, it recognised that ‘intangible assets were of growing significance and worthy of a separate audit in the future’.
- Performance Audit Report No.27, 2001–02, *Agency Management of Software Licensing*—the audit examined the management of software licensing by five Commonwealth agencies, with a focus on the intellectual property rights of software developers and licensed distributors under the *Copyright Act 1968*.
- Performance Audit Report No.54, 2002–03, *Capitalisation of Software*—the audit examined the management of, and internal controls for, computer software assets for annual financial reporting in four agencies. The audit recommended that ‘entities assess risks in relation to software development, and specifically software capitalisation, including intellectual property issues, as part of the business project planning phases’.

1.14 In addition, the Auditor-General has raised the issue of intellectual property management in a number of speeches, and the issue has also been investigated by a number of State and overseas audit offices.¹⁰

What is intellectual property?

1.15 Intellectual property is a form of intangible property that arises from intellectual activity in the industrial, scientific, literary or artistic fields. Intellectual property includes logos and other trade marks, written and online publications, music, sound recordings, films, broadcasts, computer programs, designs and inventions.

1.16 Intellectual property rights refer to the rights granted by law in relation to intellectual property, and in general, they protect the outcomes of economic investment made by an individual or organisation in pursuing such intellectual

⁹ Financial statement audits conducted by the ANAO also examine reporting of intangible assets, which generally include software and a limited amount of other intellectual property. ANAO reports are available on the ANAO’s website <www.anao.gov.au>.

¹⁰ See Appendix 2 for further reading on intellectual property and intellectual property management including Commonwealth and State publications.

activity. These legal rights granted to an owner of intellectual property include the right to control the use of the intellectual property created, and to preclude others from using the intellectual property without permission, usually for a fixed period of time.

1.17 Intellectual property rights¹¹ include:

- copyright for the original expression of ideas in literary (written), artistic, dramatic or musical works, including books, plays, poems, music and computer programs, and for original sound recordings, films and broadcast and multimedia works;
- circuit layout rights for the 3-dimensional configuration of integrated circuits in computer chips;
- designs for the distinctive shape and appearance of manufactured goods;
- patents for new or improved products or processes;
- plant breeder's rights for new plant varieties;
- trade marks for words, symbols, pictures, shapes, sounds, smells or a combination of these, when used to distinguish the goods and services of one trader from another; and
- confidential information, including trade secrets, know-how and other confidential proprietary information.

1.18 A complex web of statute and common law provides for, and governs, the legal rights associated with intellectual property. Commonwealth intellectual property statutes govern all intellectual property types, except for confidential information, which relies predominantly on common law. These intellectual property laws operate on a national basis. However, subject to formal requirements, intellectual property rights can be recognised in other countries due to Australia's participation in multilateral treaties.

Relationship between intellectual property and intellectual capital

1.19 Figure 1.1 demonstrates the relationship between intellectual property and intellectual capital. In general, intellectual property rights protect the expression of knowledge and ideas when reduced to some tangible form, not the actual, uncodified knowledge or mere ideas themselves. However, people within an organisation can possess a vast amount of valuable knowledge, experience and know-how—often called 'intellectual capital'. Although this intellectual capital

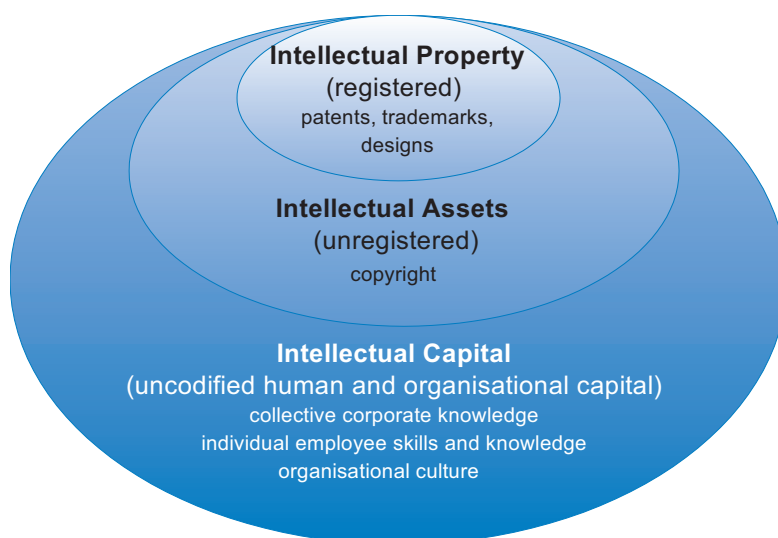
¹¹ Please see Glossary for more detailed definitions of the IP types.

does not always attract the traditional legal rights associated with intellectual property, it can still be an important asset to the organisation, albeit intangible and perhaps precariously held.

1.20 In recent times there has been a greater recognition of the value of this intellectual capital, and consequently a greater focus on leveraging this asset through the implementation of knowledge management systems to better capture and use organisational knowledge and expertise. One of the benefits of good knowledge management systems is the resultant transformation of knowledge and know-how, through capture and recording, into a protectable form of intellectual property.

Figure 1.1

The relationship between intellectual property and intellectual capital



Source: Adapted from diagram in 'Valuing Corporate Knowledge and Intangible Assets: some general principles'.¹²

1.21 The management of intellectual property is a specialised component of overall organisational management of intellectual capital or knowledge management. This audit focuses only on the management of an agency's intellectual property assets, although in practice there will be some areas of overlap between intellectual property management and knowledge management, with similarities between their practices and disciplines.

¹² Contractor, F. J., 'Valuing corporate knowledge and intangible assets: some general principles', *Journal of Knowledge and Process Management*, vol 7, no 4. October–November 2000, p.245.

What is intellectual property management?

1.22 Intellectual property management requires the implementation of measures which will ensure that an organisation identifies, adequately protects, and controls intellectual property assets and, where appropriate, facilitates exploitation of those assets for commercial, operational and public benefit.¹³

1.23 It is increasingly recognised that the intangible assets (including intellectual property) of organisations represent a considerable part of organisational value. A recent report examining the market capitalisation of a number of companies demonstrated that, in many cases, intangible assets constituted more than 70 per cent of the companies' market capitalisation value (see Table 1.1).¹⁴

1.24 It is also widely accepted that we are moving to a 'knowledge-based economy', driven by knowledge creation and utilisation. The term 'knowledge-based economy' was coined by the Organisation for Economic Co-operation and Development (OECD) and defined as an economy that is 'directly based on the production, distribution and use of knowledge and information'.¹⁵ The Asia-Pacific Economic Co-operation (APEC) Economic Committee extended this idea to state that in a knowledge-based economy 'the production, distribution and use of knowledge are the main drivers of growth, wealth creation and employment across all industries'.¹⁶

¹³ State of Western Australia, *Intellectual Property Guidelines*, Third Edition, 2002, p.19.

¹⁴ Ch'ang S & Yastreboff, M, 'Catching Brand BandITs', *Software Engineering Australia Journal*, October 2002, p.67.

¹⁵ OECD 1996, defined in Australian Bureau of Statistics, *Discussion paper; Measuring a Knowledge-based Economy and Society—An Australian Framework*, ABS, Canberra, 28 August 2002.

¹⁶ Australian Bureau of Statistics, *Discussion Paper; Measuring a Knowledge-based Economy and Society—An Australian Framework*, ABS, Canberra, 28 August 2002.

Table 1.1

Percentage of market value not explained by the Net Tangible Assets for various years ending 30 September 1999 to 30 June 2001¹⁷

Company	Market capitalisation (\$ billion)	Net tangibles (\$ billion)	Intangibles (\$ billion)	Intangibles to market capitalisation (per cent)
Coca-Cola	151	7	144	95
Kellogg's	10	0.5	9.5	95
IBM	149	12	137	92
Pfizer	14	1.3	12.7	91
Disney	52	5	47	90
American Express	72	8	64	89
Microsoft	392	47	345	88
Telstra	69	8	61	88
Exxon	301	74	227	75
Nike	11	3	8	72

Source: Ch'ang S & Yastreboff, M, 'Catching Brand Bandits', *Software Engineering Australia Journal*, October 2002 based on data provided by Ernst & Young Australia, November 2001.

1.25 Intellectual property assets, unlike the tangible assets of an organisation, are not physical in nature. However, just as the tangible assets of an organisation are properly identified, protected and maintained, so too should the intangible assets of an organisation, including its intellectual property.

1.26 Intellectual property management is integral to business planning, marketing and strategic planning. It has been observed that:¹⁸

IP assets need to be systematically identified, protected and maintained to maximise their intrinsic value and strategic advantage, and minimise the risks of third-party abuse or inadvertent loss.

1.27 Good management of an organisation's intellectual property assets will enable the organisation to make better use of its existing resources and to identify opportunities for improved transfer and uptake of intellectual property assets. This may also enable, where relevant or appropriate, opportunities for commercialisation of intellectual property assets.

¹⁷ All figures approximate only.

¹⁸ Ch'ang, S & Yastreboff, M, 'Discover your Intellectual Property Assets', *Software Engineering Australia Journal*, August 2002, p.81.

The importance of intellectual property to the Commonwealth

1.28 Due to the size and diversity of activities, the Commonwealth Government is a significant generator, acquirer and user of intellectual property. As a major contributor to research and development in Australia, through the direct engagement in, commissioning, or funding¹⁹ of research in the medical, health and natural sciences, the Commonwealth creates, or helps to create, valuable intellectual property.

1.29 The business of government also involves the extensive collection, storage, analysis, retrieval and publication of information. This involves the creation of documents, drawings, computer programs, spreadsheets, films and recordings in which the Commonwealth owns copyright.

1.30 The tools made available by advances in information and communication technology have greatly increased the usefulness and value of the extensive information registers and databases created and maintained by the Commonwealth. The *Commonwealth Consolidated Financial Statements 2002–03* report the value of computer software assets alone at \$3 billion.²⁰

1.31 Also, the intellectual property required by agencies for their ordinary activities (for example, computer software and systems) has increased. Agencies must, therefore, make decisions about how best to acquire and manage these intellectual property requirements.

1.32 Given the trends towards corporatisation and outsourcing of government service delivery, the value of intellectual property developed by agencies in the course of their routine operations is becoming apparent and may be increasing. Intellectual property issues are also becoming an increasingly important aspect of contract management as agencies outsource, consult and contract with third parties to provide services and produce intellectual property for government use as well as for the benefit of the Australian community.

¹⁹ In 2000–01, the Commonwealth spent \$1.4 billion on research and development. Australian Bureau of Statistics, *Research and Experimental Development, All Sector Summary, Australia*, Cat. no. 8112.0, ABS, Canberra, 2002.

This does not include research funded, but not conducted, by the Commonwealth Government, for example, in the higher education sector. Total research and development funded by the Commonwealth in 2000–01 was \$3.9 billion.

²⁰ This figure is the total across all Commonwealth entities, including general government entities and public financial and non-financial corporations. The value of computer software in the general government sector alone is recorded as \$1 billion.

The importance of managing intellectual property in the Commonwealth

1.33 The value of, and demand for, government information and services is increasing. Therefore, it is vital that governments are able to successfully manage, develop and use available intellectual assets to meet such demands and capitalise on potential opportunities. The South Australian Auditor-General has noted:²¹

Intellectual property and government information represent major government assets. In many cases, significant expenditure has been committed to the development of these assets and they should be managed in accordance with prudent commercial, financial and budgetary practices.

1.34 Commonwealth agencies are entrusted with the stewardship of significant Commonwealth resources, including intellectual property. In those agencies subject to the *Financial Management and Accountability Act 1997* (FMA Act), the obligation upon all agency heads for the 'efficient, effective and ethical' use of Commonwealth resources applies to the management of intellectual property in the same way as it does to any other Commonwealth resource.²²

1.35 As the Commonwealth Auditor-General has previously stated:²³

The pro-active management of intellectual property is becoming an increasingly important consideration for our agencies and other bodies in maintaining our capabilities to achieve required outputs and outcomes or, more simply, results.

1.36 Some of the consequences of not properly identifying, protecting and managing intellectual property assets include:²⁴

- the loss of the ability to protect that IP;
- exposure to the risk of infringement of others' IP rights;
- an inability to identify ownership of IP under the agency's control;
- duplication of effort to redevelop existing assets;
- a lack of awareness of the value of IP assets means that assets may be disposed of without a transparent process to assess value and ensure probity;
- efficiency losses from duplication in procurement;

²¹ South Australian Auditor-General's Report 1996–97, *Managing Intellectual Property Assets and Government Information When Outsourcing*, Adelaide, 1997.

²² See section 44 of the FMA Act.

²³ Barrett, P.J. (Auditor-General for Australia), *Management of Intellectual Property in the Public Sector*, presentation at Australian Government Solicitor Seminar, 26 February 2002.

²⁴ State of Western Australia, *Intellectual Property Guidelines*, Third Edition, Government of Western Australia, Perth, 2002, p.19.

- the loss of operational benefits resulting from loss of strategic control over assets that are necessary for agency work;
- the loss of potential benefits from the commercialisation of that IP including revenue, advice and comments from a broader user group, increase in reputation, industry development and employment growth; and
- a lack of guidance for staff that may result in risk averse behaviour and stifle innovation.

1.37 Due to the diverse nature of agency activities, types of intellectual property managed, and the extent to which intellectual property is critical to core business, strategies for intellectual property management will differ between agencies and possibly within an agency. The approach that an agency takes to managing intellectual property will be influenced by:

- the nature of IP activity and the type of IP managed;
- the extent to which an agency relies on revenues generated by the sale of IP;
- whether the agency owns IP in its own right, acts as a custodian of the IP on behalf of the Crown, or licenses the use of IP from another party;
- the mandate of the agency to undertake IP activities; and
- whether IP is developed or procured as part of a planned activity or emerges incidentally as part of routine operations.

1.38 The objectives of public sector management of intellectual property may differ from those for the private sector. Whereas a private sector organisation may only be interested in capturing and managing intellectual property for its own competitive advantage, the same imperatives often do not apply to a public sector organisation.

1.39 However, the broad principles underlying management of intellectual property will still be generally relevant to public sector organisations. As mentioned earlier, the accountability obligations imposed upon public sector officials and organisations alone will often provide sufficient cause for agencies to pay close attention to the management of their intellectual property assets.

Intellectual property management in the Commonwealth

1.40 Good intellectual property management requires the implementation of measures that will ensure that an agency identifies, adequately protects, and controls its intellectual property assets and, where appropriate and consistent

with agency objectives, facilitates uptake and transfer of those assets for commercial, operational and public benefit.²⁵

1.41 Government agencies can benefit from the effective use of intellectual property, particularly through improved:²⁶

- accountability of resources;
- operational performance;
- financial performance; and
- risk management.

1.42 Table 1.2 further illustrates the potential benefits of sound intellectual property management.

²⁵ State of Western Australia, *Intellectual Property Guidelines*, Third Edition, Government of Western Australia, Perth, 2002, p.19.

²⁶ Ch'ang, S & Yastreboff, M, 'Discover your Intellectual Property Assets', *Software Engineering Australia Journal*, August 2002, p.81.

Table 1.2**Potential benefits of managing intellectual property**

BENEFITS OF MANAGING IP	
Improved accountability of resources	
<input type="checkbox"/>	Know what IP is owned
<input type="checkbox"/>	Know what IP results from investment in research and development
<input type="checkbox"/>	Know what IP is core, secondary or surplus to activities
<input type="checkbox"/>	Cost-effectively protect IP on a timely basis to minimise risk of third-party abuse and inadvertent loss
<input type="checkbox"/>	Assists with compliance in chief executive's duties
<input type="checkbox"/>	Assists in more accurate reporting and cost-effectiveness of development costs and investment
Improved operational performance	
<input type="checkbox"/>	Enables more informed decision-making by management because of better understanding of what IP assets are owned, what is needed to operate and their IP value
<input type="checkbox"/>	Enables more accurate internal and external financial reporting
<input type="checkbox"/>	Enables sharing of significant and incremental innovations within an organisation (or the broader public service) and thereby minimises wastage of resources or duplication
Improved financial performance	
<input type="checkbox"/>	Unlocks hidden or under-performing value of IP
<input type="checkbox"/>	Opportunity to generate cash from licensing or sale of non-earning IP
<input type="checkbox"/>	Enables cost savings and increased revenue
<input type="checkbox"/>	Enables valuation of IP and inclusion of IP assets on balance sheets
Improved risk management	
<input type="checkbox"/>	Preserves the opportunity to use and commercialise IP by minimising risk of failing to identify and protect IP on a timely basis
<input type="checkbox"/>	Minimises risk of failing to renew IP assets protected by registration
<input type="checkbox"/>	Minimises risk of legal action for infringing third-party IP. The risks include potential damages, legal costs and damaged reputation
<input type="checkbox"/>	Minimises risk of disposing of IP that is necessary for the organisation's work

Source: Adapted from Ch'ang, S & Yastreboff, M, 'Discover your intellectual property assets' *Software Engineering Australia Journal*, August 2002, p.80.

1.43 As mentioned earlier, managing intellectual property in the public sector presents unique challenges. In addition to the different policy environment compared to that faced by private sector organisations, public sector agencies may see the management of their intellectual property as a means of:

- stimulating economic growth, industry development, improved competitiveness and even increased employment prospects by the transfer of IP to the private sector;

- encouraging the adoption of agency IP by the wider community thereby benefiting the public; and
- generating revenues from agency IP as an additional source of agency operating revenue.

1.44 These goals may often be in conflict and will influence an agency's management of, and its ability to capitalise on, its intellectual property.²⁷ In addition, public sector agencies may have an obligation to make material (which may include intellectual property) freely available for the benefit of the public. This obligation can sometimes compete with the need to protect intellectual property rights. An intellectual property asset that may have commercial potential in a market environment may be provided at no charge due to pricing and access considerations.

1.45 This also highlights the potential conflict between public interest and commercialisation. Due to the non profit-making nature of the public sector, commercialisation of intellectual property is unlikely to be the central objective of an agency. Commercialisation is usually regarded as a bonus activity, capable of generating additional income. However, there may be limited recognition that intellectual property can sometimes have an additional benefit to the purpose for which it was produced.

Intellectual property policy arrangements in the Commonwealth

1.46 Within the Commonwealth, the following three agencies play a role in developing and implementing intellectual property policy:

- the Attorney-General's Department is responsible for administering copyright legislation and providing advice on copyright policy and law;
- the Department of Communications, Information Technology and the Arts produces guidelines for the management of Information Technology related IP. It also shares responsibility for copyright policy with the Attorney-General's Department and administers the licensing of Commonwealth copyright material; and
- IP Australia examines and grants rights for patents, trade marks and industrial designs; and is responsible for promoting awareness and understanding of these IP rights to individuals and organisations.

²⁷ Steffens, P, et al, *Capitalising on intellect, public-sector intellectual property management in Queensland*, Institute of Public Administration Australia (Queensland division), November, 2000.

Commonwealth intellectual property policies

1.47 The Prime Minister's 1997 Statement, *Investing for Growth*, made a commitment to developing guidelines to assist the information industry commercialise intellectual property developed under Commonwealth Government information technology contracts.

1.48 The *Commonwealth IT IP Guidelines*, issued by the Minister for Communications, Information Technology and the Arts in 2000, implement this commitment. The Guidelines encourage agencies to only acquire the intellectual property necessary for achieving their missions and to be alert to opportunities for financial savings.

1.49 Some of the key messages contained in the Guidelines include:

- Commonwealth agencies should be conscious of the significance of their role as a major producer, instigator and consumer of IT-related IP, and the value of that IP as a national strategic resource;
- the need for IP to be recorded, valued, managed and utilised to best effect, as with any other asset;
- IP management is an important aspect of accountability that should be addressed in agencies' annual reports;
- in developing contracts, agencies should not automatically assume that all IP rights must be vested in the Commonwealth, but should actively consider whether vesting the IP in the supplier might yield savings and in the long term more effectively meet agency objectives; and
- notwithstanding the trend in recent years towards devolution of property and IT assets throughout many Commonwealth agencies, intellectual property remains a significant asset owned by Commonwealth agencies.

1.50 In January 2001, the Commonwealth made a commitment to science, research and innovation through the *Backing Australia's Ability* policy.²⁸ The three key areas for national innovation included:

- strengthening the ability to generate ideas and undertake research;
- accelerating the commercial application of ideas; and
- developing and retaining Australian skills.

²⁸ *Backing Australia's Ability: An Innovation Action Plan for the Future*. For further information visit <<http://backingaus.innovation.gov.au>>.

1.51 The policy also included a number of intellectual property initiatives, one of which was the establishment of the multi-disciplinary Intellectual Property Research Institute of Australia (IPRIA).

1.52 The Commonwealth does not, however, have a whole-of-government policy approach for managing intellectual property generally. As a result, agencies are responsible for devising their own approaches to the management of the intellectual property they generate and/or acquire. A recommendation for a whole-of-government policy on intellectual property is included at paragraph 2.26.

IP policies in Australian States

1.53 The issue of managing intellectual property has been gaining increasing attention across State government jurisdictions in recent years. In comparison to the Commonwealth, several States have either implemented an intellectual property policy (Queensland (Qld), South Australia (SA), Tasmania (Tas), and Western Australia (WA)) or are in the process of doing so (New South Wales (NSW), Northern Territory (NT), and Victoria (Vic)).

1.54 WA, in particular, has taken a leading role in this area. It has had an intellectual property management policy in place since 1997, and has established a Government Intellectual Property Policy Council²⁹ and an intellectual property support program³⁰. The recently revised *WA Intellectual Property Policy*³¹ has seven key principles:

1. to manage and utilise their IP to enhance delivery of services and performance of core functions;
2. to preserve and enhance the operational value of the IP;
3. to maintain and build upon core business;
4. to work in a spirit of cooperation with the business community in the development and commercialisation of IP;
5. to adopt risk management methodologies to ensure that government is only exposed to an acceptable and managed level of risk;

²⁹ The Council oversees and reviews the policy, supports implementation, monitors performance and provides a forum for review and discussion of issues relevant to policy. The members are representatives from the Departments of Treasury, Premier and Cabinet, Commerce and Trade and the Crown Solicitor's Office, as well as representatives from three rotating 'IP rich' agencies.

³⁰ This acts as a central co-ordinating body for State government. Activities include developing IP management guidelines, providing and maintaining a register of service providers and as a referral service for agencies, advising agencies on IP issues, liaising with public authorities and raising awareness and expertise in relation to IP management across government.

³¹ Government of Western Australia, *Government Intellectual Property Policy & Best Practice Guidelines*, January 2003.

6. to seek to apply best practice in the management and commercialisation of IP; and
7. to operate in an accountable manner and be prepared to justify their processes and decisions in an auditable and transparent way.

1.55 SA has also taken an active approach with a whole-of-government intellectual property policy released in late 1999. It includes basic principles for intellectual property management and obliges agencies to develop guidelines and procedures for implementation of the policy at the agency level.³²

1.56 In October 2001, the NSW Audit Office published a performance audit on the management of intellectual property and released a *Better Practice Guide* for intellectual property management. A key finding of the audit was that:

the lack of an integrated framework and coordinated support for agencies means that the management of IP has varied across the public sector and in general is not adequate.³³

1.57 In response to the recommendations of the report, the NSW Premier's Department established an inter-agency working group to develop a whole of government framework for the management of intellectual property in NSW. In developing the Framework, the working group created a focus group with over 40 NSW public sector departments, Public Trading Enterprises and State-Owned Corporations. A draft *IP Management Framework*, comprised of *Intellectual Property Principles* and a *Better Practice Guide*, has been developed. Advice concerning the Framework from the NSW Crown Solicitor's Office and the NSW Audit Office is currently under consideration, as are options for ongoing support for agencies and further development of the Framework and associated policies. The NSW Government anticipated that the Framework would be circulated to NSW public sector agencies for comment late in 2003.

1.58 In December 2001, the Victorian Department of Innovation, Industry and Regional Development prepared a discussion paper, *Capitalising on Government Intellectual Property—An issues paper for the development of a Victorian Government Intellectual Property Management Policy*. Following a review and further development of this paper, the Government made a commitment in the *Innovation Statement* in October 2002 to follow new intellectual property guidelines to ensure that the knowledge generated by innovation across government is shared for the benefit of all Victorians. The Victorian Government is finalising a copyright policy to replace the 1991 Guidelines relating to *Victorian Crown Copyright*. The development of the Victorian Government intellectual property policy will be informed by the copyright policy.

³² South Australian Government, *Intellectual Property Policy*, December 1999.

³³ New South Wales Audit Office, *Performance Audit Report—Management of Intellectual Property*, October 2001.

1.59 In April 2003, Queensland published *Intellectual Property Principles* to provide strategic guidance to the public sector on how to manage and commercialise intellectual property created by, and on behalf of, Queensland Government.³⁴ In addition, in September 2003 the State Government released *Queensland Public Sector Intellectual Property Guidelines*³⁵ to support the principles and to provide practical guidance for agencies in identifying, managing and commercialising their intellectual property portfolios. The Queensland Government is also creating a separate standard on use of non-Queensland Government intellectual property.

1.60 The Queensland Government also provides a useful online resource³⁶ to give innovators and entrepreneurs advice, ideas, hints and links that can assist them in commercialising their ideas. The website includes information on intellectual property.

1.61 In September 2001, Tasmania adopted *Information Technology-Related Intellectual Property Policy Principles* that encourage the transfer of intellectual property to local industry, where possible.³⁷

1.62 In August 2001, the Australian Capital Territory (ACT) Government was developing a new policy in relation to the broader use of intellectual property owned by the ACT Government. Following a change in government, further development of the policy was not pursued.

1.63 Northern Territory has developed a draft *Northern Territory Government Software Intellectual Property Policy and Management Framework* to provide a way for local industry to benefit from the access and use of government-developed software. The policy establishes the requirements for the identification, management and assignment of intellectual property rights for software owned by the NT Government. The NT Government anticipates that the policy will be endorsed and implemented in early 2004.

Other issues in managing intellectual property

Valuation of IP

1.64 Much of the Commonwealth's intellectual property remains unquantified due to the difficulties associated with valuing intangible property. In most cases, agencies are unable to accurately estimate the monetary value of intellectual

³⁴ Queensland Government, *Queensland Public Sector Intellectual Property Principles*, April 2003.

³⁵ Queensland Government, *Queensland Public Sector Intellectual Property Guidelines*, September 2003.

³⁶ See <www.ideas2market.qld.gov.au>.

³⁷ Government of Tasmania, *Information Technology-Related Intellectual property Policy Principles*, Standards and Guidelines available on Government online<www.go.tas.gov.au>.

property unless commercialisation (through sale and licensing revenue) takes place, or the costs of agency-developed intellectual property are known.

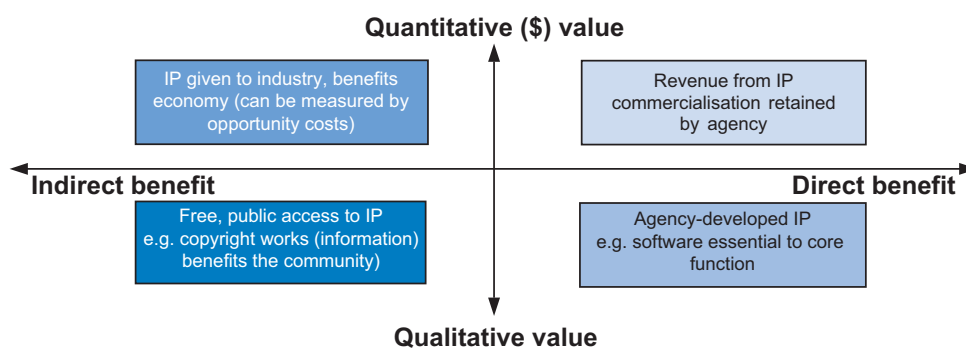
1.65 There are three general approaches to valuing intellectual property: a market approach; a cost approach; and an income approach.³⁸ Each is suited to different circumstances and involves what can be difficult, complex and often subjective processes. In the absence of a market (due to the ‘unique’ nature of intellectual property), the non-financial objectives and the infrequency of income generation in the public sector, some of these techniques may be inappropriate or not practical for agencies to use. Nevertheless, despite the lack of reliable data, the value of intellectual property assets in the Commonwealth is likely to be worth billions of dollars.

1.66 However, as an alternative to monetary value, agencies can value or categorise intellectual property qualitatively, for example, by its strategic importance to an agency, relative contribution to operational functions or public benefit. An intellectual property asset may then be assessed as essential, secondary or surplus to an agency’s operations, or of high to low importance.

1.67 Figure 1.2 illustrates ways in which intellectual property can be valued.

Figure 1.2

Continuum of value, alternative ways to define benefit/value



Source: ANAO.

Accounting requirements

1.68 Under current Australian accounting standards, assets can only be recorded on the balance sheet if:

- it is probable that the future economic benefits embodied in the asset will eventuate; and

³⁸ Schweih, R. P., *Valuation of Intellectual Property is the focus of the new Accounting Guidelines*, Intellectual Property and Technology Law Journal, Volume 14, Number 5, May 2002.

- the asset possesses a cost or other value that can be measured reliably.³⁹

1.69 By its very nature, it can be difficult to determine what, if any, future economic benefits are embodied in intellectual property. It can also be difficult to reliably measure only those costs directly attributable to that intellectual property. As such, agencies may not be able to report all intellectual property as 'intangible assets' on their balance sheets.

1.70 As a result of the current accounting framework, all intellectual property assets of Commonwealth entities may not be recognised. This situation is not expected to improve with the adoption of International Reporting Standards in Australia in 2005. The recognition criteria in the proposed Australian equivalent to the international standard, IAS 38 *Intangible Assets*, includes the same recognition criteria as in the current Australian standard. As such, it will remain difficult for entities to recognise all internally generated intellectual property on their balance sheets.

1.71 As the recognition criteria under the accounting framework do not allow all intellectual property to be included on the balance sheet, there is not a complete picture of the value of intellectual property assets in agencies nor for the Commonwealth as a whole.

Revenue from commercialisation

1.72 Commercialisation of agency intellectual property is one path that public sector agencies may pursue as part of their management of intellectual property. Whilst not always possible or appropriate, depending on the mandate of the agency, the environment and the nature of the intellectual property, an agency may choose to release intellectual property to the marketplace.

1.73 Commonwealth public sector agencies seeking to capitalise on their intellectual property must do so within the prevailing legal and financial framework. In addition to stewardship obligations under the FMA Act, dealings with intellectual property assets (including acquisition, licensing-in, assignment or granting an exclusive distributorship) should be conducted in accordance with the Commonwealth principles of open and effective competition and value for money.⁴⁰

1.74 Policies impose certain constraints on an agency's ability to select an intellectual property strategy. For example, an agency's decision to commercialise/ license intellectual property will be influenced by its ability to retain revenue earned. Similarly, National Competition Policy and the principle of competitive

³⁹ CPA Australia, *Members' Handbook*, December 2002.

⁴⁰ Department of Finance and Administration, *Commonwealth Procurement Guidelines*, February 2002.

neutrality may also influence agency management of intellectual property assets. The principle provides that government business activities should not adversely affect competition by the abuse of any commercial advantage arising from the agency's public ownership of intellectual property.

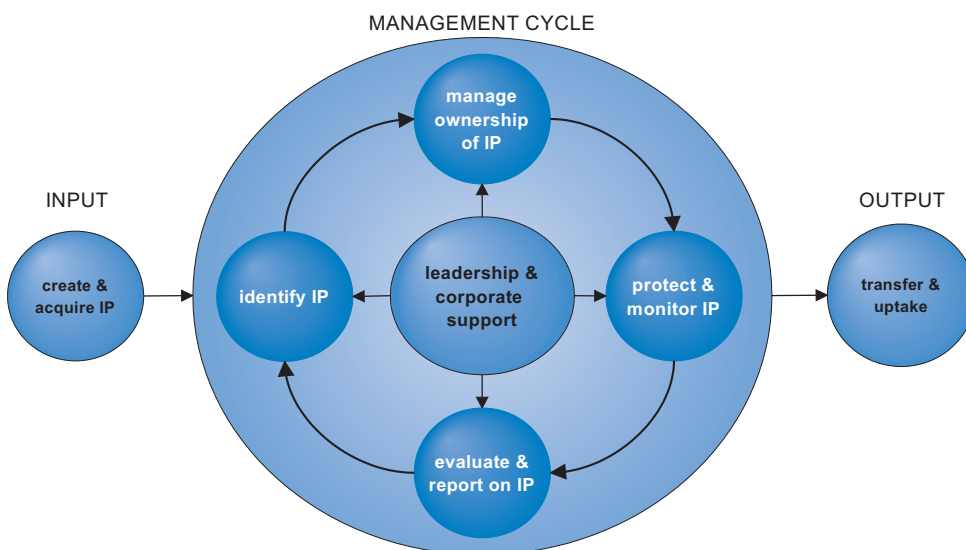
1.75 Agencies can retain revenue from commercialisation activities if they are captured within the scope of agreements, under section 31 of the FMA Act, made with the Department of Finance and Administration for the purpose of retaining revenue for future spending. Statutory bodies or Commonwealth companies will also be subject to the terms of their incorporating legislation or constituting documents.

A framework for intellectual property management

1.76 The ANAO developed the following model as a framework for intellectual property management (Figure 1.3). It consolidates knowledge gathered during audit research and fieldwork. In developing the model, the ANAO built on the previous work of practitioners within the area and also sought expert advice on the completed model. It consists of a number of management elements that work together to comprise intellectual property management; and it takes account of general principles relating to both asset and risk management.

Figure 1.3

A framework for intellectual property management



Source: ANAO.

1.77 The model also informs the structure of the report, which is set out as follows:

- **Chapter 1** introduced the concepts of intellectual property and intellectual property management and discussed their relevance and importance to organisations and government as a whole.
- **Chapters 2–7** contain the audit findings, with chapters dedicated to individual elements of the model. The findings in each chapter are preceded by a discussion of the relevant management element.
- The **final Chapter** integrates the elements and presents the model in full.

2. Leadership and Corporate Support

This Chapter discusses systems and processes for managing intellectual property, related to leadership and corporate support.

Background

2.1 Leadership and corporate support are critical to the success of any agency approach to intellectual property management, as they underpin and sustain the management framework.

Leadership

2.2 Agency senior management is accountable for intellectual property assets held by the agency. As with any other resources under the agency's control, intellectual property assets should be managed efficiently, effectively and ethically, and in an open and accountable manner. A clear senior executive commitment to intellectual property management will help to ensure that intellectual property resources are valued and managed appropriately within the agency.

2.3 Agency senior management should have a general understanding of what intellectual property is, and how it can be protected and utilised. They should also understand the value of intellectual property to their own agency, and how agency intellectual property assets fit within, and contribute to, the agency's functions and objectives. A clear intellectual property policy, issued by senior management, will help to clearly define the place of intellectual property management within overall agency strategies and functions. Such a policy will also provide evidence of agency attention to, and consideration of the risks associated with, intellectual property.

2.4 An agency intellectual property policy or plan will also define the types of intellectual property that the agency will need to further identify and actively manage. Not all types of intellectual property generated or held by an agency will warrant active management. For example, it is obvious that, although an agency will generally own the copyright in each document it produces, it is unlikely that the intellectual property in the vast majority of such documents will be of sufficient value to the agency that it would seek to further identify, document and manage each such document. Instead, the agency will need to determine which intellectual property assets are of sufficient value to the agency to justify further management. The agency intellectual property policy and plan should outline the principles and criteria by which such assessments may be made, the

types of intellectual property that should be identified and further managed, how they are to be managed, and by whom.

2.5 The policy and plan should also be communicated to various staff because intellectual property is created, acquired and maintained at all levels within an agency. For many public sector administrators, intellectual property management issues are pervasive throughout daily management. For this reason, good intellectual property management requires an appreciation of the importance of intellectual property to the agency and of the agency's intellectual property policies and practices in staff at all levels.

Figure 2.1

Selected components of an agency intellectual property policy

Intellectual Property Policy

An agency intellectual property policy should:

- be documented;
- be communicated to all staff;
- provide clear guidance to staff on intellectual property management;
- identify who is accountable for implementation of agency intellectual property policies;
- indicate sources for intellectual property support and advice to staff;
- be integrated with other corporate policies and objectives; and
- provide for timely review.

An agency intellectual property policy should take into consideration:

- the agency's core functions and objectives;
- the type of intellectual property assets held by the agency and their relative value to agency functions and objectives; and
- existing systems, policies and procedures (internal and external) relating to asset management, procurement, and risk management.

Source: ANAO, adapted from NSW Audit Office, Better Practice Guide: Management of Intellectual Property, NSW, 2001.

Corporate support

2.6 Effective implementation of agency intellectual property policies and plans, as well as the ongoing management of intellectual property, require that appropriate agency resources and support be provided.

2.7 Corporate support for intellectual property management may include:

- appointment of an Intellectual Property Officer;
- timely access to internal expertise and advice on intellectual property matters;

- access to independent legal and (where appropriate) commercialisation expertise;
- appropriate training on intellectual property issues;
- promoting awareness and reinforcing the importance to the agency of intellectual property, including advice regarding agency intellectual property policies and practices; and
- allocation of sufficient resources to fulfil agency intellectual property management needs.

2.8 Intellectual property management will often require an organisational culture that values and supports the management of intellectual property. Agency leadership and corporate support for intellectual property management will be crucial in achieving the organisational culture necessary for appropriate management of intellectual property. Agencies may also seek to promote and support innovation by agency staff and others.

Findings

Leadership and policy direction

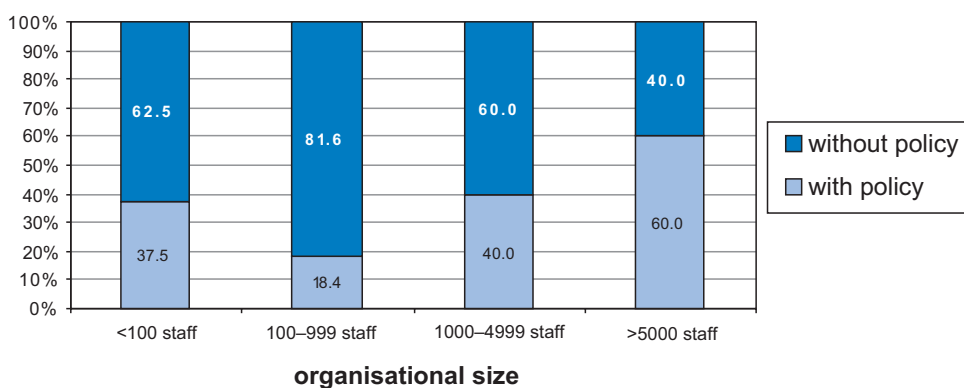
2.9 Of the 74 agencies surveyed, 22 (30 per cent) responded that they had a policy or plan addressing the management of intellectual property. Of these, 90 per cent rated intellectual property as of medium or high importance to their business. In comparison 61 per cent of agencies, overall, rated intellectual property as of medium or high importance to their business.

2.10 Approximately the same proportion of FMA Act (28 per cent) and *Commonwealth Authorities and Companies Act 1997* (CAC Act) (33 per cent) agencies had a policy or plan. However, agencies that described their function as 'research and development' were more likely to have an intellectual property management policy.

2.11 A higher proportion of large agencies (with over 5000 staff) had an intellectual property policy or plan than did small to medium sized organisations. Figure 2.2 illustrates the trend by agency size.

Figure 2.2

Proportion of agencies surveyed with an IP policy/plan by organisational size



Source: ANAO survey data.

2.12 The ANAO found that six of the seven case study agencies had a policy specifically addressing management of intellectual property. Three of the seven case study agencies had recently implemented and/or placed a renewed focus on intellectual property management due to a senior officer commitment to recognising the value of intellectual property. This demonstrates the increasing recognition of the importance of intellectual property in agencies and the need for leadership to support and communicate that message.

2.13 Although tailored to the individual circumstances of each agency, the policies addressed common elements. For example, most consisted of:

- a policy objective stating why the agency considers intellectual property important and valuable enough for active management—this may include risks of not properly managing intellectual property;
- definitions of intellectual property types and rights;
- broad policy principles to govern management;
- strategies for implementing the principles (often addressing the various elements of intellectual property management as appropriate, for example, identification, monitoring, ownership, commercialisation);
- scope of the policy, identifying to whom, and to what, the policy applies;
- who has responsibility for implementation;
- sources of expert intellectual property advice and assistance; and
- policy review mechanisms.

2.14 Some policy extracts from the case study agencies are included in Example 2a. The policy objectives vary; and are tailored to agency functions and circumstances.

Example 2a

Intellectual property policy extracts

DEWR's policy notes that:

...although the department does not have – as its core business – the development and dissemination of IP, including IT-related IP...the department has nevertheless promulgated the development of certain IP that is of strategic importance to it...As such, it is not appropriate to relinquish control or ownership of that IP.

In contrast, ANSTO's policy objectives aim to provide:

...a framework in which ANSTO identifies, assesses, protects and commercialises the intellectual property disclosed to it by ANSTO employees as well as ANSTO partners, in a way that directly and/or potentially benefit[s] Australia's economy, environment and industry, provide[s] a fair return to ANSTO and preserve[s] the good reputation of ANSTO in the marketplace.

The stated objectives of Defence's intellectual property policy are to:

- *recognise the broader contributions of the various agencies within Defence towards the generation of intellectual property in the development and sustainment of Defence capability;*
- *provide clear guidance to Defence and industry on how Defence will secure and manage intellectual property;*
- *emphasise the importance of intellectual property in the development and sustainment of national defence capability; and*
- *recognise intellectual property as an asset that must be appropriately managed.*

Source: ANAO, extracts of selected agency intellectual property policies.

2.15 To assist with implementation of their policies, most agencies in the case study developed guidelines or management plans to provide operational advice on how to address aspects of intellectual property management.

Example 2b

Agency guidance on intellectual property management

GRDC has developed management plans, consisting of flowcharts for registration of project IP; licensing and royalties; and commercialisation. The charts outline procedures to follow, the responsibility/authority of staff, and documents generated for filing during the process, and also specify links to other relevant policies/procedures.

Defence and Airservices have Intellectual Property Manuals and/or Guidelines as reference documents for staff on how to deal with intellectual property matters.

Other agencies use guidelines that address specific components of intellectual property management, such as:

- *Commercial Practices Manual* in CSIRO;
- *Industry Interaction Manual* in Defence (DSTO);
- Guidelines on ownership of, and rights to intellectual property and confidential information;
- Procedure for identification and registration of new patents and the maintenance of existing patents;
- *Collaborative R&D Guidelines* in ANSTO; and
- ABS guidance dealing with the collection, dissemination and publication of information: for example, *Guide to the ABS licensing conditions*.

Source: ANAO, prepared from agency documents collected during the audit.

2.16 Given the technical nature of intellectual property, and the complexity of information that is often provided, the ANAO encourages the use of visual tools (for example, process diagrams or flowcharts) and practical examples to outline the various stages involved in the intellectual property life-cycle, as well as the points where staff action is required to identify and protect intellectual property. These may assist in raising staff awareness and appreciation of their roles and responsibilities in managing intellectual property.

Corporate support

2.17 Twenty-eight agencies in the survey (38 per cent) reported that they had allocated specific resources to the management of intellectual property.

Example 2c

Approaches to managing intellectual property within agencies

Defence has a central, coordinating Intellectual Property Policy and Support Centre (IPPSC), tasked with the development, implementation and support of the portfolio-wide policy. The IPPSC comprises a team of specialist staff who:

- advise on intellectual property matters arising from equipment procurement and support;
- advise and/or assist in drafting contract clauses, tender evaluations and contract negotiations, dealing with IP in procurement;
- assist in managing licences and other agreements regarding commercialisation of Defence intellectual property;
- develop, implement and monitor the intellectual property policy; and
- conduct intellectual property awareness and education activities.

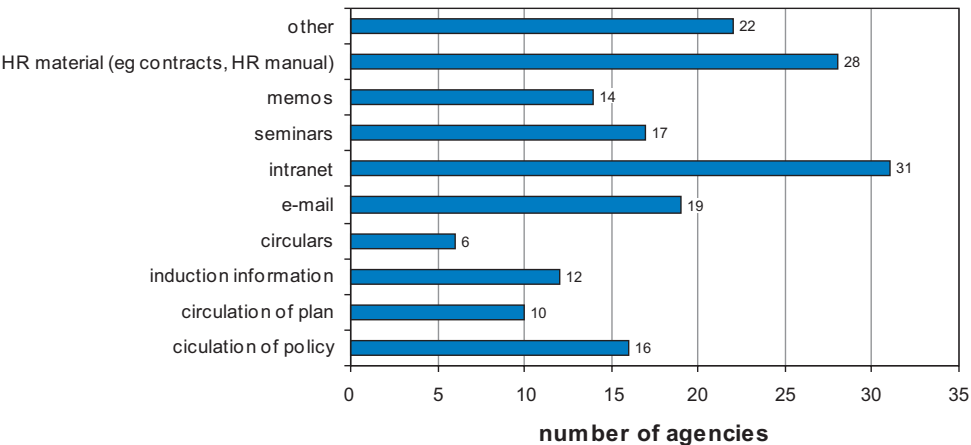
The other case study agencies adopted different approaches. In most cases, the agency's legal or business development/commercialisation area was the source of intellectual property expertise and was responsible for its management.

The research agencies, GRDC, ANSTO and CSIRO, adopted a hybrid approach to managing intellectual property. Each agency had a central business development area to set policy; provide support; and make decisions; with the research areas responsible for implementing the policy.

Source: ANAO, prepared from agency documents collected during the audit.

2.18 Fifty-five agencies (74 per cent) made information available to, or educated its employees on intellectual property matters. Some approaches to raising employee awareness are shown in Figure 2.3. Twelve agencies (16 per cent) had not taken any measures to raise awareness.

Figure 2.3
Agency approaches to raise awareness of IP



Source: ANAO survey data.

2.19 In the case study agencies, the main forums for communicating intellectual property issues to staff were through use of reference manuals, intranet website, structured education program, work group meetings and workshops. More detailed information on agency approaches is provided in Example 2d.

Example 2d

Agency strategies to raise awareness of intellectual property issues

Defence

In Defence, the IPPSC has conducted the following activities to raise awareness:

- intellectual property awareness workshops for interested staff ;
- presentations to relevant staff in training colleges;
- a quarterly IP newsletter;
- external workshops with industry to enable Defence clients to develop an understanding of the way in which Defence operates and what it expects with regard to intellectual property;
- an annual intellectual property conference for industry representatives;
- an intellectual property manual which acts as a reference document for staff, outlining at a practical level the course of action to take in work situations; and
- develop an intellectual property module to integrate into an existing certificate for procurement.

It has also established a 'virtual members network' to bring together Defence staff members who regularly address intellectual property issues or have a particular interest in the area. The role of the Network is to disseminate information on the intellectual property policy, advise on policy development and act as a point of contact for intellectual property issues in their work area.

Airservices

Airservices has developed a workshop on intellectual property to be delivered to key personnel. It provides practical examples of intellectual property management in routine operations and explores the types of intellectual property issues that may arise and the options for dealing with these issues. Airservices has also developed an employee awareness program for all staff.

ANSTO

ANSTO has conducted workshops and delivered presentations on intellectual property and plans an internal awareness program to educate staff. It also holds informal lunches with experts to share information and to provide forums to ask questions.

GRDC

GRDC contributes to the funding of the *Australian Centre for Intellectual Property in Agriculture* (ACIPA), which provide a training program for GRDC staff.

Source: ANAO, prepared from agency documents collected during the audit.

2.20 The ANAO encourages agencies to establish ongoing support and resources for an intellectual property policy. Without appropriate levels of training, assistance and advice to staff, a policy may not be fully implemented.

Summary

2.21 Only 30 per cent of the surveyed agencies had a policy addressing the management of intellectual property. Although, most agencies are not involved in the generation and commercialisation of intellectual property, management of intellectual property is nevertheless an important part of agency operations. By considering risks and ownership issues in decisions to distribute, acquire and internally manage intellectual property, agencies are better able to fulfil their management and accountability obligations, and ensure that agency resources are put to productive and efficient use.

2.22 Of the case studies, six of the seven had a policy, adapted specifically to the functions and circumstances of the agency. All case study agencies had also implemented some form of support ranging from a centralised intellectual property group to providing training, guidelines and websites.

2.23 Given the increasing value of intellectual property assets and the need for agencies to be accountable for such assets, the ANAO makes the following recommendation to all agencies. In some cases, this may involve integrating and coordinating existing policies and procedures already in place.

Recommendation No.1

2.24 The ANAO recommends that, in order to ensure the effective and efficient management of intellectual property, agencies develop an intellectual property policy appropriate for agency circumstances and functions, and implement the required systems and procedures to support such a policy.

All agencies agreed or agreed in principle to the recommendation. Further specific comments received from agencies in relation to this recommendation are provided below.

ABS:

ABS agrees with Recommendation 1 of the Report. Policies on copyright and secondary distribution have been developed by the ABS. However, these policies will be strengthened by the development of an over arching policy and procedures on ABS intellectual property which will encompass copyright, secondary distribution and information technology issues.

ANSTO:

Most ANSTO projects involve strong interactions with outside partners, including other Australian Commonwealth agencies. ANSTO believes that promoting the awareness of intellectual property management

amongst Commonwealth agencies is most likely to benefit not only the agencies themselves but their customers, partners and suppliers as well, and therefore the wider Australian economy. ANSTO supports ANAO's Recommendation No. 1 for agencies to develop an intellectual property policy appropriate for agency circumstances and functions and implement the required systems and procedures to support such a policy.

ANAO's report underlines in multiple sections of the document the diversity of Commonwealth agencies' core functions and objectives. ANAO's report Section 1.9 for instance highlights that: "an agency needs to adopt an intellectual management approach that is consistent with its core functions and objectives and which is appropriate to agency circumstances". The recommended alignment of intellectual property management to an organisation's strategic directions is a very important part of Recommendation No. 1, which in ANSTO's view is crucial to the success of any intellectual property management policy.

DCITA:

The Department agrees with Recommendation 1. An interim policy will be developed in the first instance pending the completion of the whole of government policy referred to in Recommendation 2.

Defence:

Defence agrees with this Recommendation. Defence is currently working to ensure that the systems and procedures identified in its policies are being implemented.

DEWR:

DEWR has an Intellectual Property Policy in place accompanied by appropriate systems and procedures to support the policy.

2.25 Airservices, AGD, CSIRO and IP Australia also indicated that they agreed with Recommendation No. 1, whilst GRDC indicated that it agreed in principle.

Recommendation No.2

2.26 In order to ensure that the Commonwealth's interests are protected, the ANAO recommends that the Attorney-General's Department, the Department of Communications, Information Technology and the Arts, and IP Australia (along with other relevant agencies), work together to develop a whole-of-government approach and guidance for the management of the Commonwealth's intellectual property, taking into account the different functions, circumstances and requirements of agencies across the Commonwealth, and the need for agency guidance and advice on intellectual property management.

All agencies agreed or agreed in principle to the recommendation. Further specific comments received from agencies in relation to this recommendation are provided below.

Airservices:

Airservices Australia agrees with the Recommendation in principle and considers that Commonwealth agencies could benefit from the provision of agency guidance and advice on intellectual property management. A whole-of-government approach would be useful provided any such approach was not mandated and took the form of guidance and advice only, to enable each agency to adopt the approach to suit its own functions, circumstances and requirements

ABS:

The ABS supports the development of a whole-of-government approach to the management of intellectual property (Recommendation 2). The development of such guidelines could assist the ABS in strengthening its management of intellectual property.

ANSTO:

Through a thorough research of published intellectual property guidelines, relevant articles and the consultation of experts in the field, ANAO's report has identified key factors in intellectual property management. Based on those, ANAO's report proposes: "A framework and better practice principles for intellectual property management" as detailed in Section 8 of ANAO's report. ANSTO recognises the potential benefit of a framework and better practice principles shared between Commonwealth agencies as a tool to raise efficiency of intellectual property management throughout Commonwealth agencies and by extension the broader Australian community. ANSTO agrees with ANAO's report Recommendation No.2 for "a whole of government approach to the management of intellectual

property, taking into account the different functions, circumstances and requirements of agencies across the Commonwealth”.

CSIRO:

CSIRO accepts that many agencies could be assisted by receiving general guidance on the management of intellectual property (IP). However, agencies such as CSIRO with well established IP management systems which are core to their mission require policies appropriate to their own functions and circumstances. Any whole-of-government initiative should recognise this requirement.

DCITA:

In response to Recommendation 2, the Department will work with both the Attorney General’s Department and the ANAO to consider ways of extending the IT IP Guidelines into broader guidance and support for agencies on the management of IP more generally. The Department is also ready to continue its leadership role in promoting good management practices for IP more generally, including activities which would complement the Department’s promotion of the forthcoming Copyright Better Practice Manual.

The Department notes that individual agency heads have responsibility for implementing general guidelines and we would not see a role for this agency in determining whole of government monitoring and reporting arrangements on the implementation of IP management policies.

The Department agrees that development of a whole of government approach would need to recognise the different functions and different governance arrangements of Commonwealth agencies. In particular, publicly funded research organisations would seem to merit special consideration, as would the particular circumstances of agencies coming under the Commonwealth Authorities and Companies Act 1992. A number of agencies have responsibilities for the development of IP policies in these areas and would need to be involved in the whole of government approach to IP management. The development of broader IP management guidance would also need to take account of a number of current reviews, including references on Crown Copyright arrangements.

2.27 AGD, Defence, DEWR and IP Australia also indicated that they agreed with Recommendation No.2, whilst GRDC agreed in principle.

3. Identifying Intellectual Property

This Chapter discusses systems and processes for identifying intellectual property.

Background

3.1 Effective management of agency intellectual property assets requires an understanding of the intellectual property assets held by the agency. When an agency has a good understanding of the intellectual property it owns and uses, it is better able to make informed and efficient decisions about the deployment of those assets and other agency resources. Equally, identification of an agency's intellectual property assets enables the agency to make sound decisions regarding the ongoing management and protection of those assets, and where appropriate, strategies for uptake or commercialisation.

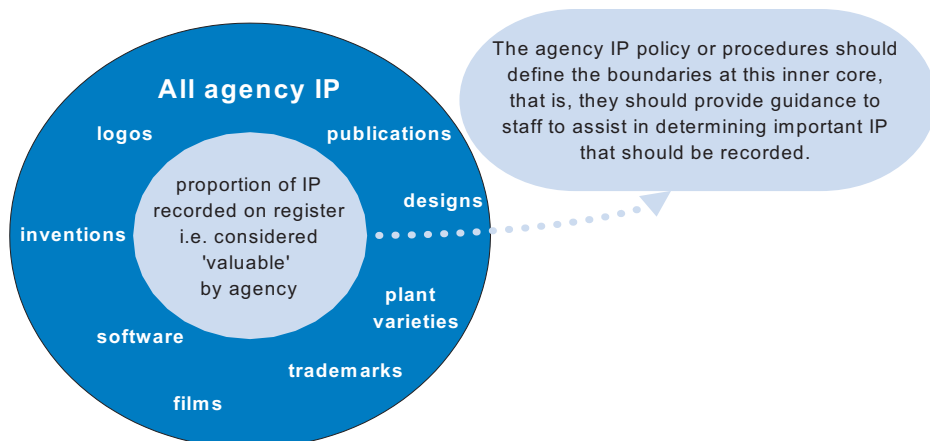
3.2 However, in the public sector, much intellectual property is obtained from external parties through purchase or licence agreements. Where intellectual property is developed by the agency, it may occur incidentally during routine operations. As a result, the innovation is often gradual and unplanned. This can make identification and subsequent management more challenging.

3.3 One method by which an agency can better monitor and understand its intellectual property portfolio is through the use of an intellectual property asset register. The register should record sufficient information about those intellectual property assets of value to the agency to facilitate appropriate management of those assets.

3.4 Clearly, not all intellectual property is of sufficient value to the agency to warrant identification and recording in an intellectual property register. The agency intellectual property policy and plans should provide clear guidelines and criteria to assist staff in identifying those types of agency intellectual property that are considered critical or material enough to be recorded on the register and to be subject to further management (for example, registration and protection).

Figure 3.1

Threshold for recording intellectual property on a register



Source: ANAO.

3.5 Although information about an agency's intellectual property assets may not always be recorded in a single place, or on a single register, one of the benefits of an intellectual property register is that it allows an agency to understand the various intellectual property assets held at a whole-of-agency level. Thus, in order to obtain the maximum benefits from identifying and monitoring intellectual property assets, agency approaches to recording should enable easy reporting of the totality of recorded assets across the agency, even though this information may not be originally recorded, or maintained, in a single location or single register.

3.6 Related to this issue, in order to inform decisions about the most efficient and effective use of agency resources (including intellectual property assets) and to avoid duplication, relevant staff should have appropriate access to an intellectual property register.

3.7 Ongoing management of intellectual property held by the agency (including third party intellectual property) is facilitated by access to timely and accurate information about those intellectual property assets. Any system for recording information on agency intellectual property should enable effective management of that intellectual property and provide relevant information to the ultimate users of the register.

Figure 3.2**Selected information recorded in an agency intellectual property register****Intellectual Property Register**

The agency intellectual property register may include the following information:

- a description of the intellectual property, including where, when and by whom it was created (if relevant or applicable);
- details of ownership rights, including (where applicable) any third party rights or interests in the intellectual property;
- who presently holds the intellectual property and who is directly responsible for its management;
- status of any protection; and
- any licensing or other arrangements concerning the intellectual property.

Source: ANAO.

Findings

Identifying intellectual property

3.8 Forty-one agencies (55 per cent) indicated that they had a system for identifying and recording the intellectual property they own, control or use. One such mechanism for identification is an audit or review of intellectual property assets. Thirty-six per cent of agencies had conducted such an audit.

3.9 The ANAO encourages regular review to ensure a current record of what intellectual property the agency holds and is paying for. It would also assist in assessing the relevance and performance of the intellectual property portfolio, that is, whether the intellectual property is being used as planned and, if not, whether registration and current ownership should continue.

3.10 The ANAO found other mechanisms for identifying intellectual property in the case studies, including:

- the use of *invention disclosure forms* in research projects listing details on the invention, description, possible uses and users of the invention and ownership details;
- *reporting mechanisms* that included a requirement to identify background and newly created intellectual property;
- *contractual requirements* for parties to identify the intellectual property they will bring to the project and/or deliver at its completion. Documented intellectual property schedules record all intellectual property in a project (including contractor, subcontractor, third party and Commonwealth foreground and background intellectual property), its nature, source and associated ownership rights;

- use of an *Intellectual Property Plan* to define the intellectual property management activities related to a contract including contractor's plans, processes and responsibilities for meeting intellectual property requirements;
- *staff/management/committee monitoring* of project outputs; and
- *review points* incorporated into projects prior to publication, transfer or disclosure, providing an opportunity to identify intellectual property outcomes and to explore protection options before release.

3.11 Example 3a below illustrates in more detail, how a research-orientated organisation, whose business is the intentional generation of valuable intellectual property, identifies newly created intellectual property.

Example 3a

Mechanisms to identify newly created intellectual property

GRDC researchers are required to complete project conception forms that describe expected outcomes, outputs, milestones, methodology and budget for the project. Sections of that form require the researcher to describe:

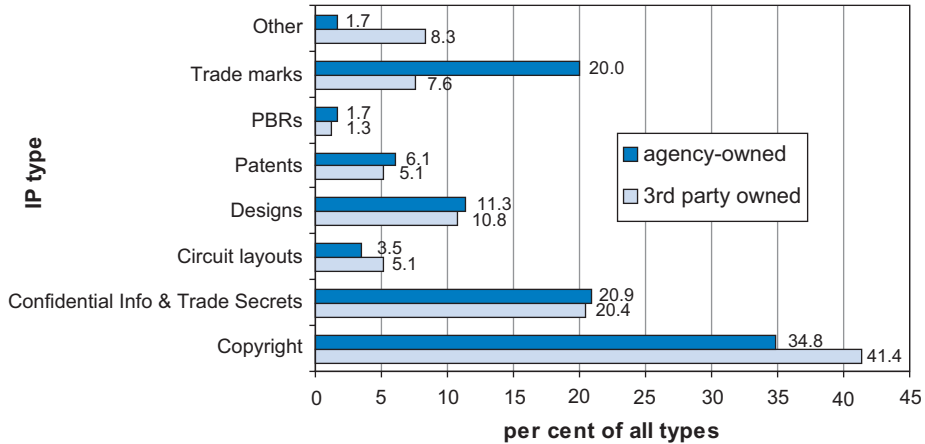
- any third party owned technology associated to the project;
- the development of any intellectual property expected during, or as a result of, the project;
- potential commercialisation opportunities for intellectual property arising from the project; and
- existing intellectual property.

Researchers must complete progress and final reports. These require assessment against milestones and outcomes, including resultant intellectual property where appropriate. Final reports require a summary of strategies undertaken or planned, to facilitate the protection and/or commercialisation of a project's realised outputs. This requires identification and recording of any patents filed, publications and confidential information created.

Other research organisations such as CSIRO, ANSTO and Defence (DSTO) adopted similar approaches, using reporting as a means for researchers to notify management of the creation of intellectual property.

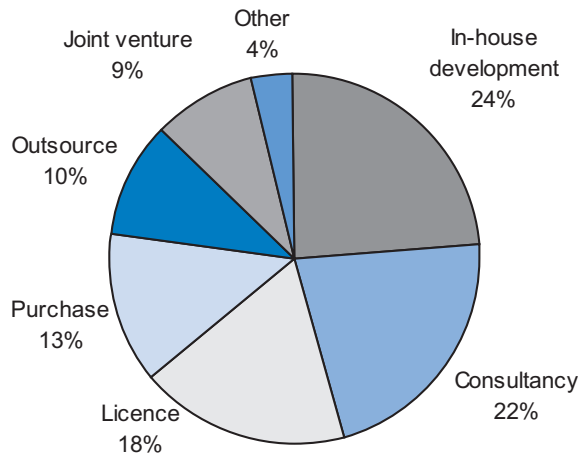
Source: ANAO, prepared from agency documents collected during the audit.

3.12 Agencies were asked to identify the most common intellectual property types within their agency. Figure 3.3 indicates those views according to whether the intellectual property is agency or third-party owned. Copyright is the most common intellectual property for both agency-owned and third party intellectual property.

Figure 3.3**Agency views of most common IP types**

Source: ANAO survey data.

3.13 Agencies were asked to identify the mechanisms used to acquire or create intellectual property by the agency. Figure 3.4 shows the most common mechanisms identified by agencies. In-house development, consultancy and licensing agreements were the most commonly identified means of obtaining intellectual property.

Figure 3.4**Main sources of intellectual property**

Source: ANAO survey data.

Recording intellectual property

3.14 Twenty-eight of the agencies surveyed (38 per cent) indicated that they used an intellectual property register to record important intellectual property.

3.15 Five of the seven case study agencies either had an intellectual property register or were in the process of implementing one. In most cases, the register was an internal database that provided a list of registered intellectual property assets (for example, patents, trade marks and plant breeder's rights).

3.16 In the two agencies that were in the process of implementing an intellectual property register, each had planned to record both registered and unregistered (i.e. covered by copyright) intellectual property based on threshold of 'business critical' or 'intellectual property of long term value'. The agencies informed the ANAO that they planned to record intellectual property such as software applications, program guidelines, research papers, policy documentation and copyright data. Both agencies produced guidelines and broad criteria to enable staff to determine what intellectual property to record and to recognise the importance of intellectual property under their control. In most of the case study agencies agency software applications were also recorded on an agency asset register.

Example 3b

Sample data recorded in an intellectual property register

The most common data fields used in a register were:

- identifier/name for the asset;
- date of creation, author and material form;
- a description and location;
- person/entity responsible for management of the asset;
- nature of intellectual property rights;
- context (in-house developed or purchased);
- ownership and licensing details including, where appropriate, value; and
- details of any third party intellectual property associated with the asset.

Source: ANAO, prepared from agency documents collected during the audit.

3.17 The other case study agencies mainly recorded registered intellectual property with limited information on valuable ideas or inventions under development but as yet unregistered. In this case, decisions to record the intellectual property on a register were based on the status of the intellectual property. An assessment of what was valuable occurred at the registration stage. This will be discussed in more detail in Chapter 5—Monitoring and Protection.

3.18 When asked what the information in such intellectual property registers was used for, most agency responses revealed that the purpose of the register was

to manage the registrations, licences and royalties associated with intellectual property.

Example 3c

How information from an intellectual property register is used by an agency

GRDC

In GRDC the information in the databases enables it to monitor what intellectual property it has, who created the intellectual property and who is using it (i.e. any licence details), GRDC equity in the intellectual property and the commercialisation status. The database enables GRDC to manage licences and royalties associated with its intellectual property portfolio.

ANSTO

ANSTO has a Business Development database to manage its patents, trade marks, designs, domain names and business names.

Full access (read and write in real time) to the data was limited to Business Development staff but other users such as the Patent Management Committee, senior management, project leaders, Division directors and inventors were kept informed through relevant reports.

CSIRO

CSIRO is currently upgrading its database, enhancing its functionality and capabilities. The upgrade is designed to convert the database from one designed predominantly for patent attorneys to one tailored to the needs of CSIRO managers. The upgrade will increase the linkage between the intellectual property database and another database, the Commercial Information System. It will also allow greater input of information necessary for the ongoing management of CSIRO intellectual property by Divisions, including enhanced monitoring and reporting of Division intellectual property.

Source: ANAO, prepared from agency documents collected during the audit.

3.19 The ANAO encourages the broader use of information from an intellectual property register. Benefits of using such information, include:

- the ability to better identify IP rights, to protect and defend IP, and to manage contract and/or licence relationships;
- a data source to inform planning and decision-making for resource use and asset management;
- a means to retain corporate knowledge; and
- sharing knowledge to avoid unnecessary duplication of effort in intellectual property developments (for example, software) both within an agency and between agencies at a whole-of-government level.

3.20 In those agencies without a central register, some recorded information on intellectual property in a decentralised form, for example, as part of contracts and/or in other databases. However, recording intellectual property in a centrally accessible intellectual property register assists with identification of intellectual property and ensures greater use of existing intellectual property assets. This

minimises the costs of duplication, that is, obtaining the rights to the same, or similar piece of, intellectual property more than once.

Summary

3.21 Approximately half the agencies surveyed reported that they had mechanisms in place for identifying intellectual property. This would suggest that a significant proportion of agencies do not have systems in place to know what assets they own, use or control. This has consequences for the effective, efficient and ethical management of intellectual property assets by those agencies. Without such information, there is an increased risk that agencies will 'give away' valuable intellectual property, pay multiple times for access to the same piece of intellectual property, and more broadly ignore intellectual property assets when making strategic resource and operational decisions.

3.22 Just over a third of agencies report that they have an intellectual property register. The case study findings suggest that these databases are mostly used as a means to record and manage intellectual property registration and/or license details rather than inform strategic planning and decision-making in the agency.

4. Managing Ownership

This Chapter discusses systems and processes for managing ownership of intellectual property.

Background

4.1 The management of intellectual property will often involve a series of complex decisions regarding the appropriate level of ownership and control of a particular intellectual property asset. This will be dependent on the type of intellectual property, its mode of acquisition (i.e. whether it is created internally, created by a third party under contract, or obtained from a third party), and its intended use, relative value and strategic importance to the agency.

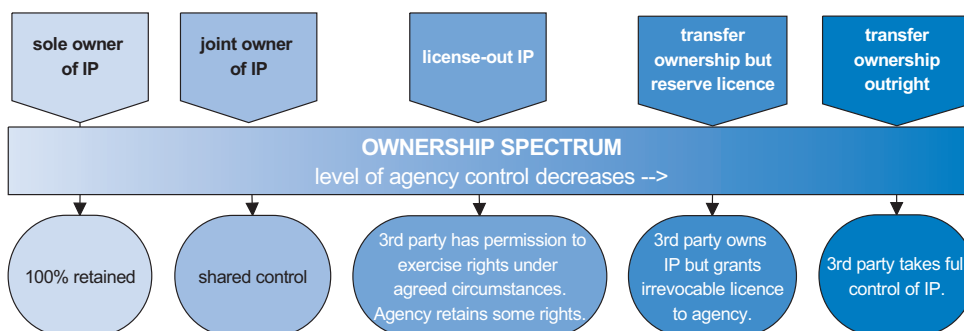
4.2 To illustrate, depending on the source of intellectual property, there will often be a different focus on the sorts of management issues to be addressed. For example, for intellectual property developed in-house, questions of ownership and rights to intellectual property developed by agency staff will be different to the sorts of questions and issues that arise where intellectual property is developed by third parties under consultancy arrangements. One issue to consider is that of ownership of the intellectual property. An agency must decide whether to retain ownership, enter a joint ownership arrangement, license-out⁴¹ or opt not to own. In this latter case, where rights are passed to another party, the agency may decide to retain rights to access, use and sub-license the existing and new intellectual property through a royalty-free, irrevocable licence. Figure 4.1 outlines some ownership options.⁴²

⁴¹ Licences should clarify the circumstances under which rights are transferred. They should specify the purpose, activities, period, price and location under which the rights are granted. Licences may be exclusive, non-exclusive or sole in nature.

⁴² For more detailed guidance on ownership models, see the Commonwealth IT IP Guidelines, pp 38–40.

Figure 4.1

Ownership options



Source: ANAO.

4.3 There may also be different approaches to identification of intellectual property developed in-house compared to intellectual property developed under consultancy or acquired under licence. Definition and identification of intellectual property may (and perhaps should) be more systematic in the latter cases because of the nature of the acquisition processes.

4.4 Agencies will need to identify the main mechanisms by which intellectual property is created or acquired within the agency and tailor their intellectual property management approach to address the issues and manage the associated risks. For example, policies and processes for the management of intellectual property developed under contract may be mainly directed to staff involved in entering agency contracts. However, where more staff are likely to be involved in some way in the in-house development of intellectual property, agency approaches may need to be targeted and promulgated more widely.

4.5 Agency intellectual property policies and plans should provide guidance as to how the agency will deal with issues of ownership and control of intellectual property assets. Briefly, these may include the following, which are discussed in detail below:

- guidelines for the registration of agency intellectual property, for example, in the form of trade marks, designs, patents, or plant breeders rights;
- recognition of, and illustrative clauses covering, intellectual property in agency contractual templates, licences and guidelines; and
- confidentiality provisions and ownership provisions relating to intellectual property in staff employment contracts and contracts with third parties.

Securing appropriate protection

Registration

4.6 For some types of intellectual property, rights are conferred without the need for any further action on the part of the agency (for example, copyright protection). In other cases, however, registration is required in order to obtain the benefits of the proprietary rights conferred by statute (for example, registered trade mark and patent protection).

4.7 Where an agency identifies registered intellectual property as an important part of agency operations, the agency should provide guidance to staff. This guidance should outline: when it is appropriate to seek protection of agency intellectual property through registration; what should (or should not) be done to preserve the possibility of registration;⁴³ and how to maintain such registered rights. Given the costs associated with registering and maintaining these rights, agencies may use set criteria to assess if registration is a viable and suitable approach. More details on the registration of intellectual property rights are discussed in Chapter 5—Monitoring and Protection.

Contractual agreements

4.8 When entering a contract for the creation or acquisition of intellectual property, an agency should ensure it pays attention to clarifying and securing appropriate intellectual property rights. This is important given that decisions at this stage will often govern long-term use and ongoing management of the intellectual property throughout its useful life.

4.9 Dealing with issues regarding ownership and use, and even identification and definition of intellectual property at these early stages enables greater ease of management throughout its life cycle. It is at this stage that agencies can consider questions of need for a particular intellectual property asset, whether the agency holds existing intellectual property that may already meet that need, and the most appropriate ownership options consistent with the intended long-term use of, and need for, control over the asset. Considering these questions early would ensure agencies receive value for money by avoiding duplication of effort and through ensuring only those intellectual property rights required by the agency are actually acquired or retained. Documenting these rights also minimises the risk of infringement by the agency and/or third parties involved.

⁴³ For example, it is especially important that staff not prejudice the patentability of an invention by prematurely publishing information about it.

Figure 4.2

Examples of what to consider when making decisions to develop or acquire assets or services.

Considering intellectual property in agency development and procurement decisions

When using agency resources to develop or procure assets or services, the agency or responsible officer should:

- consider whether there are any special intellectual property issues that need to be addressed;
- assess agency need for the particular asset or service, and examine whether existing agency intellectual property can meet that need, so as to avoid duplication;
- examine the agency's future need for and use of the asset or service and assess the appropriate intellectual property ownership rights required by the agency in order to secure value for money and efficient use of agency resources; and
- ultimately weigh issues of intellectual property against other agency functions, needs and objectives.

Intellectual property issues are best managed prior to the creation of the intellectual property, i.e. before contracts are exchanged or tenders invited; at the time of engagement of agency staff or consultants.

Source: ANAO.

4.10 Consideration of intellectual property issues should therefore be a standard part of agency approaches to the deployment of resources and the creation and acquisition of assets or services. Contractual agreements may incorporate a requirement for the agency to identify its intellectual property needs; to document potential intellectual property arising or transferred under the contract; and to define the appropriate rights associated with such intellectual property.

4.11 Ownership rights may also be clarified by intellectual property use and ownership clauses in employment agreements, and non-disclosure and confidentiality clauses in agreements with third party contractors and consultants.

Staff awareness and education

4.12 Staff awareness of intellectual property issues also has an important role in ensuring good management of intellectual property held by the agency. A basic understanding of the relevant issues, and to whom to turn to seek help and advice, can ensure that agency intellectual property is adequately recognised, protected and not given away. It can also minimise the risk of possible agency infringement of third party intellectual property rights.

4.13 Agency plans and policies should provide guidance to staff in dealing with intellectual property in these cases. Agency standard form contracts providing illustrative intellectual property clauses will suffice in many simple transactions. But more specific advice and assistance may be required in complex

or material transactions. This is particularly important where alternative options to ownership are available. Figure 4.3 shows that a flexible approach to ownership can deliver benefits to an agency.

Figure 4.3

Flexibility in ownership and aligning decisions with agency need.

Securing appropriate rights to intellectual property

The nature of intellectual property allows various rights and interests to exist in any given intellectual property asset. Rather than seeking full ownership of an intellectual property asset, an agency may instead seek only a licence to use or perhaps use and develop, or other combinations resulting in less than full ownership. In some circumstances, where an agency has identified there is no need for full ownership of particular intellectual property, seeking only a mere licence may deliver greater benefits. Where third parties are involved, the agency may be able to attain a lower contract price in exchange for less than full ownership. Additionally, by allowing third parties to retain ownership, or rights to develop particular intellectual property, an agency can encourage further innovation or growth within a particular industry or external organisation. For example, the release of intellectual property to the private sector can enhance the ability of resulting products to be supported and further developed and can also result in broad social and economic benefits that may include stimulation of economic growth, industry development, improved competitiveness and even increased employment prospects.

Source: ANAO.

Findings

4.14 Forty-one of the agencies surveyed (55 per cent) stated that they had a system to establish and manage ownership issues arising from intellectual property. The most common mechanism indicated by agencies was to use contractual provisions to address the ownership of intellectual property.

4.15 Of those agencies using contractual provisions, 44 per cent indicated that they always retained ownership of the intellectual property created under the contract. This conservative approach to ownership can overlook the potential benefits of transferring ownership to third parties.

4.16 Although it is useful for agencies to have a default position in contracts, it is also important for agencies to adopt a flexible approach so that if the appropriate conditions arise, an agency can decide to transfer its ownership (while maintaining appropriate access rights) to the party best able to take advantage of the intellectual property. Example 4a illustrates such a case.

Example 4a

Defence's approach to intellectual property ownership in acquisition projects

Defence does not perceive full ownership of intellectual property as the only way to ensure its intellectual property requirements are fulfilled. Its intellectual property policy proposes that intellectual property ownership should be retained by the party best able to exploit it with Defence 'secur[ing] only the IP that it requires' rather than 'each and every right to every technology or business process'. In some cases, this may be industry, and in other circumstances, it may be appropriate for Defence to own the intellectual property.

Defence uses a targeted intellectual property needs analysis (IPNA) to determine intellectual property requirements for its acquisition projects. Defence's policy requires negotiating parties (usually consisting of a project officer, contract officer, lawyer and a tenderer) to identify the components of the equipment or system being developed or acquired, and analyse the level of rights required for each component throughout the life cycle of the capability⁴⁴ from development to life support. This recognises that intellectual property needs differ throughout the lifecycle of a product: some rights are required early for development of a new capability, others later for post-delivery support. Alternatively some rights may not be required until upgrade or disposal and other rights may be necessary throughout the lifetime of a capability. Defence also acquires the rights to the technical data that form the basis for the capability (for example, software codes).

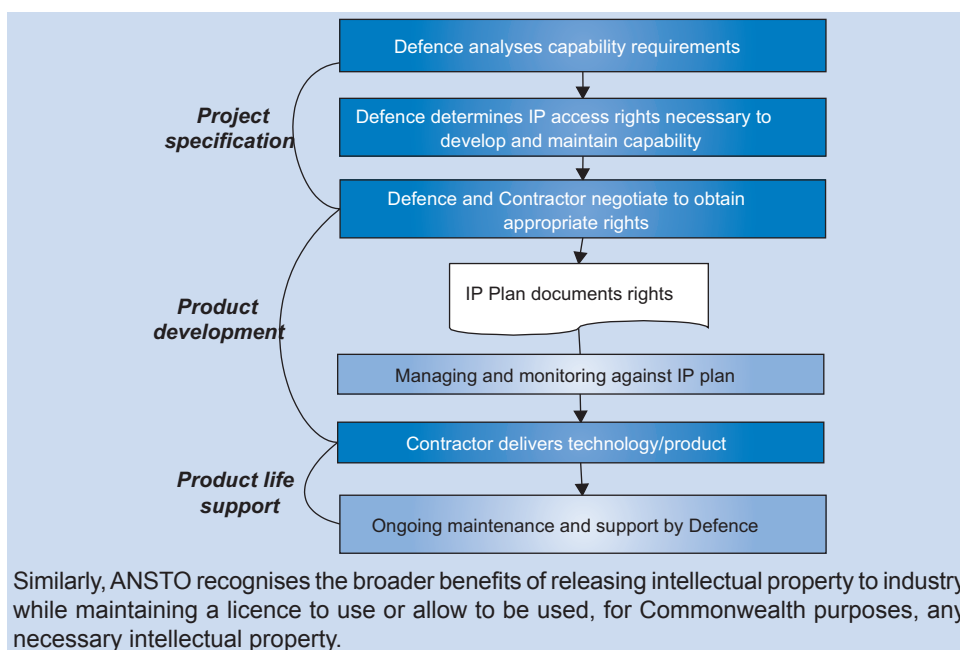
Defence has defined levels of rights to intellectual property (ranging from use, maintain, modify, develop, manufacture, dispose). For each component and/or subsystem, it decides what rights it requires according to anticipated future access needs.

Following analysis of its requirements and selection of an appropriate tenderer, Defence will secure the necessary intellectual property arrangements. An intellectual property plan is refined, agreed to and signed as part of the contract. It details the status of intellectual property rights, ownership and nature (background or foreground) in the supplies and the consequent activities the Commonwealth may undertake in relation to the supplies.

This IPNA is incorporated into Defence's standard suite of contractual and RFT templates for materiel acquisitions. This imposes a framework on Defence staff and the potential contractors to consider intellectual property matters and conduct a needs analysis. The IPNA process is summarised in the figure below.

continued next page

⁴⁴ In its Intellectual Property Manual, Defence defines capability as 'the potential to achieve a specific effect, in a nominated operating environment, with a specific degree of notice, and to sustain the effect for a given time. Capability is provided by a system of elements that perform activities and operations to achieve the effect. For defence capability the elements of this system go beyond equipment to include staffing, training, and logistic, industry and infrastructure support'.



Source: ANAO, adapted from agency documents collected during the audit.

4.17 The ANAO found that five of the seven case study agencies used standard intellectual property contractual clauses to manage ownership. In these cases, the contracts provided for the default position of Commonwealth ownership of intellectual property that it paid to have developed (i.e. foreground intellectual property). Any changes to the standard clauses required clearance by the legal or business development area.

4.18 Several of these agencies recognised that in contract negotiations, they could obtain a more favourable price from a third party by seeking less than full ownership options of the intellectual property through licensing. For example, CSIRO's *Commercial Practice Manual* notes that:

Ownership of CSIRO intellectual property must not be relinquished where it forms part of CSIRO's core intellectual base. In cases where ownership of intellectual property generated in an application project is shared or transferred to the customer, the contract price should reflect the value of the background and new intellectual property and the opportunity cost to CSIRO resulting in any loss of ownership.

4.19 The remaining two case study agencies adopted a case-by-case approach to their contracts by presenting contracting templates with a number of intellectual property clause options to allow staff to select an appropriate ownership model according to circumstances.

4.20 An intermediate position between retaining intellectual property and giving it away is to use licences to manage dissemination and access to the intellectual property. For example, the case study below illustrates how two agencies control the use of their intellectual property through licensing agreements.

Example 4b

Managing intellectual property through licences

Licensing arrangements for aeronautical information in Airservices

On 1 September 2003, Airservices Australia introduced a licensing arrangement for aeronautical data, requiring commercial redistributors of the data to be licensed. Previously, the redistributors were selling their products to the aviation industry without paying any license fees for rights to use the data.

The licensing is being introduced to address safety concerns and control the integrity of the data by protecting the intellectual property. On a few occasions, errors in the way the aeronautical data was repackaged by commercial redistributors have resulted in incorrect data being supplied to users. The new arrangements aims to ensure that any redistribution and re-use of aeronautical data is safe, controlled and quality assured.

Three major data providers have criticised the new policy and have yet to comply with the licensing arrangements. Airservices is warning that it may take legal action against them.

ABS licensing arrangements for statistical data

ABS enters into data licensing arrangement for the use of its data products by third parties. It uses standard licensing agreements that define:

- the roles and responsibilities of each party;
- license fees and/or royalties;
- permitted uses of the data; and
- intellectual property ownership.

Given the significant use of its data by external parties, the ABS provides a *Guide to the ABS licensing conditions* to assist clients in establishing how they may use ABS data. It addresses issues such as permitted uses of ABS Copyright, conditions under which ABS data is provided and an indication of charging. The guide is provided via the ABS website along with a list of current ABS secondary distributors and the ABS data involved.

ABS also has a secondary distribution policy to address cases where ABS data (or a derivative) is incorporated into part of a third party product or service that is subsequently distributed or commercialised.

Source: ANAO, adapted from agency documents collected during the audit.

4.21 If ownership and the use of intellectual property are not determined early in the process, there is a risk that:

- disputes may arise over access to or control of future use of intellectual property if it is modified or improved by a third party (external to the Commonwealth);
- opportunities may be lost if intellectual property is disposed of without a transparent process to assess value and ensure probity; and
- infringements of rights and liability for infringing the rights of others may occur.

4.22 For example, one agency has been subject to legal action due to ownership disputes between the contractor and the agency and the alleged infringement of third party intellectual property rights. To prevent such infringements, it is important for agencies to document agreed intellectual property rights and limitations (in contracts, licenses and plans) and periodically monitor compliance against those rights, changing them as necessary to reflect revised arrangements. Third parties may also infringe. The next Chapter discusses the strategies agencies may take to both monitor and protect against unauthorised use.

Summary

4.23 Agencies should have systems in place to clarify and decide on the appropriate level of ownership of intellectual property. In the survey, 55 per cent reported that they had such mechanisms in place. The survey and case studies demonstrated that the most common approach was through standard contractual agreements presenting a preferred ownership option, usually with the agency (Commonwealth) retaining ownership of the intellectual property. However, a few agencies adopted alternative approaches to ownership.

4.24 The audit highlights the need for staff to have sufficient understanding of ownership, licensing and pricing options in order to successfully implement the policy and make decisions regarding the appropriate level of ownership.

5. Monitoring and Protection

This Chapter discusses systems and processes for monitoring and protecting intellectual property.

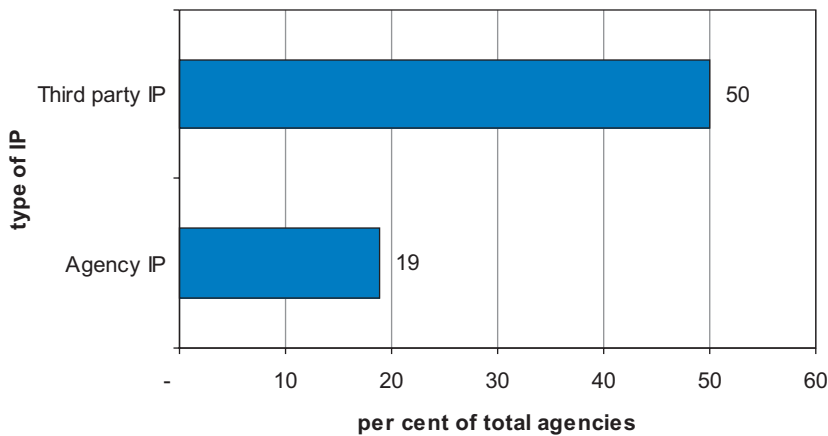
Background

5.1 Although much of the focus on intellectual property often occurs at the acquisition or creation stage, management of intellectual property assets does not cease once the intellectual property has been acquired and/or created. Ongoing monitoring allows an agency to:

- assess the appropriateness of its management or protection of particular intellectual property assets;
- better understand its use of intellectual property assets and identify opportunities for leveraging of those assets; and
- detect potential infringement of intellectual property rights (either of agency rights or of infringement of third party rights by the agency) and take appropriate, timely action to address any infringement issues.

Findings

5.2 Agencies were asked whether they had systems in place to monitor the agency's use of its own intellectual property and/or its use of third party intellectual property. As Figure 5.1 shows, 19 per cent of agencies had a system in place for monitoring agency use of its own intellectual property, whereas 50 per cent had a system for monitoring agency use of third party intellectual property.

Figure 5.1**Number of agencies with a system for monitoring use of intellectual property**

Source: ANAO survey data.

5.3 One explanation for this difference could be that the financial risks associated with infringement of third party intellectual property are more clearly identifiable than the risks associated with poor utilisation or loss of agency owned intellectual property. In the former case, poor monitoring could result in infringement of third party intellectual property rights and exposure to litigation, loss of reputation and possible financial costs. In the latter case, although poor monitoring of agency usage of agency intellectual property could result in opportunity costs from inadequate use of agency intellectual property assets, or even loss of agency intellectual property, the associated direct financial costs are less easy to quantify.

5.4 All the case study agencies had informal systems for monitoring internal use of agency intellectual property across the organisation. Where implemented, agency intellectual property registers provided agencies with some information on agency intellectual property, usually limited only to registered intellectual property.⁴⁵ An example of one approach to monitoring internal agency intellectual property is highlighted in Example 5a. A similar approach was also seen in a number of the case study agencies.

⁴⁵ For more information on intellectual property identification including a discussion on registers, see Chapter 3—Identifying Intellectual Property.

Example 5a

Monitoring and review of intellectual property within the CSIRO Division of Molecular Science

Monitoring of Divisional intellectual property

As part of regular project review, project managers within the Division of Molecular Science report on the intellectual property under their control or development. Division intellectual property is assessed by the Division's intellectual property manager and a decision made as to whether seek registration of the intellectual property (where relevant), or whether to discontinue registration where the intellectual property has already been registered and included on the Division intellectual property register. Division intellectual property is assessed according to three primary criteria:

- scientific value;
- legal value (i.e. strength of intellectual property rights); and
- commercial value.

Additional considerations include: technical merit of the invention; business opportunities presented by the invention; financial support or resources available for protection and/or development; and current and possible intellectual property protection.

When reviewing the Division's patent portfolio, three questions are asked:

- what intellectual property does the Division already have?
- where does the individual item of intellectual property fit in relation to other Divisional intellectual property and in relation to the Division's overall strategy? and
- how is the item of intellectual property being used by the Division and is the intellectual property still valuable to the Division?

Review of the Division's intellectual property is supported by a Divisional *IP Map*. The *IP Map* captures and organises information about the Division's intellectual property portfolio in a way that allows these three questions to be answered. It also attempts to display in a visual manner, the links between the various items of intellectual property within the Division's portfolio.

Source: ANAO, adapted from CSIRO documents collected during the audit.

5.5 The ANAO encourages systematic or formal monitoring of agency use of important agency intellectual property. As noted earlier, a better understanding of the intellectual property portfolio and usage of agency intellectual property will aid in identifying opportunities for leveraging or more effective use of the intellectual property. It would also assist the agency in assessing the appropriateness of its ongoing management or protection of particular intellectual property assets.

5.6 The case study agencies had various mechanisms in place to monitor agency use of third party intellectual property and to avoid infringing third party intellectual property rights. For example, the case study research agencies have systems in place to ensure they obtained appropriate rights to use any third party intellectual property prior to commencing projects. In the case of software, the ABS has controls in place to monitor the internal use of third party software, including:

- monitoring licence agreements with software suppliers;

- restrictions on access to licensed products; and
- arrangements in place to detect non-ABS products being loaded onto the ABS computer network.

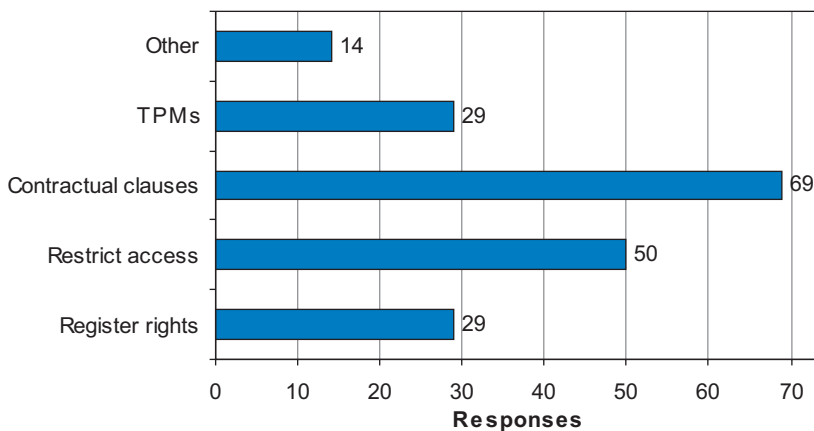
5.7 All case study agencies had an accountable officer who could be notified in cases where infringement is possible or has occurred.

5.8 Twenty agencies (27 per cent) indicated that they had taken action to protect their intellectual property from infringement by third parties. In the majority of cases this involved written warnings and, in some instances, the threat of legal action directed at the infringing party. A small number of agencies indicated that legal proceedings had been commenced to protect intellectual property rights.

5.9 The ANAO asked agencies to identify the mechanisms adopted to protect agency intellectual property. As Figure 5.2 shows, the most common means of protecting intellectual property identified was the use of contractual clauses (93 per cent of agencies having adopted such a strategy). Restricting access to intellectual property was next (68 per cent), with technological protection measures (TPMs) and the registration of intellectual property less common (39 per cent).

Figure 5.2

Main mechanisms taken by agencies for protecting intellectual property



Source: ANAO survey data.

5.10 Common mechanisms for protecting intellectual property used by agencies involved in the case studies were:

- clauses in contracts, tender documents, confidentiality agreements or conditions of employment to prohibit unauthorised disclosure of confidential information;

- using intellectual property notices (such as copyright) on agency publications;
- controlling access to intellectual property (for example, technological protection measures such as encryption and password protection); and
- registering intellectual property rights.

5.11 As discussed in the previous Chapter, the use of contractual clauses was a common mechanism used by case study agencies to secure protection of agency intellectual property. Standard form contracts and confidentiality agreements, as well as intellectual property policies and guidelines, provided guidance and model clauses for staff use to ensure protection and to prevent unauthorised use and disclosure of agency intellectual property.

5.12 Monitoring for and detecting infringement of agency intellectual property was identified as a difficult and resource intensive task. There were a variety of different approaches taken by case study agencies to monitoring use of agency intellectual property by third parties and for detecting infringement. The use of access and audit clauses in contractual or licence agreements was one mechanism used. For example, where it had licensed statistical data to third parties, the ABS monitored, on an ad hoc basis, compliance with licence conditions by inspecting licensees' websites for potential infringement of those conditions. As part of contract or licence renewal, the ABS also examined licensee use of ABS data to detect infringing uses of data.

5.13 Another approach was that taken by Defence in conducting intellectual property audits of third party contractors or licensees (see Example 5b).

Example 5b

Monitoring use of agency intellectual property through third party audits

An intellectual property audit methodology

In Defence projects involving important agency intellectual property, contractual provisions are incorporated that allow Defence to conduct intellectual property audits of the contractor to ensure that the contractor is fulfilling its intellectual property obligations. The purpose of the intellectual property audit is to ensure:

- that the contractor is maintaining the intellectual property plan (see Chapter 4 for further discussion of the Defence intellectual property plan);
- all staff involved have a clear understanding of their obligations with respect to project intellectual property;
- the contractor has procedures in place to identify and record intellectual property arising from the project; and
- the contractor fully discloses project-generated intellectual property.

Defence recently conducted an intellectual property audit of a contractor responsible for delivering a large Defence project. Following the Defence audit, the contractor, with the help of Defence intellectual property specialists, implemented intellectual property processes and procedures based on the Defence audit methodology. This included developing an intellectual property register, preparing standard templates, incorporating intellectual property procedures and templates into its engineering process and the production of formal intellectual property reports at contract review stages. This also assisted Defence in monitoring the contractor's compliance with Defence-imposed intellectual property obligations and requirements.

Source: ANAO, adapted from Defence documents collected during the audit.

5.14 Many of the case study agencies advised that licensees or partners dealing with agency intellectual property would also bring instances of infringement by other parties to the attention of the agency. Often, these licensees or partners had more involvement in the marketplace and were aware of other competitors operating in the area. There was usually an economic incentive to report infringement by other parties and thus protect the licensee's or partner's rights in relation to the agency intellectual property.

5.15 In one case study agency, for example, there was a requirement that commercial associates involved in developing agency intellectual property bring to the agency's attention any infringement of agency intellectual property rights.

5.16 Twenty-eight agencies (38 per cent) surveyed indicated that they had registered intellectual property in the last two years. Most of these involved registration of agency trade marks (21 agencies), although seven agencies also indicated intellectual property protection had been secured through patent registration over the last two years.

5.17 Where appropriate, case study agencies sought registration of intellectual property. All case study agencies had sought registration of important agency trade marks or logos. Where relevant and appropriate, a number of case study agencies had also developed policies and procedures for the identification and

registration of other registrable types of intellectual property, such as patents, plant breeder's rights and designs. For example, ANSTO established a *Patent Management Committee* to review proposals for patent registration and to provide support and advice to staff on registering ANSTO intellectual property (see Example 5c).

Example 5c

A process for registering and reviewing agency intellectual property

ANSTO Patent Management Committee

Within the ANSTO Business Lab (see Chapter 6 for further information), the ANSTO Patent Management Committee (the 'PMC') has the key role in assessing ANSTO's intellectual property with the view to identifying inventions that may offer the most potential for creating strategic and/or financial value to ANSTO.

The ANSTO *Procedures for the Identification and Registration of New Patents and the Maintenance of Existing Patents* ('the Procedures'), require that staff who believe that they have inventions or other intellectual property worthy of patent protection complete a patent application and approval form that document the details of the intellectual property. Once the application form has been submitted to the ANSTO intellectual property officer, the Procedures require a number of background checks, including literature searches, prior to consideration of the patent proposal by the PMC. The PMC then assesses the proposal using agreed evaluation criteria. If patent registration is supported by the PMC, a provisional patent application is filed.

Source: ANAO, adapted from ANSTO documents collected during the audit.

Summary

5.18 Few agencies surveyed had systems in place to monitor their use of their own intellectual property. Although all the case study agencies had systems in place to monitor agency use of agency intellectual property, in many cases these systems were informal, or ad hoc. The ANAO encourages agencies to, where appropriate, perform systematic or formal monitoring of agency use of important agency intellectual property. This aids in identifying opportunities for leveraging or more effective use of agency intellectual property, and assists the agency in assessing the appropriateness of its ongoing management or protection of particular intellectual property assets.

6. IP Transfer and Uptake

This Chapter discusses systems and processes for managing the uptake and/or commercialisation of intellectual property.

Background

6.1 Intellectual property uptake refers to the diffusion, commercialisation or transfer of an agency's intellectual property. Commercialisation is often regarded as the prime purpose for the management of intellectual property assets. For many types of intellectual property, commercialisation may indeed be a legitimate and viable objective. However, commercialisation of intellectual property should not be viewed as the only reason for agency management of intellectual property.

6.2 Whilst the management of intellectual property is not perceived by a number of public sector agencies as a core function, in many cases, agency functions and objectives are intimately linked with the transfer or uptake of agency intellectual property: for example, in the production and dissemination of information and publications as part of a public benefit educational campaign. In this example, intellectual property management is not inconsistent with agency transfer of, or encouraging third party use of, agency intellectual property assets. This is true even where the agency seeks no revenue or remuneration through third party uptake of agency intellectual property. Intellectual property management will still be important even where an agency encourages use and distribution of agency intellectual property.

6.3 Ultimately, an agency's approach to intellectual property uptake and commercialisation will be dependent on agency functions and objectives, the type of intellectual property assets it owns, and a number of other external factors, including relevant Commonwealth Government policies. Agencies should assess their individual needs and objectives and develop suitable policies and guidelines to assist in the transfer of agency intellectual property. A structured approach would enable agencies to consider and obtain greater control over the risks they are taking and the costs they are incurring when entering commercialisation projects.⁴⁶

⁴⁶ Berg, S, *Navigating the murky waters of managing intellectual property*, Canberra Times, 3 April 2003.

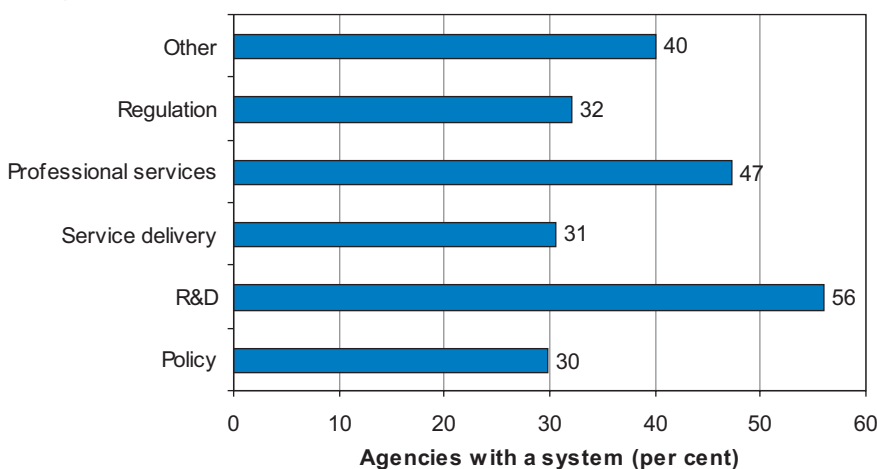
Findings

Policies and procedures for intellectual property uptake and transfer

6.4 Agencies were asked whether they had a system or systems in place to manage the licensing, transfer, sale or disposal of agency intellectual property. Twenty-five agencies (34 per cent of agencies) indicated that they had such systems. As Figure 6.1 shows, agencies engaged in research and development activities were most likely to have developed such systems (56 per cent of agencies performing such activities), with those agencies identified as providing professional services next most likely (47 per cent).

Figure 6.1

Agencies with a system for the transfer of intellectual property (per cent of agencies by function)



Source: ANAO survey data.

6.5 Most of the case study agencies had policies in place for the uptake or transfer of agency intellectual property. The policies were generally tailored to the agency's circumstances and functions, and thus there were varying degrees of focus on aspects of commercialisation of intellectual property compared with other transfer or use of agency intellectual property by third parties.

6.6 For example, the ANSTO *Intellectual Property Policy* provides that the:

...disclosure, identification, development and commercialisation of potentially valuable intellectual property is encouraged for the benefit of ANSTO, its stakeholders, its employees and its business partners.

6.7 Other agencies recognised the need for a system to manage the transfer of intellectual property despite not having a commercialisation focus. Although

DEWR does not commercialise intellectual property as a core agency function, its intellectual property policy recognises that, as part of its work, intellectual property can be sold or transferred to external parties in accordance with effective cost recovery principles. Its policy outlines systems to ensure that intellectual property rights are considered prior to any decision to allow other parties access to valuable intellectual property. Similarly, in line with its mission to encourage broad use of data, the ABS has policies addressing the distribution, dissemination and pricing of its statistical products. Through the use of newly developed licence agreements, the ABS is able to ensure appropriate use, attribution and distribution of ABS data. It has also developed an approach to manage the use and publication of ABS data by third parties on external websites. Likewise, Airservices has recently imposed conditions on the use of Airservices air traffic data. A major goal of the new licence agreements is to maintain a degree of assurance and control over the accuracy of air traffic data sold by third party data providers using Airservices' data.

6.8 Therefore as illustrated, even in agencies not involved in commercialisation activities, clear policies and procedures for the uptake or transfer of agency intellectual property will assist in the efficient, effective and ethical management and use of agency intellectual property. Such policies may outline, for example, what to consider before giving intellectual property to another party, conditions for dissemination, transfer or use of agency publications or data, conditions on end-use and agency pricing policies for such use or transfer.

6.9 A number of case study agencies had also developed detailed procedures for the commercialisation of agency intellectual property and technologies. For instance, the CSIRO *Commercial Practice Manual* provided detailed advice and guidance to staff involved in technology transfer and commercialisation. CSIRO also provides support and advice during the commercialisation process, with the CSIRO Corporate Business Development and Commercialisation Group offering centralised advice and expertise in technology transfer activities, along with numerous other mechanisms and sources of assistance and advice.

6.10 Similarly, the GRDC commercialisation system provides procedures for:

- identifying commercialisation opportunities;
- determining GRDC's stake in the project and appropriate GRDC action;
- determining appropriate protection of intellectual property, including whether registration is necessary;
- contract negotiation and execution; and
- approval of a commercialisation brief.

6.11 All case study agencies involved in commercialisation did not perceive revenue generation as the sole reason to commercialise agency intellectual property, but recognised some of the broader benefits to transferring intellectual property. For example, CSIRO's output-outcome framework shows that licensing the exploitation of intellectual property can contribute to the creation of economic, social and environmental benefits.⁴⁷ Similarly, a principle in the Defence intellectual property policy recognises that 'commercialisation of appropriate Defence intellectual property will assist in the development of Defence capability and contribute to Government's broader objectives'. Some benefits may include:

- payments (for example, fee, royalties) or in-kind benefits (for example, offsets in the cost of future acquisition or use of third party intellectual property) flowing to the Commonwealth;
- production of goods or service that Commonwealth wishes to purchase and whose price may be reduced by economies of scale;
- development of new or enhanced Australian industry capability;
- production of goods or service that Defence may be interested in purchasing in the future;
- establishing certain technology or methodology as a standard, or promoting technical interoperability, to reduce development costs in the future; and
- raising the profile of the Department and/or recognising the creative contributions of research staff.

6.12 The Defence *Intellectual Property Manual* outlines issues for consideration prior to commencing on a commercialisation strategy, including:

- | | |
|--|---|
| • valuation of the intellectual property | • Australian industry involvement |
| • risk management issues | • duration of agreement |
| • reporting requirements | • revenue |
| • dealing with improvements | • applicable law and jurisdiction |
| • marketing plans and minimum performance requirements | • termination and post-termination requirements |

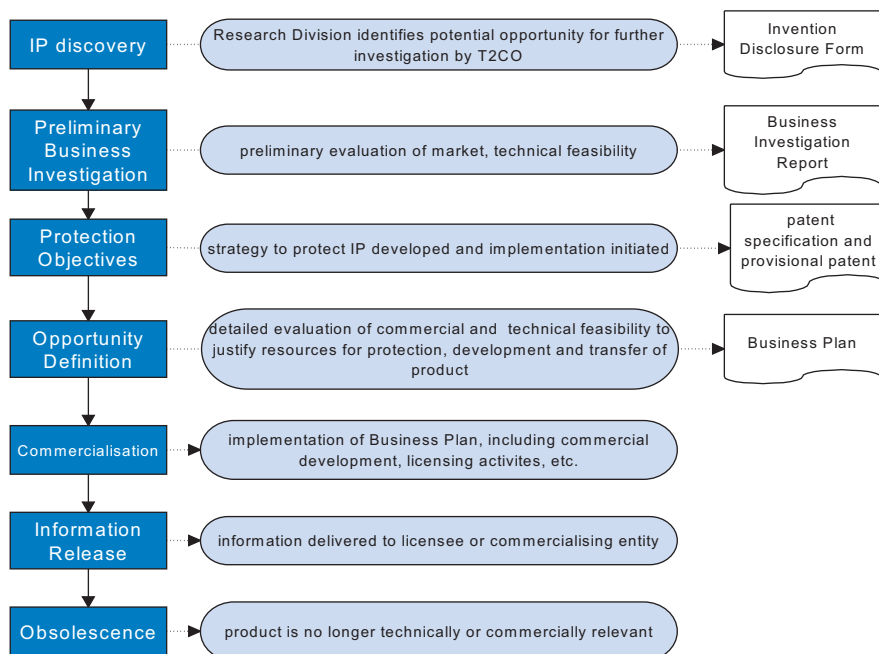
6.13 Defence (DSTO) has a documented system to manage the technology transfer and commercialisation lifecycle of intellectual property. Each phase requires completion of a checkpoint before it can proceed to the next step with

⁴⁷ See CSIRO Annual Report 2002–03, p.43.

staff requiring the approval of Defence (DSTO) Divisional management and involvement of the central Technology Transfer and Commercialisation Office (T2CO) to undertake commercialisation activities. The process is summarised in Figure 6.2.

Figure 6.2

Defence (DSTO) technology transfer and commercialisation lifecycle



Source: ANAO, adapted from Defence (DSTO) documents collected during the audit.

6.14 ANSTO has recently launched the ANSTO Business Lab to provide support and assistance in the evaluation, management and commercialisation of ANSTO's intellectual property and technologies (see Example 6a).

Commercialisation and transfer

6.15 Twenty-six agencies (35 per cent of agencies) indicated that they had commercialised intellectual property in the last two years. Twenty-six per cent of FMA agencies, compared with 52 per cent of CAC agencies, had commercialised intellectual property in the last two years.⁴⁸

6.16 Of the twenty-six agencies that commercialised, only 11 (42 per cent) evaluated the success of their investment in the commercialisation of agency intellectual property.

⁴⁸ Although it should be noted that the some agencies may have commercialised intellectual property outside of the last two years.

6.17 The ANAO also asked these agencies to estimate the annual revenue received from commercialisation and transfer of agency intellectual property. Of the 13 agencies that provided an estimate, the average annual revenue was \$1.7 million (with total average agency revenue at \$173.3 million⁴⁹). Excluding CSIRO (whose annual revenue from intellectual property was \$17.6 million in 2001–02), the average annual revenue over the remaining 12 agencies was \$349 000 (ranging from \$4000 to \$2 million per annum).

Example 6a

Support for commercialisation of intellectual property

ANSTO Business Lab

“The ANSTO Business Lab provides a full range of expert business and scientific advice, and the resources to qualify and deploy ventures to the marketplace.

An effective R&D business function requires a combination of scientific and pragmatic business skills delivered through a venture/management team approach. The venture team must either provide, or have access to, critical mentoring, business, scientific, marketing, and venture management disciplines—either from within ANSTO or externally. And above all, the venture team must be able to implement the venture strategy!

The ANSTO Business Lab creates the learning environment to access these disciplines, and in the process, turns good science into good business.

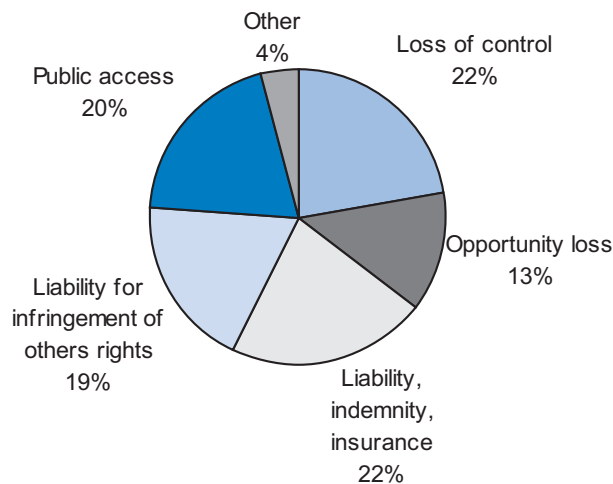
With its focus on industry’s strategic interests, ABL uses an advocacy process and incorporates sound business models supported by market research and validation, experience intellectual property management and business analysis.

Together with ANSTO’s soon to be announced Technology Innovation Awards, ABL fosters a greater entrepreneurial climate within ANSTO—creating new R&D and business opportunities for ANSTO professionals, clients and stakeholders, and helping ANSTO to build a diversified, technology-based business portfolio for future growth.”

Source: ANSTO, *Business Lab Frequently Asked Questions*, available at <www.ansto.gov.au>.

6.18 Agencies were also asked to indicate the significant risks or costs they had identified related to commercialisation of intellectual property. As shown in Figure 6.3, agencies identified loss of control of agency intellectual property as a common risk associated with a failure to manage agency intellectual property. Liability for infringement of third party intellectual property rights; liability, indemnity and insurance costs; and risks as well, as balancing issues of public access to agency intellectual property were also commonly identified by agencies.

⁴⁹ Based on 2001–02 annual report figures on annual agency revenue.

Figure 6.3**Common risks or costs related to commercialising intellectual property identified by agencies**

Source: ANAO survey data.

Summary

6.19 Only 34 per cent of agencies surveyed indicated that they had systems in place to manage the licensing, transfer, sale or disposal of agency intellectual property. All the case study agencies had systems in place, or under development, for the uptake or transfer of agency intellectual property.

6.20 As mentioned earlier, commercialisation should not be seen as the sole focus or means of uptake of agency intellectual property. Management of the transfer or uptake of agency intellectual property will be important even where the agency encourages royalty-free use and distribution of agency intellectual property.

6.21 The ANAO notes that agency intellectual property policies should provide guidance to staff on appropriate strategies, mechanisms, and procedures for the uptake and transfer of agency intellectual property.

7. Evaluation and Reporting

This Chapter discusses systems and processes for evaluating and reporting on management of intellectual property.

Background

7.1 Evaluation and reporting provide an opportunity for an agency to assess both the effectiveness of its intellectual property management policy and approach and also the management of intellectual property held by the agency.

7.2 An agency should be aware of, and evaluate the performance of, its intellectual property asset portfolio. Key intellectual property assets should be managed with the same attention given to tangible agency assets. Although under Australian accounting standards, much agency intellectual property may not be recognised as ‘intangible assets’ on the balance sheet (see paragraphs 1.68–1.71), timely and relevant reporting to senior management on an agency’s intellectual property assets forms an important part of good intellectual property management.

7.3 An agency should also evaluate and report on the effectiveness of the systems and practices it has in place for managing intellectual property. This would enable the agency to assess whether the management approach it has adopted is meeting its needs. This type of reporting would assist in identifying deficiencies within the management policy and approach itself, and also within the implementation of that policy or approach.

7.4 Regular and sufficient information to relevant senior management can identify opportunities for improvement and future intellectual property management strategies. A failure to regularly report on an agency’s intellectual property assets can minimise agency control over and accountability for intellectual property assets.

Figure 7.1**Selected aspects of intellectual property reporting****Intellectual Property Reporting**

Types of information that may be included in regular reporting on intellectual property are:

- inventory of major or significant agency intellectual property assets;
- significant changes in intellectual property assets held;
- where relevant, costs of developing or acquiring significant intellectual property;
- revenue generated from the sale or licensing of significant intellectual property (where relevant);
- commercialisation activity of the agency (where relevant);
- third party infringement or loss of agency intellectual property;
- agency infringement of third party intellectual property rights;
- agency activities to raise staff awareness of intellectual property issues; and
- an evaluation of the effectiveness of the agency's intellectual property management approach and areas for improvement.

Source: ANAO, adapted from NSW Audit Office, *Better Practice Guide: Management of Intellectual Property*, 2001.

Findings**Reporting and evaluating agency performance**

7.5 Of those agencies surveyed, 50 per cent of agencies with an intellectual property policy reported (internally or externally) on the management of agency intellectual property.

7.6 The case study agencies reported to varying degrees on the management of agency intellectual property. For example, the ABS Executive receives annual reports detailing:

- costs associated with distribution of ABS data products;
- revenue earned from licence fees and royalties;
- number of licence agreements for the use of ABS data; and
- access to, and downloads from, the ABS website of ABS data products.

7.7 GRDC also evaluates and reports its performance in managing its intellectual property at different levels within the organisation (see Example 7a). A similar approach was evident in other case study agencies.

Example 7a

An approach to intellectual property reporting

Reporting on intellectual property in GRDC

GRDC evaluates and reports its performance at different levels within the organisation:

- (a) At the project level, researchers submit progress and final reports that require the identification of potential intellectual property generated.
- (b) At the management level, GRDC reports to the agency executive annually, usually through briefing papers that include information gathered from the intellectual property register.
- (c) At the organisation level, under its five-year research and development plan, GRDC has defined economic, environmental and social performance indicators for its output groups, including evidence of intellectual property of significant value generated over the life of the plan.

These various levels of reporting are depicted below:



Source: ANAO, adapted from GRDC documents collected during the audit.

7.8 As discussed in Chapter 5—Monitoring and Protection (see Example 5a), the Division of Molecular Science within the CSIRO employs an *IP Map* to document intellectual property held by the Division. It uses this information to assist in strategic planning, particularly to identify opportunities for leveraging or further development of Divisional intellectual property. At the organisational level, CSIRO's Strategic Plan outlines a set of performance measures and targets. A 'headline measure' summarises progress against six major strategic goals. These are the highest level of regular strategic reporting to the CSIRO Board and include some measures related to intellectual property such as 'number of commercial relationships', 'patent impact index' and 'IP revenue'.

7.9 The ANAO notes, however, that there is generally room for improvement in agency reporting on the intellectual property assets it holds and applies. This reporting can inform management decisions on the use of its existing intellectual property portfolio and decisions to create or acquire further intellectual property.

This applies whether the intellectual property is software or systems, datasets or information tables, or indeed processes or applications from scientific research.

7.10 Sound governance requires regular reporting on the management of significant agency intellectual property assets, especially where particular intellectual property assets are of special value or significance to the agency, or where agency resources have been expended in development, or acquisition, of intellectual property.

Reporting intellectual property in agency financial statements

7.11 As discussed in Chapter 1, the treatment of intellectual property assets in an agency's financial statement is a complex and uncertain area. Commonwealth agencies are required to report the value of agency software as an intangible on the balance sheet. However, the difficulties associated with valuing and identifying intellectual property mean that much of an agency's intellectual property is not recognised within the agency financial statements.

7.12 Table 7.1 shows the value of intangibles reported by case study agencies on the balance sheet for 2002–03. The *Commonwealth Consolidated Financial Statements for 2002–03* report intangible assets across the Commonwealth with a value of \$6679 million (\$2284 million in 1996–97). Of this amount, computer software comprised \$3406 million (\$1035 million in 1996–97) with other intangibles amounting to \$3273 million (\$1249 million in 1996–97).

Table 7.1

Agency reporting of intangibles in 2002–03 financial statements

Agency	Total intangibles reported (\$m)	Items comprising total intangibles	
		Software (\$m)	Other (\$m)
ABS	76.8	76.8	0
Airservices	27.5	27.5	–
ANSTO	2.9	2.5	0.4
CSIRO	5.8	5.8	0
Defence	173.7	172.3	1.4
DEWR	18.6	18.6	0
GRDC	0.2	0.2	0
Total	305.5	303.7	1.8

Source: ANAO, based on agency data.

Reporting and evaluating agency intellectual property policies and procedures

7.13 Few case study agencies regularly reported on and evaluated the effectiveness of the intellectual property procedures and practices in implementing the agency's intellectual property management policy.

7.14 An exception was Defence, which recently reviewed its 1998 intellectual property policy. The revised policy notes that Defence will monitor and evaluate its intellectual property management policies and practices. Of particular relevance are Strategy 3.2 and Principle 4 of the Defence policy, which state:

Strategy 3.2

Defence will develop and maintain appropriate systems for recording, monitoring and auditing Intellectual Property.

Principle 4 (Management)

Clear, consistent and traceable management of Intellectual Property enables the development and sustainment of Defence capability.

7.15 In order to evaluate the performance of their approach to intellectual property management and to identify opportunities for improvement and future intellectual property management strategies, agencies should regularly report to management on the effectiveness of their systems and procedures supporting the agency intellectual property management policy, to help ensure that regular and sufficient information is provided to relevant senior management.

Summary

7.16 Reporting on agency management of intellectual property is a key mechanism by which agencies can be held accountable for the intellectual property assets under their control. Although most case study agencies reported to senior management on the management of agency intellectual property, there was room for better use of this information to inform agency planning and strategic decision-making. For example, an area for improvement was further reporting on, and evaluation of, the effectiveness of the intellectual property procedures and practices in implementing the agency's intellectual property management policy.

8. A Framework and Better Practice Principles for Intellectual Property Management

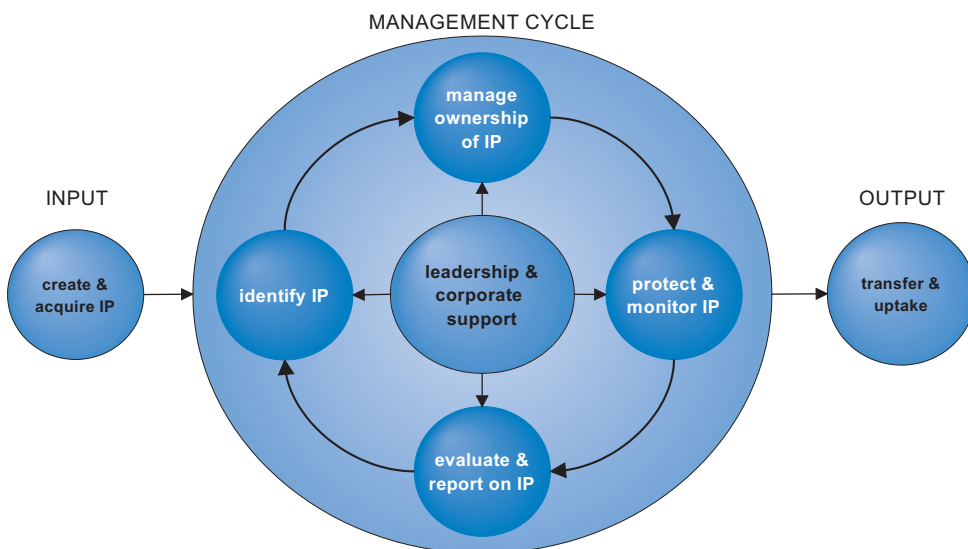
This Chapter summarises the main principles supporting intellectual property management, as outlined in the previous Chapters.

8.1 The case studies and survey results throughout the report demonstrate the diverse approaches to intellectual property management across the Commonwealth. Each agency adopts and emphasises various components of intellectual property management according to its individual circumstances, types of intellectual property involved, and the role of intellectual property in relation to agency functions and objectives.

8.2 Whereas elements of intellectual property management are individually important, linkages between these areas should lead to an integrated approach. As mentioned in Chapter 1—Introduction, Figure 8.1 demonstrates how the areas interact and support one another.

Figure 8.1

A framework for intellectual property management



Source: ANAO.

8.3 As also discussed earlier, depending on the mandate of the agency, there will be a different emphasis on the various elements of the framework. In some cases, a selective approach to management may be more justified than

a comprehensive approach. Ideally, a sound approach to intellectual property management would incorporate each of the areas identified by the framework, reflecting an analysis of, and strategy for dealing with, the risks associated with managing intellectual property assets.

8.4 The framework is not intended to be a definitive solution or detailed plan for the management of all types of intellectual property in all circumstances. However, it does serve as a useful tool, highlighting the guiding principles to be considered when formulating an approach to the management of intellectual property in various sets of circumstances.

8.5 To summarise briefly, the key elements of an intellectual property management framework are discussed below.

Leadership and corporate support

8.6 Leadership and corporate support are critical to the success of any agency approach to intellectual property management; and thus are seen as underpinning and/or pervasive through the management framework.

8.7 Leadership, through a clear senior commitment to intellectual property management, will help to ensure that intellectual property resources are valued and managed appropriately. Agency leadership will be demonstrated through the development and implementation of an intellectual property policy and/or management plan that describes the practices and procedures for managing agency intellectual property, along with provision of resources to support the management.

8.8 As discussed in Chapter 2, an agency intellectual property policy or plan defines the types of intellectual property that the agency will look to further identify and actively manage. Not all types of intellectual property generated or held by an agency will warrant identification and active management. For example, it is obvious that, although an agency will generally hold the copyright in each document it produces, it is unlikely that the intellectual property in the vast majority of such documents will be of sufficient value to the agency that it would seek to further identify, record and manage each such document. Instead, the agency will need to determine those intellectual property assets it holds that are of sufficient value to the agency to warrant further management. The agency intellectual property policy and plan should outline the principles and criteria by which such assessments may be made and which determine the types of intellectual property that should be identified and further managed.

8.9 The policy and plan should be communicated to all staff. Intellectual property is created, acquired and maintained at all levels within an agency. The pervasiveness of intellectual property management issues throughout daily

management by many public sector administrators is apparent at all levels within many of the agencies. For this reason, good intellectual property management requires an appreciation of the importance of intellectual property to the agency and of the agency's intellectual property policies and practices in staff at all relevant levels.

8.10 Ongoing support for agency intellectual property policies and practices is essential. Support could take the form of the allocation of resources or internal expertise and advice for staff in dealing with intellectual property issues. Support could also include training and workshops educating staff (including senior management) about intellectual property issues and agency practices.

Identifying intellectual property

8.11 Chapter 3 noted that identification of agency intellectual property is a vital step in good intellectual property management. When an agency has a good understanding of the intellectual property it owns and uses, the agency is able to make more informed and efficient decisions about the deployment of its intellectual property assets and other resources.

8.12 Of particular importance, is the early identification of an agency's intellectual property assets, which enables the agency to make sound decisions regarding the ongoing management and protection of those assets, and where appropriate, strategies for uptake.

8.13 A comprehensive, accessible register of valuable agency intellectual property allows an agency to leverage its intellectual property assets for best results.

Managing ownership

8.14 As outlined in Chapter 4, management of intellectual property will often involve a series of complex decisions regarding the appropriate level of ownership and control of a particular intellectual property asset. This will depend on the type of intellectual property, its mode of acquisition (i.e. whether it is created internally, created by a third party under contract, or obtained from a third party), and its relative value and strategic importance to the agency.

8.15 Dealing with issues regarding ownership and use, and even identification and definition of intellectual property at an early stage, will enable greater ease of management throughout its life cycle. It is at this stage that agencies can consider questions of need for a particular intellectual property asset, whether the agency has intellectual property that already meets that need, and the most appropriate ownership options consistent with the expected long-term use of, and need for control over, the intellectual property asset. Considering these questions early

would ensure that the agency receives value for money by avoiding duplication of effort, and that only those intellectual property rights required by the agency are actually acquired. Many of the decisions made at this stage will impact upon ongoing ownership and management throughout an asset's useful life.

8.16 It is for these reasons that many intellectual property policies and management initiatives are aimed at this early stage of the intellectual property management process. This is also supported by the various strategies agencies adopt for managing intellectual property (for example, requiring employee intellectual property agreements, developing standard form intellectual property clauses in agency contracts, and providing staff induction and ongoing training on intellectual property policies and issues).

8.17 Agency intellectual property policies and plans should provide guidance as to how the agency will deal with issues of ownership and control of intellectual property assets. In many cases, these should be addressed through:

- recognition of, and illustrative clauses covering, intellectual property in agency contractual templates;
- confidentiality provisions and ownership provisions relating to intellectual property in staff employment contracts and contracts with third parties; and
- guidelines for the registration of agency intellectual property, for example, in the form of trade marks, designs, patents, or plant breeders rights.

Monitoring and protection

8.18 As mentioned in Chapter 5, although much of the focus on intellectual property will often occur at the acquisition or creation stage, management of intellectual property assets does not cease once the intellectual property has been acquired or created.

8.19 Ongoing monitoring will allow an agency to:

- assess the appropriateness of its management or protection of particular intellectual property assets;
- better understand its use of intellectual property assets and identify opportunities for leveraging of those assets; and
- detect potential infringement of intellectual property rights (either of agency rights or of infringement of third party rights by the agency) and take appropriate, timely action to address any infringement issues.

Intellectual property transfer or uptake

8.20 Chapter 6 discussed the systems and process for managing the uptake and/or commercialisation of intellectual property. As was discussed in that Chapter, commercialisation is often regarded as the prime purpose for the management of intellectual property assets. For many types of intellectual property, commercialisation may indeed be a legitimate and viable objective. However, commercialisation of intellectual property should not be viewed as the sole reason for agency management of intellectual property.

8.21 For many agencies, management of intellectual property uptake is not perceived as a core function of their organisation. However, in many cases, an agency's functions and objectives are in fact intimately linked with the transfer or uptake of agency intellectual property. Indeed, intellectual property management is not inconsistent with agency transfer of, or encouraging third party use of, agency intellectual property assets. This is true even where the agency seeks no revenue or remuneration through third party uptake of agency intellectual property.

8.22 An agency's approach to IP uptake will be dependent on the agency functions and objectives, the type of intellectual property asset, and a number of other external factors, including relevant Commonwealth Government policies.

Evaluation and reporting

8.23 As discussed in Chapter 7, evaluation and reporting can occur at two levels. First, the agency should be aware of, and evaluate the performance of, its intellectual property asset portfolio. Key intellectual property assets should be managed with the same attention accorded to tangible agency assets. Although, with the exception of computer software, there is no current Australian accounting requirement to report intellectual property assets on the balance sheet, timely and relevant reporting to senior management on an agency's intellectual property assets is an important part of accountability and good intellectual property management.

8.24 Second, the agency should evaluate and report on the effectiveness of the systems and practices it has in place for the efficient, effective and ethical management of intellectual property within the agency. This would enable the agency to assess whether the intellectual property management approach it has adopted is meeting its management needs. This type of reporting will aid in the identification of deficiencies within the management policy and approach itself, and also within the implementation of that policy or approach.


Summary

8.25 Intellectual property management is not just about registering and managing patents or the results of scientific endeavour. Nor should it be seen as solely a means to generate revenue through commercialisation. Intellectual property management should be regarded as a normal part of executive management. It should be seen as analogous to other corporate and management tasks. Intellectual property management should be integrated with the agency's normal internal operating environment. It should be accorded the attention commensurate with its importance to the agency's functions and objectives, as well as the scale of any risks associated with the uptake, non-uptake or infringement of intellectual property created or used by the agency.

8.26 Intellectual property management allows an agency to fulfil its accountability obligations with respect to intellectual property it holds, and to ensure that agency resources are put to productive and efficient use. In the case of third party intellectual property that the agency uses, good management of intellectual property will ensure that infringement of third party rights is minimised, thereby reducing possible detrimental consequences for the agency such as legal action, liability for unnecessary financial costs, and potential loss of reputation. Agencies need to consider the most appropriate options for ownership of intellectual property, including whether to retain the intellectual property itself or to transfer or otherwise share the intellectual property with third parties, and on what basis.

8.27 A summary of some better practice principles in intellectual property management is provided in Appendix 3.

Canberra ACT
5 February 2004



P. J. Barrett
Auditor-General

Appendices

Appendix 1: Agencies covered by the audit

Agencies involved in the survey

Aboriginal and Torres Strait Islander Commission	CrimTrac Agency
Airservices Australia	Dairy Adjustment Authority
Attorney-General's Department	Department of Agriculture, Fisheries and Forestry
Australian Accounting Standards Board	Department of Communications, Information Technology and the Arts
Australian Agency for International Development (AusAID)	Department of Defence
Australian Broadcasting Authority	Department of Education, Science and Training
Australian Bureau of Statistics	Department of Employment and Workplace Relations
Australian Centre for International Agricultural Research	Department of Family and Community Services
Australian Communications Authority	Department of Finance and Administration
Australian Crime Commission	Department of Foreign Affairs and Trade
Australian Electoral Commission	Department of Health and Ageing
Australian Federal Police	Department of Immigration and Multicultural and Indigenous Affairs
Australian Fisheries Management Authority	Department of Industry, Tourism and Resources
Australian Greenhouse Office	Department of the Environment and Heritage
Australian Hearing (National Acoustic Laboratories)	Department of the Parliamentary Library
Australian Hearing Services	Department of the Prime Minister and Cabinet
Australian Institute of Health and Welfare	Department of the Senate
Australian Institute of Marine Science	Department of the Treasury
Australian Law Reform Commission	Department of Transport and Regional Services
Australian Maritime College	Department of Veterans' Affairs
Australian National Audit Office	Family Court of Australia
Australian Nuclear Science and Technology Organisation	Food Standards Australia New Zealand
Australian Office of Financial Management	Geoscience Australia
Australian Research Council	Grains Research and Development Corporation
Australian Securities and Investments Commission	Health Insurance Commission
Australian Sports Drug Agency	Human Rights and Equal Opportunity Commission
Australian Taxation Office	IP Australia
Australian Tourist Commission	National Archives of Australia
Australian Trade Commission	National Library of Australia
Australian War Memorial	National Museum of Australia
Centrelink	National Oceans Office
Civil Aviation Safety Authority	National Standards Commission
Comcare	Office of Film and Literature Classification
Commonwealth Bureau of Meteorology	
Commonwealth Ombudsman's Office	
Commonwealth Scientific and Industrial Research Organisation	
Comsuper	

Office of the Federal Privacy Commissioner
Productivity Commission
Questacon, The National Science and
Technology Centre
Screensound Australia

Agencies involved in the case studies

Airservices Australia
Australian Nuclear Science and Technology Organisation
Australian Bureau of Statistics
Commonwealth Scientific and Industrial Research Organisation
Department of Defence
Department of Employment and Workplace Relations
Grains Research and Development Corporation

Appendix 2: Intellectual property management publications

The following publications provide further reading on intellectual property management. It includes the references in the report plus additional sources of information.

Commonwealth publications

Australian Research Council et al (2001), *National Principles of IP Management for Publicly Funded Research*.

Backing Australia's Ability: An Innovation Action Plan for the Future, available at <http://backingaus.innovation.gov.au>.

Biotechnology Australia (2001), *Biotechnology Intellectual property manual*.

Department of Communications, Information Technology and the Arts (2000), *Commonwealth IT IP Guidelines: Management and commercialisation of Commonwealth intellectual property in the field of Information Technology*.

Department of Finance and Administration (2002), *Commonwealth Procurement Guidelines*.

National Health and Medical Research Council (2001), *Interim guidelines: intellectual property management and commercialisation for health and medical research*.

Barrett, P.J., (AM) - Auditor-General for Australia (2002), *Management of intellectual property in the public sector*, Australian Government Solicitor Seminar available at www.anao.gov.au.

State publications

New South Wales

NSW Audit Office (2001), *Management of intellectual property*, Performance audit report, available at www.audit.nsw.gov.au/perfaud-rep/IntellectProperty-Oct01/IP-contents.html.

NSW Audit Office (2001), *Better Practice Guide – intellectual property*, available at www.audit.nsw.gov.au/guides-bp/bpglist.htm.

Queensland

Queensland Government (2003), *Queensland Public Sector Intellectual Property Guidelines*, available on request from Queensland Department of Innovation & Information Economy.

Queensland Government (2003), *Queensland Public Sector, Intellectual property Principles*, available at www.iie.qld.gov.au/publications/ip/default.asp.

Steffens, P., et al (2000) *Capitalising on intellect: public-sector intellectual property management in Queensland*, Institute of Public Administration Australia (Queensland division), November, 2000.

South Australia

Report of the Auditor-General for the year ended 30 June 1999, *Supplementary Report, Intellectual property management*.

Victoria

Victorian Government (2002), *Managing and Commercialising intellectual property – a guide for Victorian universities and research institutes*.

Western Australia

Government of Western Australia (2003), *Government intellectual property policy and Best Practice Guidelines*, available at www.indtech.wa.gov.au/govt/ip/publications.htm.

Government of Western Australia (2002), *Intellectual property Guidelines*, Third Edition.

Tasmania

Government of Tasmania, *Information Technology-Related Intellectual property Policy Principles, Standards and Guidelines* available on Government online, www.go.tas.gov.au.

Other references

Berg, S, *Navigating the murky waters of managing intellectual property*, Canberra Times, 3 April 2003.

Ch'ang, S & Yastreboff, M, 'Discover your Intellectual Property Assets', *Software Engineering Australia Journal*, August 2002, p. 81.

Ch'ang S & Yastreboff, M, 'Catching Brand BandITs', *Software Engineering Australia Journal*, October 2002, p. 67.

Contractor, F. J., 'Valuing corporate knowledge and intangible assets: some general principles', *Journal of Knowledge and Process Management*, Vol. 7, No. 4. October–November 2000, p. 245.

Schweihs R.P., 'Valuation of Intellectual Property is the focus of the new Accounting Guidelines', *Intellectual Property and Technology Law Journal*, Vol. 14, No. 5, May 2002.

Useful links

The Australian Copyright Council, www.copyright.org.au

IP Australia, www.ipaustralia.gov.au

Intellectual Property Research Institute of Australia, www.ipria.org







Appendix 3: Better Practice Principles

The following better practice principles are provided in order to assist Commonwealth agencies that are developing an agency intellectual property policy or reviewing an existing intellectual property policy.



The principles are based around the framework of intellectual property management outlined in Chapter 8—A Framework and Better Practice Principles for Intellectual Property Management. The framework consists of a number of management elements that work together to comprise intellectual property management. It takes account of general principles relating to both asset and risk management.

There will be a different emphasis on the various elements of better practice depending on agency circumstances and objectives. Good intellectual property management requires that agencies tailor their intellectual property policy and plans to their particular circumstances.

Leadership and corporate support

-  Develop and implement an intellectual property policy and/or management plan appropriate for the agency.
-  The policy or plan should describe the practices and procedures for managing agency intellectual property.
-  The policy and plan should define the types of intellectual property that the agency will look to identify and manage. The policy and plan must outline the principles and criteria agency staff can apply in determining what intellectual property should be identified and properly managed.
-  The policy and plan should be communicated to all staff.
-  Allocate appropriate resources to support the management of agency intellectual property.
-  Staff should have access to timely and relevant training and advice on intellectual property issues and staff responsibilities.

Identifying intellectual property

-  Intellectual property of value or importance to the agency should be identified and recorded.
-  A comprehensive, accessible register of valuable agency intellectual property will improve understanding of the intellectual property the agency holds. Reference to the register will facilitate informed and efficient

decisions on the use of agency intellectual property assets, and will assist to identify those intellectual property assets which may be further leveraged for the benefit of the agency and/or its stakeholders.

Managing ownership



Issues regarding definition, identification, ownership and use of intellectual property should be addressed at an early stage. In particular, work involving the creation of intellectual property by, or on behalf of, an agency should not commence without appropriate contractual arrangements in place.



Provide staff with appropriate guidance as to how the agency will deal with issues of ownership and control of intellectual property assets (including consideration of the most appropriate ownership options, including whether to retain the intellectual property or to transfer the intellectual property to third parties), for example, through agency contracting templates and guidelines.

Monitoring and protection



Establish appropriate procedures to monitor use of agency intellectual property and of agency use of third party intellectual property. This will allow the agency to:

- assess the appropriateness of its management or protection of particular intellectual property assets;
- better understand its use of intellectual property assets and identify opportunities for leveraging of those assets; and
- detect potential infringement of intellectual property rights (either of agency rights or of infringement of third party rights by the agency) and take appropriate, timely action to address any infringement issues.

Intellectual property uptake



Develop a structured approach to the uptake and transfer of agency intellectual property. This may, or may not, involve commercialisation.

Evaluation and reporting



Be aware of, and evaluate the performance of, agency intellectual property assets.



Also, evaluate and report on the effectiveness of the systems and practices the agency has in place for the management of intellectual property within the agency.

Appendix 4: Agency general responses to the draft audit report

1. The seven agencies involved in the case study, along with the Attorney-General's Department, the Department of Communications, Information Technology and the Arts and IP Australia, were given an opportunity to comment on the proposed report.
2. Where relevant, the ANAO has incorporated agency comments in the text of this report, including suggestions by some agencies to amend Recommendation 2 to include specific reference to IP Australia and other relevant agencies. Other agency comments on the proposed recommendations were provided in paragraphs 2.24 and 2.26. These are not reproduced here. Only comments received from agencies on the proposed report in general are provided below.

ANSTO:

Intellectual property is at the heart of science and technology organisations such as ANSTO whose mission includes research and development as well as the delivery of products and services on a commercial basis. ANSTO's particular area of scientific and technological interest is anchored to Australian national priorities, however it reaches beyond the Australian market. ANSTO's experience in dealing with Australian and overseas customers, partners and suppliers reinforces ANSTO's commitment to 'better practice' management of intellectual property. ANSTO is well aware that intellectual property is a key factor in engaging with potential partners and developing successful business projects and ventures in an internationally competitive market. With the recent ANSTO Business Lab initiative, ANSTO is introducing state of the art policies and practices which strongly rely on the sound management of intellectual properties accessible to ANSTO. In a further step the ANSTO Business Lab will be extended to intellectual properties beyond those generated by ANSTO that match ANSTO's strategic interests.

ANAO's report highlights some of ANSTO's current and future intellectual property policies and practices, as well as other Commonwealth agencies' most advanced intellectual property management policies and practices. In ANSTO's view, the sharing of better practice between Australian Commonwealth agencies is a source of valuable cross fertilisation and a great opportunity to benchmark and expand a particular agency's own know-how. This is a first positive aspect of ANAO's report.

...

ANAO's report Appendix 2 provides a comprehensive list of existing Commonwealth publications dealing with intellectual property management and issued by organisations such as the Australian Research Council, Biotechnology Australia and the National Health and Medical Research Council. It is clear that none of the existing manuals and guidelines entirely covers the full scope of the recommended framework and better practice principles. ANSTO strongly recommends that Commonwealth issued documents be updated and synthesized in one or two documents to simplify the efficient use by agencies of these documents applicable to intellectual property management.

Defence:

Defence welcomes the ANAO findings that:

- a. it is one of the few agencies that incorporates the review and evaluation of its policies as a specific requirement in its policies;
- b. the Intellectual Property Policy and Support Centre (IPPSC) is unique in that it is a dedicated unit dealing with intellectual property (IP) management matters, raising IP awareness, organising education, answering questions and providing advice; and
- c. Defence adopts a flexible approach to owning and targeting IP.

...

Defence agrees with the audit report's conclusion that within general themes, an agency will need to adopt an intellectual property management approach that is consistent with its core functions and objectives, and is appropriate to agency circumstances. The ANAO does not advocate a single solution for all intellectual property types and all agency circumstances. For this reason, in those areas where Defence departs from ANAO approach, it does so for specific context reasons.

The Defence Intellectual Property Management Committee is being established to handle and approve, where necessary, commercialisation activities and other IP management issues.

Series Titles

Audit Report No.24 Performance Audit
Agency Management of Special Accounts

Audit Report No.23 Performance Audit
The Australian Taxation Office's Management of Aggressive Tax Planning
Australian Taxation Office

Audit Report No.22 Financial Statement Audit
Audits of the Financial Statements of Australian Government Entities for the Period Ended 30 June 2003
Summary of Results

Audit Report No.21 Performance Audit
Special Employee Entitlements Scheme for Ansett Group Employees (SEESA)
Department of Employment and Workplace Relations
Department of Transport and Regional Services

Audit Report No.20 Performance Audit
Aid to East Timor
Australian Agency for International Development

Audit Report No.19 Business Support Process Audit
Property Management

Audit Report No.18 Performance Audit
The Australian Taxation Office's Use of AUSTRAC Data Follow-up Audit
Australian Taxation Office

Audit Report No.17 Performance Audit
AQIS Cost-recovery Systems Follow-up Audit
Australian Quarantine and Inspection Service

Audit Report No.16 Performance Audit
Administration of Consular Services Follow-up Audit
Department of Foreign Affairs and Trade

Audit Report No.15 Performance Audit
Administration of Staff Employed Under the Members of Parliament (Staff) Act 1984
Department of Finance and Administration

Audit Report No.14 Performance Audit
Survey of Fraud Control Arrangements in APS Agencies

Audit Report No.13 Performance Audit
ATSIS Law and Justice Program
Aboriginal and Torres Strait Islander Services

Audit Report No.12 Performance Audit
The Administration of Telecommunications Grants
Department of Communications, Information Technology and the Arts
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