

# Automated Assistance in Administrative Decision-Making

Better Practice Guide



February 2007



Australian Government

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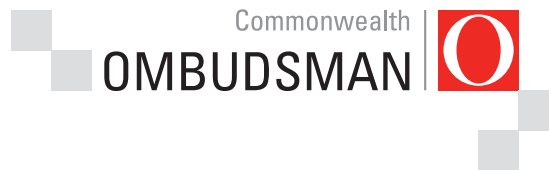
This Guide promotes effective collaboration between Australian Government agencies and seeks to ensure that their use of automated systems for administrative decision-making consistently reflects administrative law values.



**Australian Government**

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**Department of Finance and Administration**  
Australian Government Information  
Management Office



**Australian National  
Audit Office**



**Australian Government**

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**Office of the Privacy Commissioner**

# Acknowledgements

## **The Automated Assistance in Administrative Decision-Making Working Group**

This Guide was developed by the Automated Assistance in Administrative Decision-Making Working Group (the Working Group) to assist Australian Government agencies in the successful deployment of automated systems. The contribution of the following members of the Working Group to the development of this Guide is acknowledged:

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- Department of Families, Community Services and Indigenous Affairs
- Department of Veterans' Affairs
- Australian Customs Service
- Department of Foreign Affairs and Trade
- Department of Immigration and Multicultural Affairs
- Department of Finance and Administration
- Medicare Australia
- Office of the Commonwealth Ombudsman
- Australian National Audit Office
- Attorney-General's Department
- Department of Health and Ageing

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## **Consultation**

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- Therapeutic Goods Administration
- Department of Education, Science and Training
- Department of Environment and Heritage
- Department of Defence
- Department of Employment and Workplace Relations
- Department of Communications, Information Technology and the Arts
- Australian Fisheries Management Authority
- Comcare

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# Introduction



Why we need a *Better Practice Guide*  
for automated systems

# Introduction: Why we need a *Better Practice Guide* for automated systems

## What is an automated system?

The term 'automated system' is used in this *Better Practice Guide* to describe a computer system that automates significant parts (or all) of an administrative decision-making process. The key feature of such systems is their capacity to build in and automate administrative decision-making *logic* into a computer system.

Automated systems range from conventional information technology systems (which may calculate a rate of payment in accordance with a formula set out in legislation) through to more specialised systems such as 'expert', 'business rules engines', 'rules-based' or 'intelligent' systems, and 'decision-support' tools. Business rules engines or rules-based systems (types of expert systems used in administrative decision-making) are software systems that help manage and automate business rules. Generally these systems contain three main components:

- A knowledge base or rule base containing the relevant business rules (i.e. legislative, policy or procedural business rules);
- An independent inference engine which uses reasoning (backward or forward chaining) to draw conclusions; and
- A user interface which presents questions and information to the user, and supplies the user's responses to the inference engine in order to draw conclusions.

For the purposes of this *Better Practice Guide*, automated systems do not include systems such as databases (that store information) or case management systems (that track events leading up to an administrative decision being made and/or record decisions once made). Decision-support applications limited to storing legislative, policy or other information (but which do not automate decision-making logic) are also not considered automated systems for the purposes of this Guide.

A hallmark of an automated system is its ability to examine a set of circumstances (data entered by the user) by applying 'business rules' (modelled from legislation, agency policy or procedures) to 'decide' dynamically what further information is required, or what choices or information to present to the user, or what conclusion is to be reached.

## Different degrees of automation in decision-making systems

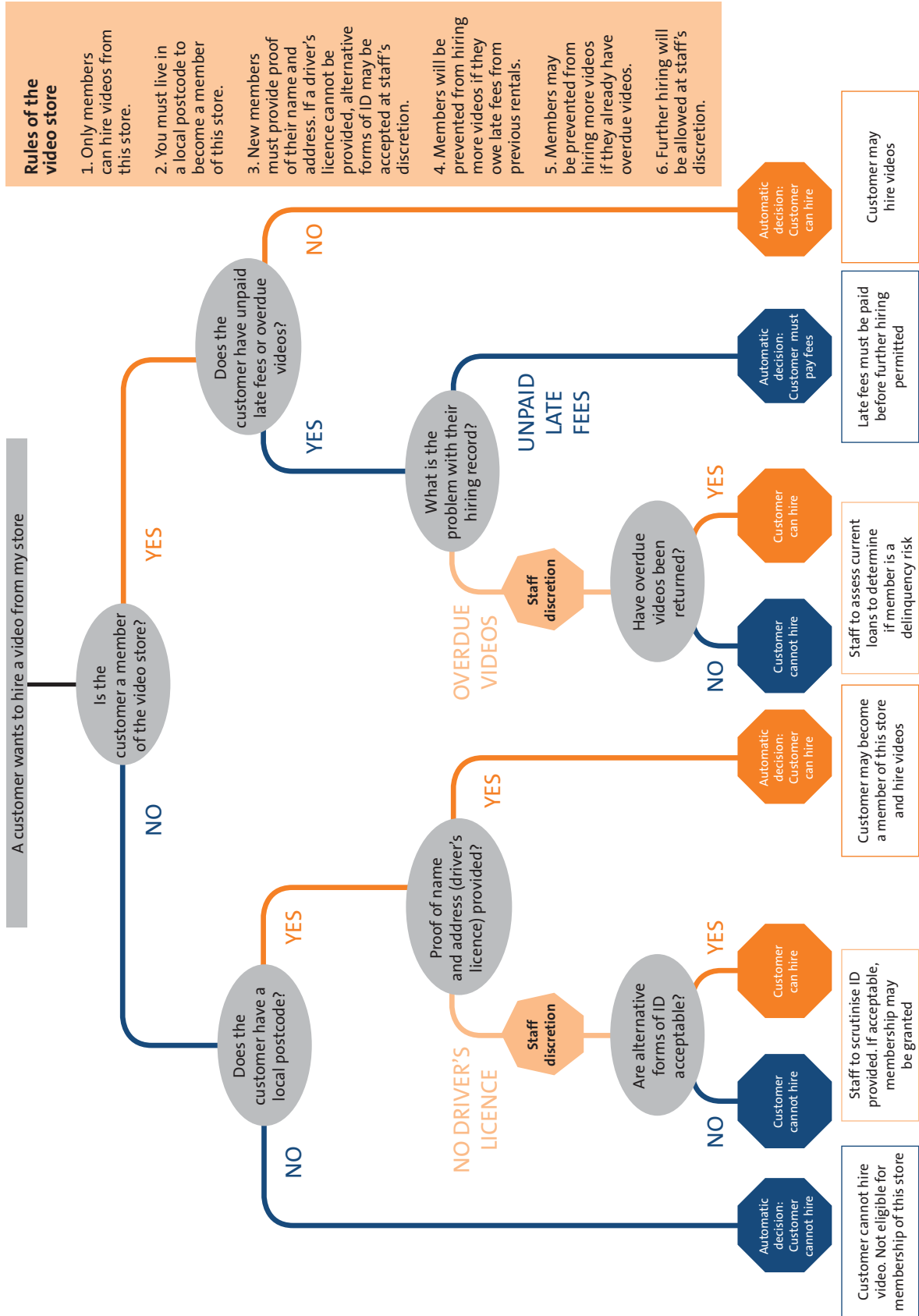
Automated systems may only partially 'automate' the decision-making processes along some decision-making paths. As demonstrated in Figure 1, such systems only 'automate' parts of the administrative decision-making process, and alert users to the points at which a human decision is required.

In such systems, the automated system guides users through the information gathering phases of an administrative process (via questions or the inputting of data). Such systems make determinations throughout the decision-making process, while eliminating redundant pathways and in some cases, providing a final decision.

At the point at which a human decision is required, or a rate calculation or preliminary decision is made, the system may guide a human decision-maker by collating and presenting relevant information for his or her consideration, and/or (in some applications only) recommending that a particular decision be made. In some instances, the system may lead information gathering to the point at which a decision is made by a human decision-maker, capturing and storing relevant information along the way, and recording the reasons for the outcome reached. Because such systems stop short of recommending or actually *making the decision*, they are classified as (automated system) decision-support tools.

# Introduction: Why we need a *Better Practice Guide* for automated systems

Figure 1: A decision-making process with automated and discretionary decision-making pathways



# Introduction: Why we need a *Better Practice Guide* for automated systems

Automated systems can be used in different ways in administrative decision-making. For example:

- They can **make the decision**.
- They can **recommend a decision** to the decision-maker.
- They can **guide a user through relevant facts, legislation and policy**, closing off irrelevant paths as they go.
- They may have capabilities as **decision-support systems**, providing useful commentary, including about relevant legislation, case law and policy for the decision-maker at relevant points in the decision-making process.
- They can be used as a self-assessment **tool**, providing preliminary assessments for individuals or internal decision-makers.

## Increasing government use of automated decision-making systems

Australian Government agencies are increasingly relying on computer systems in the administration of government programs. These systems can automate or semi-automate various functions in administrative decision-making to either make decisions, or automate the decision-making process, by assisting human decision-makers in their duties. Automated systems can play a significant and beneficial role in administrative decision-making, particularly in areas where high volumes of decisions are made. In the right areas and with appropriate management, these systems have the potential to improve the accuracy, consistency and transparency of administrative decision-making.

Automated systems have been used for some years in areas of financial entitlement for citizens and other agency customer groups, such as welfare, family and veteran support benefits. Administrative programs in government that confer rights, privileges or obligations, such as those in relation to taxation, visas and quarantine are now also using automated systems, or planning to use them.

In November 2004, the Administrative Review Council (ARC) released Report No. 46 to the Attorney-General entitled *Automated Assistance in Administrative Decision-Making* (the ARC Report). The ARC Report contains 27 best practice principles for ensuring that decision-making undertaken with the assistance of automated systems is consistent with the administrative law values. These principles are included here as Appendix B (page 74).

These ARC principles provide a framework for Australian Government agencies to ensure that decision-making carried out by or with the assistance of automated systems is consistent with the administrative law values of:

- lawfulness
- fairness
- rationality
- openness (or transparency)
- efficiency.

In November 2005, the Australian Government Information Management Office (AGIMO), of the Department of Finance and Administration, established the Automated Assistance in Administrative Decision-Making (AAADM) Working Group at the request of the Information Management Strategy Committee (IMSC).<sup>1</sup> This was to give effect to Principle 25 of the ARC Report which recommended that an advisory panel be created to oversee and provide advice to government on the operation of automated systems in administrative decision-making.

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<sup>1</sup> In June 2006, The Secretaries' Committee on Information and Communications Technology (SCICT) was established in place of the Information Management Strategy Committee (IMSC).

# Introduction: Why we need a *Better Practice Guide* for automated systems

## **From ARC Principles to the *Better Practice Guide***

This *Better Practice Guide* (the Guide) builds on the best practice principles in the ARC Report. Many of the principles the ARC Report identified are basically 'good sense' and practical in content. For example, guaranteeing the accuracy of the business rules is relevant to lawfulness, fairness and rationality; the way discretion is dealt with impacts on lawfulness, fairness and rationality; and transparency and privacy issues are relevant to lawfulness, fairness and openness.

None of the principles put forward by the ARC Report are radical or surprising. They are consistent with good administrative decision-making and are straightforward and achievable.

The advice contained within this Guide aims to ensure that the ARC principles can be easily applied within a practice context. The structure of the Guide reflects the practice areas that require particular care with respect to the development and management of automated systems for administrative decision-making. These practice areas cover the requirements to:

- 1 Assess the suitability of automated systems to deliver improved business outcomes for an agency
- 2 Establish appropriate project management and governance of automated systems projects
- 3 Ensure that the design of an automated system has regard to future requirements (such as maintenance and audit) and complies with privacy legislation
- 4 Ensure the continued accuracy of an automated system (including where there are changes to the underlying legislation, policy or procedure)
- 5 Ensure the transparency and accountability of the system and its accompanying processes
- 6 Implement and maintain automated systems appropriately.

Some of the advice put forward fits easily within the framework of a standard IT project lifecycle (such as the importance of governance mechanisms, and clear ownership of the policy and project components of the system). Other advice, such as guidance in relation to privacy, and the accuracy and transparency of automated systems, addresses the legal and administrative law responsibilities agencies must adhere to when producing administrative decisions via automated systems.

'Better practice' checklist points have been developed and are included at appropriate points throughout the Guide. They are also summarised in Part 7 (page 57). They have been designed to assist managers and project officers during the design and implementation of new automated systems, and may also assist with ongoing assurance processes once an automated system is operational.

# Introduction: Why we need a *Better Practice Guide* for automated systems

## **Readership and purpose of the *Better Practice Guide***

The intended audience for this *Better Practice Guide* is executives, managers and operational officers engaged in the design and/or implementation of automated systems, particularly policy owners, business analysts, system developers and administrative decision-makers.

The Guide also contains information for senior managers responsible for the governance arrangements of administrative programs that use automated systems.

This Guide suggests ways that particular benefits and challenges of automated systems identified in the ARC Report can best be met, both as transitional measures for existing automated systems, and as benchmarks for the development of new systems. It has been developed to assist agencies assess the objective of an automated system at the point of development or redevelopment, and to ensure that agencies who automate decision-making are aware of their administrative law obligations when automated systems are used to administer government programs.

The checklist points included in this Guide (summarised in Part 7, page 57) are designed to be advisory rather than mandatory and were developed following consultation with a number of agencies with experience using automated systems.

Agencies should be aware that consideration and treatment of automated system practice issues is not always a linear process, whereby a project manager or policy officer can deliver a solution to a project or system issue and consider the issue 'resolved'. Issues such as the management of the scope or accuracy of the business rules of an automated system are likely to occur at various points in the lifecycle of an automated system, and re-emerge when an update or other change to the system is made.

It is acknowledged that agencies have differing levels of maturity in their capacity to design, develop and administer automated systems. The publication of this Guide is intended to begin the process of creating useful practice advice for Australian Government agencies on the development and management of automated systems for administrative decision-making.

# Part 1



Where are Automated Systems Suitable?



# 1 Where are Automated Systems Suitable?

**Automated systems can provide business benefits such as improved consistency, accuracy and transparency of administrative decision-making and new service delivery options.**

Appropriately designed and managed automated systems offer agencies potential benefits in consistency, cost efficiency, time economies and new service provision. For example:

- They have the potential to make administrative decision-making more accurate and consistent, and it is often in pursuit of these outcomes that agencies consider the automated system option
- They can offer agencies a cost effective mechanism to make decisions, particularly in policy or program areas where agencies must make many administrative decisions
- They can reduce the time taken for agencies to make an administrative decision
- New technologies and their application to automated systems can be used in the development of new service delivery options to agencies' customer groups.

Despite the potential benefits offered by automated systems, care must be taken to ensure that their use supports administrative law values, and that the implementation of an automated system for administrative decision-making will deliver targeted and measurable business benefits to the agency.

## **Trends in public administration**

Advances in information technology, more targeted government policies and programs, and changes in the composition of the public sector workforce are some of the more recent challenges in public administration. Potentially, a well-implemented automated system can provide government agencies with an attractive and effective solution to some of these issues.

### ***E-Government***

Information and communications technologies are transforming the way government operates. Citizens and other customer groups now expect government to deliver integrated, personalised and responsive services 24 hours a day, seven days a week.

Meeting users' needs, establishing connected service delivery, achieving value for money and enhancing public sector capability are the four priorities set out in the Australian Government's e-government strategy for 2006-2010 *Responsive Government: A New Service Agenda* (see 'Suggested Further Reading', Appendix C, page 78). The strategy outlines the Australian Government's commitment to the continued development of electronic service delivery, and its vision of better co-ordinated and citizen-driven government services. The strategy anticipates that electronic service delivery will eventually underpin all other government delivery channels, ensuring a consistent base to all other activities and providing consistent services, no matter how government is approached.

### ***Increased policy targeting and refinement***

Demands on government agencies to develop, administer and deliver more targeted policy initiatives are increasing, and policy and program initiatives are being delivered to more specific citizen and customer groups. Increased targeting of government policy presents government agencies with the challenge not only to develop greater capacities to deliver outcomes, but also to develop more accurate and consistent means for measurement, evaluation and review.

Delivering ongoing policy and program refinement – which leads to a more complex and changing legislative environment – demands that agencies develop greater organisational efficiencies, and a greater capacity for policy and program responsiveness.

Automated systems can allow agencies to better administer very specific and targeted policy and programs and, in the process, gather accurate, consistent metrics on the outcomes achieved. The value of accurate metrics is in the subsequent potential (if an agency can actively manage the process) to feed metrics back into ongoing policy refinement.

## ***Public administration and the changing workforce***

An ageing workforce and the increasing use of contractors in the Australian public sector presents challenges for agencies to deliver greater efficiencies in the context of a more mobile workforce. Moreover, comprehensive service delivery often requires that agencies administer a greater range of policies and programs, and indeed, that they are able to integrate program delivery across Commonwealth, State and Local Government boundaries.

Training, skills development, development of specialist decision-making roles and expert case analysis need not be compromised.

Correctly applied, automated systems can provide government agencies with substantial efficiency and productivity gains, while simultaneously freeing up officers for more focussed roles, or broader decision-making roles across multiple programs.

## **Identifying business needs**

### ***Business drivers for automated systems***

Automated systems can represent high return on investment and significantly improved business outcomes where:

- High volumes of administrative decisions are made by the agency in a particular program area (or areas)
- Policy, legislation or business rules are generally codified, and they are generally complex (via legislative structure, policy or process detail)
- The policy, legislation or business rules lead to determinative outcomes (e.g. the underlying rules result in a decision on a rate of payment, entitlement to a benefit or visa, or a tax determination)
- The complexity of underlying legislation or policy results in administration difficulties (such as differing interpretations and outcomes)
- Business drivers exist that call for a higher degree of accuracy and consistency of administrative decisions made by the agency
- The business case indicates that significant time and cost savings can be gained by automating part or all of a business process involving administrative decision-making
- Business drivers exist for a wider range of service delivery options; such as via call centres, the internet, external agencies, self-assessment or mediated self-assessment
- There is a need to improve the transparency of decision-making and associated audit trails
- There is a need for a redesign of agency work flows and individual work roles, permitting a greater focus on service delivery, client facilitation and support, and/or more specialised decision-making roles.

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✓ **Have you identified the key business drivers for automating the administrative decision-making process?**

---

# 1 Where are Automated Systems Suitable?

## ***What business process improvements need to be made?***

The business issues that have led to the consideration of an automation (or upgrade of an automation) of administrative decision-making processes need careful examination.

Often an automated system will be only part of a program of business improvement measures. A clear understanding of the problems and issues associated with an agency's existing practices, and a full assessment of the business process improvements required are essential precursors to any decision to automate or upgrade an administrative decision-making process.

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### **✓ Have you clearly identified the business issues and problems that need to be resolved?**

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## ***Cost, time and update requirements***

Agencies need to commit appropriate resources to create and maintain automated systems. Where legislative or policy change is expected, automated systems may require ongoing resources and management oversight, and, in some instances will require significant and ongoing updating of their business rules. Legislative and policy amendments may require changes to business rules or amendment to ensure continued accuracy. In some instances, additional commentary or alerts to the system will be sufficient; in others, substantial changes to the decision-making process may be required.

Agencies using automated systems must have the capacity – including an appropriate budget and the right personnel – to promptly update the business rules upon which a system operates. Failing to update the business rules creates the risk that an automated system is making incorrect and/or unlawful administrative decisions, particularly where legislative changes have not been reflected in the system.

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### **✓ Is the program area covered by the automated system likely to fund this investment into the future?**

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## **Service delivery options**

**Agencies may be able to deploy automated systems across several different service delivery channels such as in shop fronts and call centres, and via the internet.**

Australian Government agencies deliver a wide range of services to a diverse range of citizen and customer groups across numerous channels. The use of multiple channels – such as shopfronts, call centres and the internet – is now commonplace and agencies continue to provide citizen and customer groups with a wide variety of ways to engage with government.

## ***Deployment through multiple channels***

In addition to internal agency decision-making, agencies may also be able to deploy an automated system across multiple service delivery channels - such as online for self-assessment, or externally through other agency portals or systems.

For example, the business rules of a system used for internal decision-makers could also be deployed as a client or customer self-assessment tool, after only minimal changes to the supporting commentary, and a changed system output (perhaps in the form of a preliminary assessment notice, rather than a decision letter).

# Where are Automated Systems Suitable?

# 1

Automated systems deployed online not only provide convenient services for customer groups, but they can provide added benefits to agencies with multiple and/or remote program delivery locations, where they can be used for internal decision-making and also to enable better consistency of service delivery.

Agencies should consider whether their automated system could be deployed for use by the following user groups:

- Internal decision-makers
- Internal review officers
- Call centre officers (providing general advice and information)
- Outsourced service delivery agents and/or providers
- Client, customer or citizen self-assessment
- Mediated self-assessment (for a preliminary assessment or advice by community organisation or agents assisting their clients).

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✓ **Have you considered deployment of the automated system through multiple service delivery channels (such as online, for self-assessment or via external agency systems)?**

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✓ **Have you identified potential user groups for the automated system?**

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✓ **Have you considered the impact of the automated system on your agency's channel management and service delivery strategies?**

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Further advice and guidance on service delivery options and channel management is available in 'Suggested Further Reading', (Appendix C, page 78).

## ***Access and equity***

While increasing use of the internet has led to greater public demand for more streamlined and online government service delivery modes, agencies should also take into account access and equity considerations in their delivery of services. Agencies considering self-assessment and online automated systems need to consider options for providing greater access to government services for a variety of individuals such as those with a disability, older people and people in rural and remote Australia.

Consideration of self-service options, including self-assessment, should be accompanied by access to facilities and support; online, on call and face-to-face (for example in government shopfronts and community centres). Agencies need to be mindful that service delivery options delivered by automated systems do not replace direct human services where they are warranted and necessary, such as when they impact on a citizen's or customer group's ability to access government services.

Mediated self-assessment is also an option for automated system deployment, whereby community groups may be permitted to use an automated system for the purpose of providing assistance to individuals or particular customer groups. An automated system may also be used by counter and call centre officers for the purposes of the provision of advice.

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✓ **Have you considered the access and equity issues that may arise, particularly if the automated system is to be deployed online or as a self-assessment tool?**

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# 1 Where are Automated Systems Suitable?

## Administrative law and automated systems

**Agencies considering automated systems for administrative decision-making must ensure that the system upholds the administrative law values of lawfulness, fairness, rationality, openness and efficiency.**

Agencies considering automated systems for administrative decision-making must pay particular attention to decision-making paths involving the exercise of judgement or discretion, to ensure that elements of decision-making involving the use of discretion or judgement uphold the administrative law values of lawfulness and fairness. Further guidance on automated systems' treatment of discretion and judgement is available in Part 5 of this Guide, *Ensuring Transparency and Accountability*, (page 43).

### **Dealing with discretion and judgement**

When properly designed and modelled, automated systems may enhance the exercise of decision-making discretion and judgement by the following measures:

- Only permitting the use of human discretion and judgement where it is relevant
- Outlining and/or breaking down the factors decision-makers should consider when making their judgement
- Providing links to relevant support materials and guides
- Requiring that decision-makers clearly state and record reasons for decisions, as a statement of reasons or other official (and auditable) output.

The exercise of discretion and judgement in the administrative decision-making process does not itself preclude automation of the business process within which a discretionary consideration must be made. However, agencies must ensure that the lawfulness and fairness of discretionary administrative decisions are preserved when automating the decision-making process.

An automated system must be designed in a way that accurately reflects the government policy it models, and agencies should be careful that the system does not fetter the decision-maker in exercising any discretion he or she has been given (under relevant legislation, policy or procedure).

---

✓ **Do the administrative decisions you propose to include in the automated system require the exercise of discretion or judgement by the assessing officer? If so, how does the system address the discretionary process?**

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✓ **Have you designed the system so that the decision-maker is not fettered in the exercise of any discretion or judgement they may have?**

---

### **Which decisions involve the exercise of discretion?**

Statutory decision-making provisions that include words such as 'the decision-maker may' are indicative of discretion. Discretion may also be associated with the exercise of judgement where a statutory standard is to be applied, for instance, that the person is a 'fit and proper person'.

Different outcomes can arise because different weights are attached to the relevant factors leading to a particular administrative decision. It is fundamental to administrative decision-making that if a decision involves the exercise of discretion, the decision-maker must exercise that discretion personally and not be fettered in doing so, in accordance with the relevant legislation.

# Where are Automated Systems Suitable? 1

An automated system that builds on or around an administrative decision-making process and requires agency officers to exercise discretion or judgement **should expressly advise** the decision-maker that the question being asked is a matter for the decision-maker's judgement.

Decisions that involve the exercise of discretion could still be made by a self-assessing applicant, provided that relevant guidance is provided (often via commentary that is inbuilt into the automated system). In these instances, it is the individual's responsibility to answer the questions correctly, as is the case with taxation matters. (However, it should be noted that agencies may still be responsible for quality assurance and review of self-assessments.)

Agencies should also ensure that automated systems' business rules relating to discretion and judgement, and any research linked to the use of discretion and judgement, are readily and openly available, and subject to internal and external review.

- 
- ✓ **Has the automated system appropriately modelled parts of the administrative decision-making involving discretion and judgement?**

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  - ✓ **Have all decision points in the automated system that involve the exercise of discretion or judgement been clearly identified as requiring human input, in the form of either a consideration of the facts or a review of a decision already made?**

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  - ✓ **Are the business rules relating to discretion or judgement (and any research linked to such rules) contained in the automated system open to internal and external review?**

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## Part 2



### Development and Governance



## 2 Development and Governance

**Automated systems projects must establish appropriate governance frameworks and ensure that policy and program areas are consulted during the system's development.**

In developing automated systems projects, agencies should apply high standard information technology project methodologies and techniques. Automated systems projects should apply best practice IT project management principles, and agencies with well-developed capabilities in IT project management will be well-placed to manage the development of automated systems. It is not the intention of this Guide to repeat or re-state project management advice available from other sources, but to draw project managers' and business owners' attention to particular challenges in the management of automated systems projects.

Challenges occur throughout an automated system's lifecycle – from design and development of the system itself, to implementation and ongoing administration including updates, review and officer training. The following project management considerations warrant a particular focus in relation to automated systems projects.

### Automated systems projects

#### *Project planning*

A sound project management methodology is critical when developing and implementing an automated system for administrative decision-making. In particular, agencies should ensure that any project management plan for the development of an automated system encompasses a formal benefits' realisation or evaluation plan. The plan should consider the financial and non-financial benefits of the automated system, and establish metrics and benchmarks for successful benefits' realisation in the planning stage.

Depending on the nature of the system, development of the business rules for an automated system from legislation and policy may be a substantial project task. Project managers should ensure that stakeholders have realistic expectations of the iterative nature of this process. Seeking appropriate executive support early in the project planning phase and holding regular steering committee meetings will also ensure that the project delivers appropriate business rules for the system on time and to cost.

- 
- ✓ **Does the project planning process apply best practice IT project management methodologies?**

---

  - ✓ **Does the project plan comprise a formal benefits' realisation or evaluation plan, including metrics and benchmarks for their achievement?**

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  - ✓ **Does the project plan consider stakeholder management, and have agency executives been given realistic expectations about the delivery of the project phases?**

---

#### *Governance*

Enabling scrutiny of the development of an automated system is as important as the transparency and accountability characteristics of the system itself.

Significant projects will typically warrant the establishment of a formal governance framework. A formal governance framework will regularise the ownership, operational, project management and reporting lines of the project, and will also provide executive sign-off on key milestones or stages.

Governance processes could be as simple as the establishment of regular reporting cycles to a Steering Committee established to oversee the automated system project. For some projects it could involve multiple reference groups, quality assurance advisors and Gateway™ Reviews. Whatever governance arrangements are appropriate to the project and the agency environment, agencies should ensure that key project decisions are adequately documented.

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✓ **Does the automated system project have appropriate formal governance arrangements?**

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***Scope***

An agency may decide that an automated system will model only part of the administrative decision-making process required for delivery of a particular program. The governance process should formally acknowledge or review this decision, and project reporting arrangements should document this decision and map which legislative, policy and procedural elements are in the scope of the system, and which are not. In this way, it is clear what decisions the automated system does and does not process, avoiding ambiguity.

---

✓ **Is the scope of the automated system clear, and clearly reflected in project documentation?**

---

There are potentially many inputs to the decision as to which areas are suitable for automated systems decision-making or support. Scoping for an automated system project should include an examination of the relevant legislation, policies or procedures, and the specific clauses and/or parts that an agency seeks to automate.

---

✓ **Have the relevant areas of legislation, policy or procedure been identified during the scoping phase?**

---

***Organisational change management***

The introduction of automated systems for administrative decision-making can often bring about significant cultural changes within an agency. A formal change management plan should be considered as part of the project planning process, particularly where agency officers will have refined roles and responsibilities in relation to an automated system.

If the change management process is not managed well, there is a risk that officers may consider the loss of decision-making autonomy and changed work practices as a negative experience. Realisation of this risk can damage the benefits' realisation of the project. However, if officers are engaged early and organisational change issues are managed well, change brought about by the implementation of an automated system can create more specialised decision-making roles, with greater focus on the exercise of the judgement and discretion, and new roles, such as those with a greater emphasis on customer service.

---

✓ **Have you considered the change management ramifications of the project?**

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✓ **Have you developed a stakeholder and communications strategy to address the management of changed work practices for officers?**

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## 2 Development and Governance

### **Multidisciplinary teams**

Automated systems projects need to draw on diverse skills to be most effective. Typical projects include skills and expertise from a wide range of areas – including the business areas (e.g. legal, policy, work practice and program areas) and information technology areas of the agency (such as business analysts, systems development specialists, testing and integration). The list of relevant officers could also include officers with implementation and service delivery expertise (such as those in customer-facing or call centre roles), to ensure that usability issues and acceptance of the system are considered from the outset of the project.

---

✓ **Does the design team include officers with technical, legal, policy and service delivery experience?**

---

✓ **Does the project plan involve consultation and input from the appropriate business and/or program areas?**

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✓ **Have the relevant program area/s and end users been consulted during the testing phase of the system?**

---

### **Roles and responsibilities**

#### **Policy ownership**

Policy oversight of automated systems' business rules development is essential to achieving high quality business outcomes, and in maintaining the focus on achieving the project's policy imperatives. Ordinarily this responsibility would rest within an agency's policy group, with governance arrangements for the project linking the project's policy outcomes to a senior manager.

---

✓ **Do the project governance arrangements unambiguously assign policy ownership?**

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Appropriate policy oversight of an automated system project should ensure that:

- The government's policy or program is being administered as soon as possible after the relevant legislation is authorised (i.e. changes should be made before the effective date of operation of a new or changed piece of legislation)
- The policy supporting the decision-making process is accurately captured and recorded within the automated system
- Verification checks of the automated system are undertaken to ensure that the integrity of the policy is accurately reflected in the system, particularly where an automated system is subject to regular legislative or policy updates
- The automated system has the ability to support an audit process which can verify at any point-in-time the policy supporting the decision made.

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✓ **Do the governance arrangements provide an appropriate role for the policy owner in the design, development, implementation and maintenance phases of the system?**

---

#### **Project ownership**

Automated system projects are the result of high level and practical collaboration between what are often separate skill sets and work units: legal, policy, information technology, business analysts, program delivery sections and administrative decision-makers. Some systems also relate to programs that involve more than one agency, for example, where there is a separation between a policy agency and a service delivery agency. It may also be that an automated system will traverse more than one policy, program area or piece of legislation, or have links to other systems that are established under a different program area or piece of legislation.

For these reasons, it is important to be clear about who is responsible for the policy and legislative authenticity of the system.

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✓ **Do the project governance arrangements unambiguously assign project ownership?**

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# Part 3



Automated Systems Design

# 3 Automated Systems Design

The design of an automated system has important implications for the accuracy, transparency and accountability of the administrative decision-making process it seeks to automate, as well as for the maintenance of a system into the future. Many of the issues that relate to the ongoing accuracy and transparency of an automated system can be addressed in the first instance by the design of the system, and can be supported by well-designed business processes (further guidance on these issues is available in Part 6, *Implementation and Maintenance*, page 51).

Agencies engaged in the design phase of an automated system project should consider how best to facilitate accurate user inputs to the automated decision-making process (particularly where self-assessment is concerned), and the qualities of a well-designed user interface. These two considerations will greatly enhance both the accuracy of the inputs and the ease of use of the system.

Technical and integration issues, and the transparency and accountability of an automated system can also be addressed during the design process. Early planning and good design can help avoid what are often significantly more complex measures to address at later stages of an automated system project. Suggested strategies to ensure the accuracy, transparency and accountability of automated systems (including some issues that should be addressed during the design phase) are dealt with in greater depth in Parts 4 and 5 of this Guide, *Ensuring Accuracy* (page 33) and *Ensuring Transparency and Accountability* (page 43).

Consideration for information privacy principles and the imperative that personal information is appropriately sought, captured and stored is also an important part of the design process for an automated system. Agencies should be aware of their obligation to inform individuals – especially those using automated systems for self-assessment – of the purposes for which their personal information will be used, and of the need to have appropriate means (both within the system and in the business processes associated with its use) to store and update this information.

## Important factors in the design of automated systems

**The design of an automated system should allow for ease of use, implementation and future maintenance of the system, and should meet the need to produce a comprehensive audit trail.**

### *Implications for maintenance*

During the design phase, agencies should consider how best to build an automated system having regard to future maintenance requirements.

Maintenance and update of the business rules will be an ongoing task for most automated systems. The update process is a vital determinant of the accuracy of the decisions made by an automated system. Depending on the complexity and frequency of legislative, policy or procedural change, updating could involve only simple changes in various fields, or the incorporation of large sets of new or changed business rules into the system. Agencies should be aware that the technical design of a system, its integration with other IT systems and the ease of access to and update of each individual business rule will have major implications for the time, costs and efficacy of the maintenance procedures and processes of the automated system.

Agencies may find that a service oriented architecture (where a rules module approach is taken) is preferable.

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✓ **Have you considered service oriented architectures and business rules modularity to allow for ease of update and maintenance of the system?**

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## ***Capturing deliberations and reasons***

To maximise the benefits of an automated system, agencies should mandate – as part of the automated system’s function – the collection of decision-maker’s deliberations or reasoning on matters of discretion or judgement. Agencies should also ensure that these deliberations are archived by way of an additional ‘file note’ or free text facility for each discretionary or judgement decision point.

The advantage of such a facility is that the audit trail will include the points of the decision-making path where discretion or judgement matters are decided and the reasons for making such judgements. This facilitates not only internal and external review and audit, but also enables deliberations to be incorporated into any notification of decision or statement of reasons that the client or customer of the agency receives.

Collecting deliberations within an automated system often provides a greater level of transparency and accountability than many manual decision-making processes.

- 
- ✓ **Does the automated system’s audit trail clearly set out decision points involving discretion or judgement?**

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  - ✓ **Can the decision-maker’s reasoning or deliberations (which are collected by the automated system where discretion or judgement is involved) be incorporated into a statement of reasons or other notification, where required?**

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  - ✓ **Will the design of the audit trail assist with efficiently monitoring recommendations, decisions and processes?**
- 

## ***Design principles for comprehensive audit trails***

An audit trail is an essential part of a successful automated system design. To have a majority of desirable attributes present in a comprehensive electronic audit trail, agencies should consider applying the following good design principles:

- 
- ✓ **Have you designed the audit trail to include clearly identifiable links to authorised delegations (at every stage of the process)?**

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  - ✓ **Does the audit trail feature in the agency’s design for automated systems?**

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  - ✓ **Will the audit trail’s design meet the agency’s business requirements, internal controls, transparency and accountability criteria, and audit requirements?**

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  - ✓ **Will the audit trail’s design provide for archiving and continuity of access?**

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  - ✓ **Have you considered how change control processes will be reflected in the audit trail:**
    - to record modifications to the system’s operation or performance?
    - to reflect changes to the legislation that underpins the operation of the system?
-

# 3 Automated Systems Design

## Integration with other IT systems

Automated systems are often integrated with other agency IT systems (e.g. databases, the mainframe, case management systems and payment systems).

Particularly in program areas with regular changes in legislation, policy or procedure, there needs to be careful consideration of the manner and degree to which an automated system integrates with existing agency IT systems. Complicated integrations with other systems are much more difficult to maintain and update.

## Business process mapping between systems

Where inputs or outputs of the decision-making process involve tasks and/or processes that are undertaken by other agency IT systems, it is important that these processes (and the timeframes and dependencies between systems) are clearly understood during development of the automated system.

Agencies may find that mapping the business processes between systems during the design phase is useful, both for the management of integration with other IT systems and for the design of the automated system itself.

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✓ **Where an automated system interfaces with other agency IT systems, have you clearly identified the business processes that occur between systems?**

---

## Business rules update

Automated systems should be designed so that changes in the business rules can be easily updated across systems, and do not require major rework at each system interface.

Technical solutions should be found that maximise the interoperability of the automated system interface (with other IT systems), and therefore minimise the cost, time and disruption caused by the update process.

---

✓ **Does the design of the automated system allow for ease of update and interoperability with other agency IT systems?**

---

## Data mapping to terms and definitions

Where automated systems integrate with existing IT systems, time should be taken to ensure that the data mapping of terms and definitions (relating to the agency's administration of the program area) in existing IT systems is interoperable with the data mapping and definitions in the automated system.

Consistent data mapping is of particular importance when information and data are drawn from other agency IT systems (such as databases or case management systems) into the automated system, or vice versa. If the definition and data mapping of facts relevant to an administrative decision (for example, 'spouse' or 'income') is considered and agreed upon early, considerable time and complexity can be avoided later in the project.

Consultation on this issue is advised during the analysis of the project, and should involve (at a minimum) the policy owners of the project and the relevant agency data and information management professionals.

Where possible, agencies should undertake a data 'harmonisation' process: identifying common elements, eliminating duplicate data and mapping to an agreed taxonomy (preferably using an international or other agreed data standard).<sup>2</sup>

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✓ **Have you consulted with the appropriate architecture, data and information management professionals within your agency environment?**

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<sup>2</sup> For further advice and guidance on interoperability standards development and management see <http://www.govdex.gov.au/confluence/display/GovDexReference/GovDex+Reference>

- 
- ✓ **Where required, is the data mapping of terms and definitions relevant to the decision-making process interoperable with other agency IT systems?**
- 

## **Versioning**

Automated systems used for administrative decision-making should be able to maintain and execute different versions of the business rules where required. This is particularly important where legislation, policy and procedure (and, subsequently, the business rules of an automated system) change, and the underlying administrative or legal process requires an agency to process backdated decisions (which may require the application of an earlier version of the business rules).

Agencies should be aware of the importance of versioning during the design process, and consult the relevant underlying legislation, policy and/or procedures to ensure that there is a clear understanding (e.g, among the policy owners of the system) of the legal and administrative obligations for the backdating of administrative decisions.

Where the processing of backdated decisions is required via an automated system, the system may require the capability to access and execute an earlier version of the business rules at a given point in time (as determined by the dates of changes to legislation, policy or procedure).

- 
- ✓ **Will the automated system be required to process backdated administrative decisions?**
  - ✓ **Does the design of the automated system allow for maintenance and execution of different versions of the business rules if required?**
- 

## **Multiple decision processing**

The administration of some agency programs may result in demand for an automated system to undertake multiple decision processing (sometimes described as batch or bulk processing) from time to time. While not all automated systems will require this capability, multiple decision processing may be required in program areas where a change in legislation, policy or procedure affects the underlying business rules of the automated system in such a way that it requires the amendment or change of many decisions or records stored by the system.

The capability of an automated system to process many decisions may have particular importance in program areas where financial entitlement and/or assessment criteria change, affecting many decisions made within a defined period (for example, for a financial payment or another determinative outcome).

In many cases where multiple decision processing is required, changed business rules and the resulting outcomes can be bulk processed when the automated system has spare processing capacity (e.g. overnight).

The design phase of an automated system should involve some consideration of the business requirements of the system to undertake multiple decision processing (i.e. when and how the underlying business rules, rates or assessment criteria are likely to change, and which decisions or records will require updating or change). Agencies may find that this is best achieved by a consultation process (during the design phase) with the policy owners, project owners, and systems developers.

- 
- ✓ **If the underlying business rules of the automated system change, will the system be required to process changes to multiple decisions or records held within the system?**
  - ✓ **Does the technical design of the automated system allow for the timely and efficient processing of changes to multiple decisions or records if required?**
-



# 3 Automated Systems Design

## The automated system user interface

### *Accurate collection of information*

When designing a user interface for an automated system, agencies need to be alert to the potential for questions, fields and labels within an automated system to favour, or select for, one type of response over another. Narrowly expressed questions, fields or labels, or incomplete business rules might artificially limit the effectiveness of the information gathering process that is essential to good administrative decision-making.

Poorly expressed fields or questions present the risk that a decision will be made without sufficient information, and without an awareness that further information is required for a reasonable decision-making process to occur. The questions, fields or labels a user sees when using an automated system should be derived directly from the underlying business rules of the system, which are in turn also derived from the relevant provisions of the relevant legislation, policy or procedures.

- 
- ✓ **Do the governance arrangements provide for business rules to be reviewed (for example, by the policy owner) to ensure they do not fetter the information gathering function?**
- 

### *Managing user input*

Even where the automated system accurately and comprehensively models relevant legislation, policy and procedures, there is still a risk that the user interface between the automated system's business rules and the decision-maker may lead to error or misinterpretation. This risk is greatest where legislation allows for discretion or judgement by a decision-maker.

To help the user answer the specific questions generated by the automated system, context-sensitive links may be included that link to commentary and/or to relevant legislative or policy provisions.

- 
- ✓ **Does the automated system provide a commentary function, clarifying ambiguity or highlighting problem areas in administrative decision-making?**
  - ✓ **Do the governance arrangements and quality assurance processes support the rapid approval and update of commentary and user-support materials within the automated system?**
- 

### *Quality assurance*

Quality assurance can be used to test the intuitiveness of an automated system. It is important to understand whether a shortcoming in the system design (e.g. the imprecise structure of questions or answer categories) might contribute to an error or make a system unreliable in some respects.

Quality assurance may also point to areas where training could be better targeted, or identify how else the system might support better administrative decision-making.

In addition, an automated system needs to have a comprehensive audit trail to recall each decision point for analysis, to enable quality assurance testing of the system.

- 
- ✓ **Is there a process in place to diagnose quality assurance problems, and to document how quality issues were resolved during the design process?**
-

## Privacy and automated systems

**Where privacy risks are anticipated, they can be adequately managed as part of the automated system's design.**

Agencies developing or redeveloping automated systems that involve the collection, use or storage of personal information should consider how the design of the system (and its business processes) will protect the privacy and accuracy of an individual's personal information.

As a general rule, when designing business or workflow rules for automated systems, agencies should look for and choose the least privacy-invasive method that also meets their business needs. Where there is a business need to capture and store personal information, risks to privacy of the personal information of individuals can be adequately managed by an appropriate automated system design.

Agencies should always refer to the *Privacy Act (1988)* for a comprehensive understanding of their privacy obligations. Most Australian Government agencies will have a Privacy Contact Officer who can advise on privacy questions or be a conduit from the agency to the Office of the Privacy Commissioner when further specific guidance needs to be sought.

The Office of the Privacy Commission has produced a 'Privacy Impact Assessment' tool. It is designed to be used to assess the privacy impact of new policies and programs, and is available from the Office's website ([www.privacy.gov.au](http://www.privacy.gov.au)).

### ***The Privacy Act 1988***

Part III of the *Privacy Act (1988)* establishes a regime for the protection of the personal information of individuals.

There are eleven Information Privacy Principles<sup>3</sup> (IPPs) that confer obligations on agencies concerning the collection, access, storage, use, disclosure, accuracy and destruction of personal information. In addition to these, the *Privacy Act* and related instruments place particular requirements on agencies in relation to the handling of tax file numbers.

'Personal information' is broadly defined and includes any information or opinion – whether true or not – about an individual whose identity is apparent or can reasonably be ascertained from the information or opinion. Depending on the context this could include, amongst other things, information relating to an individual's:

- Name
- Physical description
- Genetic or biometric information
- Photograph
- Residence
- Place of work
- Business and business activities
- Current (or former) employment or occupation
- Investments and property holdings
- Religious beliefs
- Health
- Ethnicity
- Criminal record.

<sup>3</sup> *Privacy Act 1988*, s 14.

# 3 Automated Systems Design

## ***Collect only what is necessary for the purpose***

Under the *Privacy Act*, agencies can only collect personal information for an authorised purpose (that is, one that is directly related to a lawful function of the collector).<sup>4</sup> A fundamental legal requirement is to limit the amount of information collected to that which is necessary and, to this end, agencies should not collect personal information ‘just in case’ or for not-yet-authorised ‘future uses’.

Automated systems which accurately model legislative and policy rules, including the authority to collect particular personal information, reduce the risk of collecting irrelevant and unnecessary information.

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### **✓ Is the automated system designed to collect only the minimum amount of personal information necessary to meet a clearly defined and articulated purpose?**

---

Agencies using automated systems for self-assessment (at a shopfront, via the internet, or at interview) may find that information and data entered by a self-assessing user may not need to be stored by the system, thereby reducing the privacy risks and security requirements associated with use of a system. A system which does not require the individual to enter identifying information is known as an ‘anonymous interaction’. For example, an automated system can be intentionally selective about the information an individual must provide and limit information collection to only that required to satisfy the decision-making process. In some cases, this may represent an improvement on manual forms which, in some cases, may prompt for information that is irrelevant to a particular decision-making process.

---

### **✓ Can the collection of personal information (that could identify an individual) be avoided or minimised, while still delivering a useful self-assessment tool?**

---

In self-assessment applications, it is sometimes necessary to require users to enter personal information for the purposes of a preliminary calculation or entitlement. Agencies should note that user uncertainty about the privacy of transactions requiring personal information may cause an individual not to use self-assessment tools, which will subsequently reduce the effectiveness of an automated system deployed for this purpose.

On other occasions, providing an option for individuals to enter personal information during a pre-assessment phase may help to streamline a subsequent formal application by saving and pre-populating forms.

In either case, if information is to be stored, an automated system must inform the user of the purposes for collecting their personal information and how it will be stored or used. This can be done through a specific notice, often referred to as an IPP2 Notice.

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### **✓ Do self-assessment tools make it clear whether information collection is mandatory or optional?**

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### **✓ Do self-assessment tools make clear whether information is being stored and/or retained for further use?**

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<sup>4</sup> See Information Privacy Principle 1

## ***Inform individuals of the uses to which collected information may be put***

Agencies must inform people of the purposes of collection and the legal authority for collection.<sup>5</sup> This is usually done at the point of collection with an IPP2 Notice.<sup>6</sup>

If an upfront statement is made at the time of collection about the purposes personal information will be used for (how you use the information, and who you usually share information with), then in most cases the individual's subsequent use of a system implies their consent. Avoiding surprise is one of the most effective privacy strategies.

An IPP2 Notice, as a statement of intent, is also an important accountability tool.

---

### **✓ Is the IPP2 Notice within your automated system 'fit for purpose'?**

---

## ***Use or disclosure for authorised purpose***

Use or disclosure occurs on a case-by-case basis or through data-matching (or data-linking) with other administrative programs within the agency, with other agencies, or outside the public sector.<sup>7</sup>

The business practices overarching an automated system should minimise the risk of individuals being surprised as to how their personal information has been handled, including by ensuring personal information is only used or disclosed for the purpose for which it was collected, or for another purpose authorised by law.

Depending on the application, automated systems can become (or be integrated with) information-rich databases of personal information. Information-rich databases, particularly those containing sensitive information, may be valuable to other agencies, including law enforcement agencies, and are sometimes the subject of unsolicited requests for information, or for formal approaches for data-linking.

All use and disclosure decisions must be made according to the *Privacy Act*. Decisions about case-by-case requests will need to be made with reference to the IPPs.

---

### **✓ Are there business processes to ensure that any release of information (outside of the purpose of collection, and for which an IPP2 notice has been given) has been properly considered against the *Privacy Act*?**

---

Some automated systems may be the target of data-matching requests (which is a form of use or disclosure). Alternatively, some of the source information for the decision-making model may be sourced from a data-matching program. Data-matching or data-linking programs will need to be consistent with:

- In the case of data-matching under the *Data-matching Program (Assistance and Tax) Act 1990*, the binding Guidelines issued under section 12 of that Act
- In all other cases, the advisory Guidelines for *The use of data matching in Commonwealth administration* (available from the Office of the Privacy Commissioner's website), issued under section 27(1)(e) of the *Privacy Act*.

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### **✓ Are data-matching programs associated with use of the automated system properly authorised?**

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5 See Information Privacy Principle 2

6 [http://www.privacy.gov.au/publications/HRC\\_PRIVACY\\_PUBLICATION.pdf\\_file.p6\\_4\\_14.4.pdf](http://www.privacy.gov.au/publications/HRC_PRIVACY_PUBLICATION.pdf_file.p6_4_14.4.pdf)

7 See Information Privacy Principles 2, 10 & 11

## 3 Automated Systems Design

Conversely, the proposed automation of some administrative processes is sometimes contingent upon linking existing electronic data sources to a new automated system. Where personal information is to be populated from other sources (and the data to be used within an automated system was initially collected for a different purpose), it is essential to ensure that use of existing electronic data is permitted under the *Privacy Act*.<sup>8</sup>

As a related matter, the aggregation of data (for example the collation of client indexes or identification numbers) that is not strictly required to perform an administrative decision-making function may not be lawful, and as a privacy practice should be avoided.

---

✓ **Is there legal authority to use existing data (previously collected for another purpose) for a new or secondary purpose?**

---

Where use or disclosure of personal information is consented to for the enforcement of a criminal law or of a law imposing a pecuniary penalty, or for the protection of the public revenue, Information Privacy Principles 10 and 11 require a note to be kept on each record of that use or disclosure.

To enable effective accountability practices, it is better privacy practice to keep a note of *any* use or disclosure that is outside the primary purpose of collection of the personal information. A 'disclosure decision and reasons' field could be considered during the design phase of the automated system.

In some administrative programs, (e.g. where there are regular requests for release of personal information) it may be appropriate to consider building a decision-assistance module that also aids the recording of disclosure decisions.

---

✓ **Does the automated system design enable notes of disclosure decisions (and reasons) to be appended to the record?**

---

### **Secure handling of personal information**

As noted above, automated system projects can be accompanied by the creation of information-rich data stores. Centralising previously disparate or unconnected data sources (e.g. interview records and databases), can make personal information potentially more susceptible to unauthorised disclosure.

An element of enhancing privacy will be measures that provide for secure information handling whether in storage, during transmission or use.<sup>9</sup>

Automated systems project managers should ensure that they have consulted the *Australian Government IT Security Manual* (ACSI33, for Australian Government IT security policies) and the *Protective Security Manual* (PSM, for an agency's internal security procedures), or with the appropriate agency professionals in relation to internal IT security protocols that will impact on an automated system.

---

✓ **Are appropriate security procedures in place to ensure the security of personal information?**

---

### **Information used for decision-making must be accurate, up-to-date and complete**

Administrative law requires that decisions must be based on reliable and relevant information. The *Privacy Act* complements this requirement by requiring record-keepers to check the accuracy, currency and completeness of information before use.<sup>10</sup>

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8 See Information Privacy Principle 10

9 See Information Privacy Principle 4

10 See Information Privacy Principles 8

Specific information risks that can arise include:

- An automated system might inappropriately incorporate unrelated, unchecked, unstable, outdated or unreliable data (for example from third parties) which can enter the decision-making pathway without the data flaw being identified or critically examined by an officer. This is a particular risk with pre-populated fields sourced from previously collected information.
- An automated system might automatically generate or calculate new personal information (data, opinions or decisions) for use in decision-making about an individual, but for which the level of reliability or accuracy of the information is not obvious to the decision-maker.

Attaching metadata to fields containing personal information can lessen the risks of using outdated or unreliable information. The metadata can be linked to business rules to treat each piece of personal information in special ways. For example, personal information fields can be tagged as follows:

- A 'date collected' tag can be used to enable an agency to manage privacy obligations that might be date-specific (e.g. an agency might change its IPP2 collection notice to advise of intended disclosure or use of information for additional purposes – the new disclosure provision would usually only apply to data collected after that date)
- An 'expiry date' tag can be used to prompt a data assurance process to ensure data is accurate, complete and up-to-date or prompt for a 'manual' decision to be made on a case-by-case basis
- A 'confidence level' tag can be used to indicate the reliability of the data
- A 'source' or 'approved use' tag can be used to indicate how the information was collected (e.g. from the individual, a third party or from data matching) and for what approved purpose the information was collected. In turn, this could determine for what purposes the information can be used. This is particularly relevant where a number of data stores are linked together, but where access to information collected for one purpose should not be used to inform other decision-making or data-sharing processes
- A 'consent' label can be used to indicate to the rule base for what purposes the information can be used or disclosed (for purposes unrelated to its initial collection)
- A 'protection' label can be used to identify fields that could, in isolation or out of context, cause an unauthorised disclosure of an individual's personal information such that the person could be identified by a recipient of that information. These fields might be afforded a higher level of protection, for example, by protection from inclusion in 'de-identified' reports.

An automated system's design should identify the types of personal information that are (a) subject to change or potentially unreliable, and (b) relevant to the making of a decision. The resultant workflow should prompt for updated information to be obtained prior to a decision being made.

- 
- ✓ **Have appropriate strategies been employed to manage the risk that outdated or unreliable data is used to make an automated decision?**
-

# 3 Automated Systems Design

## ***Transparency of access and change processes in relation to personal information***

The design of an automated system should promote openness and accountability of the processes the system uses to handle personal information.<sup>11</sup> For example, updates to personal information fields should be date stamped, and reasons for the change recorded (further guidance on this issue is provided in Part 4, *Ensuring Transparency and Accountability*, page 33).

The design of an automated system should support the agency’s obligation to publish a digest of the types of personal information collected.<sup>12</sup>

It is also important that the business processes around access to personal information allow an individual access to their personal information, provide them with opportunities to correct inaccuracies in this information and to seek remedies where warranted (for breaches of privacy).

- 
- ✓ **Does the automated system enable individuals to have access to the personal information collected (for example, via the generation of a personal information report where requested by an individual)?**
  - ✓ **Do the business processes associated with use of the automated system have clear information access and complaint pathways?**
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11 See Information Privacy Principles 2, 5, 6 & 7

12 See Information Privacy Principle 5

# Part 4



Ensuring Accuracy



# 4 Ensuring Accuracy

In the same way that manual administrative decision-making processes must ensure the ongoing accuracy of decisions – particularly as legislation, policy and procedure change – automated systems must also have processes in place to ensure that the system is producing accurate and lawful decisions. The accuracy of an automated system is of paramount importance in ensuring compliance with the administrative law values of lawfulness and rationality, and also to a lesser degree, efficiency.

The improved accuracy and consistency of administrative decisions generated by automated systems (as opposed to some manual administrative processes) are often among the most important business benefits sought by agencies considering or using such systems. The accuracy of an automated system is an issue that will require ongoing consideration and work for, at the very least, it requires that policy owners of a system are aware of, and assess the implications of, any changes to the legislation, policies and sometime procedures underlying a system's business rules.

While changes in the underlying legislation or policy may not require any change or amendment in the business rules of an automated system, agencies must ensure that there are processes in place to ensure there is appropriate consideration of the possibility of changes to the business rules, and if necessary, that changes can be made to the system in a timely and efficient manner.

Aside from measures to ensure the accuracy of the underlying business rules, consideration of technical issues and consultation with the appropriate stakeholders are just some of the strategies agencies can employ to ensure the accuracy of administrative decisions made or assisted by an automated system.

## Modelling the business rules

**Automated systems must accurately and comprehensively model relevant legislation, policy and procedures.**

### *Primacy of legislation*

In law, legislation prevails over policy. Neither policy nor procedures can be incompatible with legislation: to be so would cause an agency to act outside of the legal authority provided to it by the Parliament.

Automated systems are tools which model and interpret legislation, policy and procedures. They must be entirely consistent with the laws, policies and procedures that are modelled, so as not to cause a person or agency to act 'outside of power' or 'outside of jurisdiction'.

In principle, the primacy of legislation is crucial in all elements of an automated system project, from system design through to the training of system users.

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✓ **Do all members of the system design team share an understanding of the primacy of the law and is this understanding reinforced at all levels and stages of the automated system project?**

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## **Authority of legislation**

Developing an automated system will often begin with an analysis of business needs and practices derived from the legislation, policy and procedure. This leads to the documentation of a comprehensive set of ‘business rules’.

Each rule needs to be authorised by legislation, and supported by settled policy and/or procedures. For accountability reasons, a verification process is desirable.

---

✓ **Are the business rules authorised by the law and verified as such by the policy owner?**

---

✓ **Where the automated system makes decisions, is this authorised by the relevant law, policy or procedure?**

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The business rules used by automated systems for administrative decision-making should also closely mirror the *structure* of the legislative or policy sources. This strategy avoids unnecessary and undesirable interpretation of the source material that may lead to misinterpretations.

Mimicking the structure as well as the detail of relevant legislation, policy or procedures also allows for manual comparisons to be made of both the rules and the source, enabling the authenticity of the rules to be checked or verified. This is important for the quality assurance purposes, as well as external scrutiny, for example, investigation by the Ombudsman or examination by the Auditor-General.

Another strategy is to reference each business rule in an automated system with the relevant citation of the source from which it was derived – for example, the particular section or subsection of the Act or the paragraph in the policy or work practice manual. This is important so that each rule’s lineage can be verified. This strategy also makes it easier for an automated system to be maintained when legislation, policy or procedures change.

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✓ **Do the business rules mimic the structure and detail of the source legislation, policy or procedures?**

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✓ **Have the business rules been referenced or linked to the source material (i.e. the specific part of the legislation, policy or procedures)?**

---

## **Fully automated decisions**

It is possible for an automated system to make decisions automatically. The authority for making such decisions will only be beyond doubt if specifically enabled by legislation. The construction of such an authorisation should nominate a position or title of a person with ultimate responsibility for the decision, such as the Secretary of the relevant Department.

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✓ **Where the automated system makes a decision, is this authorised by the relevant legislation?**

---

## 4 Ensuring Accuracy

### ***Comprehensive modelling***

It is essential that the business rules modelling process accurately captures legislative and policy provisions as well as the relevant procedures. It should not narrow the scope, application, context or meaning of the enabling legislation, nor reinterpret the policy objective.

Furthermore, in the design phase of the system, it is particularly important that the modelling process is comprehensive, and all relevant legislative, policy and procedural rules required to accurately make a determination are actually contained in the automated system.

Also, it is particularly important that discretionary provisions contained in the underlying legislation, policy or procedures are not restrictively modelled in an automated system. An automated system can appropriately manage the recording of discretionary decisions made by officers by providing adequate storage space within the system for the information and facts leading to a discretionary outcome.

- 
- ✓ **Have decisions about business rule definition relating to administrative decision-making discretion been adequately recorded?**

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  - ✓ **Have the business rules been reviewed (for example, by the policy owner) to ensure they accurately and comprehensively represent the relevant law, policy or procedure?**

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  - ✓ **Does the business rules review process examine discretion points to ensure they are not narrowly modelled or fettered?**
- 

### ***Handling inconsistencies***

Sometimes the 'modelling' or 'rules definition' process will reveal inconsistencies in the way legislation, policy or procedure may have been administered. It may also expose anomalies in the legislation, policy or procedure itself. In each case, to aid accountability, the anomaly or inconsistency should be settled within the governance process.

- 
- ✓ **Do the project governance arrangements provide for settling anomalies and inconsistencies in legislation, policy or procedure?**
- 

### ***Difficulties with applying legislative rules***

Agencies should be aware that the modelling of business rules from legislation will involve time and there may be a need to resolve legislative complexity where ambiguity in interpretation exists. The Administrative Review Council Report No. 46 highlighted four areas in which an error can be made in the application of legislation to determine an entitlement:

- substance and breadth of the legislation
- structural complexity of the legislation
- semantic complexity of the legislation
- exercise of discretion.

The first area of potential error – the substance and breadth of the legislation – relates to the fact that the relevant provisions can often be found at various locations throughout a piece of legislation or, in some cases, various pieces of legislation. In these cases a correct determination is dependent on identification and application of all the relevant provisions; for example, definitions and clarifying terms might be inserted at the front of the statute and not near the operative provision.

The second potential problem – structural complexity – relates to the form of the relevant provision; for example, preconditions can be conjunctive or disjunctive or there may be exceptions to preconditions. There are numerous instances of provisions with those characteristics.

The third potential problem – semantic complexity – relates to the interpretation of certain terms, while the fourth potential problem – the exercise of discretion – relates to determining the width of the discretion and whether it is being exercised by the decision-maker in accordance with the legislation conferring it.

Potential errors in relation to semantic complexity and the exercise of discretion can be minimised through the use of commentary that sets out relevant policies and rules, as an adjunct to the rule-based system.

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✓ **Have all areas of legislative or policy complexity and ambiguity been appropriately resolved?**

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**Automated systems must correctly model matters of judgement and discretion, and be capable of scrutiny and review.**

### ***Dealing with discretion and judgement***

An important principle to be followed in good administrative decision-making is that discretionary powers provided for under legislation should not be fettered or restricted by systems or work practices within an agency context. This principle also applies to areas requiring judgement. The decision-maker must have regard to all the relevant circumstances of the case, which involves an active intellectual process.

Australian Government agencies have adopted a number of approaches in dealing with the exercise of discretion or judgement. Some agencies have designed automated systems to ask direct questions as to whether a particular discretion should be exercised or a particular judgement made.

Other agencies have taken a different approach, breaking down the factors relevant to the exercise of discretion (or the issue requiring judgement) and modelling them into an automated system as additional business rules. This approach is aimed at ensuring the decision-maker has considered all relevant matters in exercising discretion or judgement. It is important that agencies taking this approach do not incorrectly restrict or fetter the powers provided for under the legislation or policy.

Any approach taken to deal with discretion or judgement within an automated system should have the capacity to capture and record the decision-maker's reasoning. This capacity should preferably be built into the system itself, to ensure that the automated system's audit trail clearly sets out each of the decision points involving discretion or judgement.

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✓ **Has the automated system appropriately modelled parts of the administrative decision-making process involving the exercise of discretion and judgement?**

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✓ **Does the automated system mandate the collation of the decision-maker's deliberations or reasoning on matters of discretion or judgement?**

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# 4 Ensuring Accuracy

## ***Support information for decision-makers***

To further assist decision-makers with matters of discretion and decisions requiring judgement, some agencies have included a function in automated systems linking questions to relevant research material, such as:

- Links to a commentary setting out the context of the discretion or judgement
- Links to the relevant section of the legislation, policy or procedure
- Links to relevant court or tribunal decisions or other appropriate information.

Access to relevant research and decision-support materials is particularly important in ensuring the accuracy of decisions involving discretion or judgement.

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✓ **Does the automated system provide links to relevant research and decision-support materials for each question or decision point contained in the system?**

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## **Technical issues affecting accuracy**

The process of developing or redeveloping an automated system may result in the identification of issues in relation to an agency's existing IT systems and infrastructure. These issues need to be clarified and resolved to ensure that the accuracy of an automated system is not compromised by other factors in an agency's IT environment.

### ***Interfacing with existing systems***

Interfacing an automated system with other agency systems can prove difficult due to the existence of different data definitions, existing services and different processing hand-offs. The total information technology solution – of which an automated system may be only one part – could consist of a mixture of business rules and procedural code, which should be understood at the outset.

Agencies may find that it is difficult to partition the activities of an automated system and associated systems correctly without overlap, and that some tasks done procedurally in another system may operate better if incorporated into the business rules of the automated system (and vice versa). Unless the partition of tasks between systems is managed well, the automated system will be harder to understand and maintain.

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✓ **Where automated systems interface with other agency IT systems, have you ensured that the accuracy of the legislative or policy rules within the automated system are not compromised (for technical efficiencies or otherwise)?**

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### ***Changes to IT infrastructure***

Automated systems are often custom-built to agency requirements and, like any other agency system or application, must be accommodated on the existing information technology platform. Regardless of the size and scope of an automated system, changes to existing IT infrastructure or personnel may impact on the operation of an automated system.

Early consultation with the relevant agency IT professionals regarding existing or upcoming major projects is advised.

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✓ **Where automated systems interface with other agency IT systems, what measures have been taken to ensure systems interoperability and ease of update for the total solution?**

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## **Data quality**

Data quality, also known as data integrity, means for agencies: ‘Safeguarding the accuracy and completeness of information and processing methods.’<sup>13</sup> Data quality in automated systems can be compromised by human error, technical error (hardware or software), or natural disasters (fires or floods).<sup>14</sup>

Agencies should adopt suitable procedures for accurately collecting and safely storing data used by automated systems in administrative decision-making. Particular consideration needs to be given to data quality in self-assessment systems, as these systems rely upon the manual collection and entry of data.

One strategy to ensure data quality might be to consider the way in which automated systems are included in business continuity management plans, and to ensure the ongoing reliability and integrity of these systems.

Data quality not only encompasses the requirement that agencies use suitable practices for the collection and storage of data at the outset of their administrative processes, but also that steps are taken to ensure the accuracy and completeness of this data over time.

This might mean that agencies also consider the potential impact on data quality of any software or hardware changes to automated systems, and reconfirm that a system’s operations still match the current business rules.

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✓ **What measures have you taken to protect the integrity and quality of data held within the automated system?**

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## **Verification with stakeholders**

**Agencies using automated systems must have a documented verification strategy.**

## **Governance and verification**

A documented verification strategy is essential if an agency is to have confidence in the accuracy, consistency and currency of its automated system. For a verification strategy to be effective, it must be incorporated into the governance framework for the automated system project, and must link with the policy ownership strategy.

The verification strategy should ensure that the following project stakeholders are consulted:

- Policy owners
- Architecture, data and other information technology professionals
- Program managers
- Service delivery professionals.

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✓ **Do the project governance arrangements provide for and link with a verification strategy and quality assurance process?**

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<sup>13</sup> Definition from the Australian and New Zealand Standard, AS/NZS 7799.2:2003, *Information Security Management*. Australian National Audit Office 2006, *Integrity of Electronic Customer Records*, Audit Report No.29 2005–06, ANAO, Canberra, p. 8.

<sup>14</sup> *ibid.*

# 4 Ensuring Accuracy

## ***Authorised decision-making***

As authority to act is a fundamental tenet of administrative decision-making, it is important that the verification process for an automated system is able to test whether the nominated decision-maker is authorised to act. As a consequence, the audit facility should be able to report user access and decisions against delegations.

Verification and quality assurance processes are particularly important where a decision-maker is exercising delegations under multiple Acts, or on behalf of another agency. In these instances, an automated system should be designed to allow functionality privileges or access commensurate with users' delegations.

## ***Active rule verification processes***

The rule verification strategy for an automated system should be designed to provide an evidence-based approach to satisfy the policy owner of the authenticity of the automated system. Strategies might include:

- A visual verification process, in which all the business rules contained in an automated system are subjected to a direct comparison against the source legislation, policy and procedure. This is particularly important for controversial or troublesome areas of a program's administration. To enable this, underlying rules need to be accessible and readily understood by non-IT professionals (such as legal and policy professionals).
- 'Known outcome' scenario-based testing, where test cases are used to determine whether the determinations made by an automated system are accurate. It is essential that the policy owner leads the development of scenarios for testing, in consultation with legal areas, users, and, where appropriate, client representative organisations, (as the purpose of this testing is to verify the coding of the business rules).

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✓ **Does the agency have appropriate verification processes, including visual verification of the underlying business rules as well as 'known outcome' scenario testing?**

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✓ **Does the policy owner lead the 'known outcome' scenario-based testing process?**

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✓ **Are the underlying business rules contained within the automated system accessible and readily understood by non-IT professionals?**

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## ***Verifying user understanding***

Implementation gaps can arise between the design of an automated system and the way users use it. Concepts and issues that may be obvious to an expert group may be obscure or not understood by users.

The verification strategy should ensure that the policy owner retains input into the analysis of the training needs of users (for example via pre-and post-decision quality assurance processes). Where warranted, the policy owner might also be involved in training delivery to reinforce the policy intention with user.

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✓ **Does the verification strategy include a 'gap analysis' to assess whether the system design is appropriate to user needs, and is it being used as designed and intended?**

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✓ **Does the verification strategy incorporate a review of user training to ensure the policy intention is communicated effectively and rapidly, and applied consistently?**

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## ***Valuing different perspectives***

Decisions that are disputed or complained about can provide valuable intelligence to agencies about possible shortcomings in their information gathering methods or their administrative decision-making processes. The various tribunals and the external accountability agencies (e.g. the Ombudsman, the Auditor-General and the Privacy Commissioner) have unique exposure to the problems that arise in public administration, and can provide data that is highly relevant to the verification process. Specialised citizen and customer advocacy groups may also be able to pinpoint or predict problematic areas in public administration that agencies may not identify.

Broad consultation can improve a system. Client/representative input into an automated system project might include:

- Reviewing interview or categorisation questions
- Verifying business rules relating to contested interpretations of the law
- Providing scenarios designed to test the limits of a system
- Granting access to system training or a test environment.

A verification strategy might also include inviting feedback on the accountability features of an automated system for the purposes of ensuring accuracy. Again, for external verification to occur, the underlying business rules contained in an automated system should be accessible and in a readily understandable form.

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✓ **Does the verification strategy allow for external scrutiny by, and seek input from, external stakeholders?**

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# Part 5



Ensuring Transparency  
and Accountability

# 5 Ensuring Transparency and Accountability

**The underlying ‘business rules’ of an automated system must be readily understandable and publicly available.**

Opening government administrative decisions and processes to external scrutiny strengthens public confidence in the integrity of government decisions. Providing opportunities for scrutiny demonstrates (or enables demonstration of) the impartiality, rationality, lawfulness, legitimacy and efficiency of government administrative decisions.

Over the last 30 years, transparency and accountability are two of the more important principles that have evolved to give effect to the idea of ‘open government’. These twin principles have become permanent features of an Australian administrative law landscape that is designed to foster good public administration.

Our system of government provides several layers of transparency and accountability mechanisms, which are reflected in Australian law and policy in many different ways. These include:

- Placing a legal duty on government agencies to expose to the public gaze the laws, policies and procedures (including administrative decision-making processes) used to deliver government programs (e.g. through disclosure of policy guidelines and manuals under the *Freedom of Information Act 1977*)
- Providing for administrative decision-making processes to be examined externally on a case-by-case basis (e.g. via a complaint investigation process conducted by the Ombudsman under the *Ombudsman Act 1976*)
- Establishing judicial and merits review of individual decisions by courts or tribunals
- Enabling auditing of the efficiency and efficacy of the administration of government programs, including the collection and expenditure of public money (e.g. performance and financial auditing conducted by the Australian National Audit Office under the *Auditor-General Act 1997*).

While these processes do not apply to every administrative decision or process of the Australian Government, these mechanisms, and a variety of others, are designed to ensure the appropriate use of government resources and to protect individuals from arbitrariness in the exercise of government power.

## Transparent rules

Correctly applied, automated systems can provide an effective solution for many of the complex business needs attached to administrative decision-making. Potentially, decision-makers can have greater confidence in their conclusions, and policy owners can be better reassured that legislation and policy are appropriately interpreted and consistently applied between cases.

Ensuring decisions are made fairly and in accordance with the law is good public administration: it results in fewer complaints, fewer appeals and increased public confidence in agency decisions. Being able to demonstrate how and why a decision was made, and disclosing the underlying business rules of a system that may automate part of the decision-making process, also contributes to this goal.

Automated systems, because of their ability to ‘build in’ transparency and accountability principles, offer the opportunity to improve the outcomes of program administration. The challenge is for policy makers, lawyers and information technology specialists to gain a sufficient understanding of each other’s domains to produce an outcome that achieves transparency and accountability in systems that are used to administer programs, as well as achieving other core business outcomes.

## **Rules must be disclosed**

The *Freedom of Information Act 1982* makes it a legal requirement<sup>15</sup> for most Australian Government agencies to publish, or make available for sale policy or procedural documents of the agency that are used in making decisions or recommendations under any enactment or scheme administered by the agency that confers rights, privileges or benefits on a person, or which subject them to obligations, penalties or other detriments.

The *Freedom of Information Act* (section 9) specifies that the documents to be publicly disclosed include (but are not limited to):

- Manuals or other documents containing interpretations, rules, guidelines, practices or precedents and advices
- Documents containing particulars of schemes administered by an agency
- Documents containing statements of the manner, or intended manner, of administration or enforcement of an enactment or scheme.

The definition of *document*<sup>16</sup> includes, amongst other things, any article on which information has been stored or recorded, either mechanically or electronically. Research materials should also be made available for scrutiny where these are included as a component of the automated system.

The *Acts Interpretation Act 1901* (s 25A) specifies that records of information held electronically should be able to be produced as ‘a writing that reproduces the information in a form capable of being understood by [a] court, tribunal or person [such as the Ombudsman or Auditor-General]’ for inspection under an enactment.

The purpose of these laws is to ensure that agency practices and procedures affecting members of the public in their dealings with government departments and public authorities are readily available to the people affected by those practices and procedures.

Disclosure and exposure to audit are important expressions of the transparency and accountability policy of government, and contribute significantly to confidence in public administration.

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### **✓ Are the business rules incorporated within the automated system publicly available?**

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## **Rules to be verified**

To best enable Australian Government agencies to comply with their legal and accountability obligations, including complying with the *Acts Interpretation Act*, automated systems should be designed with disclosure and external scrutiny in mind (as outlined in Part 3 of this Guide, *Automated Systems Design*, page 21).

It should be noted that disclosure of the business rules does not fully resolve the issue of whether the underlying coding has faithfully implemented each business rule and its interaction with other rules. The most practical way to check this is for an agency to have a robust verification strategy, in which the policy area actively participates, using ‘expected outcome’ scenario-based testing. While scenario testing can never cover all possible decision outcomes within a system, in combination with the referencing of each rule to its source, it will better enable internal verification and external scrutiny.

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### **✓ Are appropriate strategies in place to ensure that the business rules contained in the automated system are verified?**

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<sup>15</sup> *Freedom of Information Act 1982* s 9(1)(a)

<sup>16</sup> *ibid* s 4(1)

# 5 Ensuring Transparency and Accountability

## ***Business rules should be understandable***

To best enable Australian Government agencies to comply with their legal and accountability obligations, including complying with the *Acts Interpretation Act*, automated systems should be designed with disclosure and external scrutiny in mind.

For this reason, there may be some advantages if software programming of the business rules is done in natural English language, in preference to an IT programming language that may not be understood by non-IT professionals. Where this is not easily achievable, for example, where automated systems are already in production or where other software or programming language options are chosen, agencies should consider appropriate strategies to meet transparency and disclosure obligations.

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✓ **Are the business rules contained within the system in a form that can be readily understood by non-IT professionals?**

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## **Transparent decisions**

### ***Audit capability essential to accountability***

To ensure that the appropriate law, policy and procedure have been correctly applied to individual circumstances, an automated system should be able to automatically generate a comprehensive audit trail of the decision-making path.

The audit trail should be derived from the underlying business rules of the automated system, and the interaction between the rules and the facts of the case. This enables the decision-maker to check or review the determination made via the automated system before finalising the decision. It also enables external scrutiny of the administrative decision.

### ***Statements of reasons***

Where the audit trail is incorporated into a statement of reasons (or a notice of decision), it enables individuals or entities affected by decisions to understand the basis of those decisions. A notice of decision needs to be in plain English and should be designed in a way that facilitates a meaningful understanding of the basis for the decision.

A 'statement of reasons' is a reasoned and logical argument that demonstrates that real consideration has been given to an administrative decision. It sets out the findings on material questions of fact and refers to the evidence or other material on which those findings are based.<sup>17</sup>

It may not be sufficient for an automated system to simply generate a printout of the outcome of the decision-making process. A statement of reasons is to be more than a 'statement of compliance with rules' or a 'statement of conclusion'.

A statement of reasons would typically:

- Set out the decision (what has been decided)
- List findings on material questions of fact and include a probative assessment or weighing of evidence
- Include a statement about why the decision is preferred over other available alternatives (and cite the relevant authority or precedent, where applicable)
- Demonstrate that the decision is within power (i.e. jurisdiction) and that an appropriate test provided for in legislation has been used
- List any avenues that are open to a person to challenge or appeal the decision.

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<sup>17</sup> For a more detailed discussion, see *Practical Guidelines for Preparing Statements of Reasons* (November 2002), Administrative Review Council, Canberra.

It is not necessary for a statement of reasons to include every detail of the decision-making path. For example, if part of the decision includes complex calculations that are based on a formula set out in the legislation, it may not add to an individual's understanding of a decision for the complex calculation to be set out in a decision letter. However, all elements of the calculations should be exposed in an audit trail and be available upon request. This capability would also allow for more effective internal quality assurance and external review.

- 
- ✓ **Does the automated system have the capacity to automatically generate a comprehensive audit trail of the administrative decision-making path?**

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  - ✓ **Are all the key decision points identifiable in the audit trail?**

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  - ✓ **Are all the key decision points within the automated system's logic linked to the relevant legislation, policy or procedure?**
- 

### **Legal requirements for statements of reasons**

It is a common requirement in administrative decision-making that a statement of reasons is made available to those directly affected by a decision. However, it should be noted that not all administrative decisions require a formal statement of reasons; agencies should check the underlying legislation to confirm whether it is legal requirement.

Below are some examples of when providing a comprehensive statement of reasons is a lawful requirement:

- *Administrative Decisions (Judicial Review) Act 1977* (ADJR Act)
  - s 13(1) – in general, and subject to some exclusions, a person who is aggrieved by an administrative decision made under a Commonwealth enactment is entitled to apply for an order of review of a decision under the ADJR Act and is also entitled to request a written statement of reasons for the decision, which is to include findings on material questions of fact
- *Administrative Appeals Tribunal Act 1975*
  - s 28 – a person who is entitled to apply for a review of a decision under a particular enactment may request a written statement of reasons for decision and findings on material questions of fact
- *Acts Interpretation Act 1901*
  - s 25D – reasons for decision to also set out the findings on material questions of fact and refer to the evidence or other material on which those findings were based.

Some jurisdictions have additional legislative requirements for a written statement of reasons as part of the notification of the decision. In other circumstances, legislation specifically states that a statement of reasons is not required for particular decisions.

Even though some types of decisions are specifically excluded from a requirement to provide reasons, they may still be needed to satisfy the accountability requirements of the Ombudsman, courts and tribunals. To satisfy these requirements, an automated system should record the decision-making path and demonstrate the logic process leading to the decision.

An automated system needs to capture sufficient information to be able to comply with the legal requirements of the review process. The Administrative Review Council has an unambiguous view of this matter:

‘Regardless of whether a person has formally asked for a statement of reasons, the [Administrative Review] Council considers that people should receive a clear explanation of the reason for a decision when they are notified of the decision.’<sup>18</sup>

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<sup>18</sup> Administrative Review Council *Automated Assistance in Administrative Decision-Making*, Report to the Attorney General, Report no. 46, November 2004, Canberra. (p 32)

# 5 Ensuring Transparency and Accountability

For all these reasons, the components of the reasons for a decision (e.g. elements of decision-making judgement, weighing of evidence and the exercise of discretion) should be easily extracted from the audit trail facility for use in a draft statement of reasons.

---

✓ **Are all decisions recorded and accessible by the system's user, a reviewer or an auditor?**

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It is important that the audit trail of an automated system is not able to be altered or manipulated by users (so that the integrity of the audit trail is not compromised). However, it is practical to allow decision-makers to edit statements of reasons to make them fit for the purpose (e.g. to make them more likely to be understood by the recipient).

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✓ **Can the audit trail generated by the automated system be easily integrated into a notification of the decision (including a statement of reasons or other notification) where required?**

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✓ **Is the audit trail secure from tampering (to provide protection and data integrity)?**

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✓ **Does the audit trail include a comprehensive and printable modification history including:**

- **who created the document (with time and date recorded)?**
  - **who has modified the document (with time and date)?**
  - **a record of what was modified?**
  - **for privacy and commercial-in-confidence matters, who has viewed the document (with time and date)?**
  - **who made the final decision (with time and date)?**
- 

## Audit issues

**Automated systems must have the capability to automatically generate an audit trail of the decision-making path.**

The audit trail of an automated system should provide a traceable path of changes to records, including identifying the rationale for any changes made to records or decisions. In some cases, audit trails also identify personnel who have accessed particular records.

The following guidance is based on the premise that the requirements for a comprehensive *electronic* audit trail for automated systems involved in decision-making processes are fundamentally the same as those for a *paper* audit trail. The premise applies whether automated systems are used as a tool to generate a recommendation, to make a decision or to process a transaction.

### **Audit capability and statements of reasons**

To ensure that the appropriate law, policy and procedure have been correctly applied to individual circumstances, an automated system should be able to automatically generate a comprehensive audit trail of the decision-making path.

The audit trail should be derived from the underlying rules of an automated system, and the interaction between the rules and the facts of the case.

# Ensuring Transparency and Accountability **5**

When the audit trail of an automated system is incorporated into a statement of reasons (or a notice of the decision), it enables individuals affected by decisions to understand the basis of those decisions. The notification of decision, which should include a statement of reasons where required by legislation or agency policy, needs to be in plain English and should be designed in a way that facilitates a meaningful understanding of the basis for the decision.

- 
- ✓ **Does the audit trail start by identifying the authority or delegated authority identified in legislation?**

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  - ✓ **Does the audit trail show who an authorised decision-maker is?**

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  - ✓ **Does the audit trail enable the recording of human intervention in automated processes, for example recording who is authorised to exercise intervention?**
- 

It is not necessary for a statement of reasons to include every detail of the decision-making path. However, all elements of the calculations should be exposed in an audit trail and be available upon request. This capability also allows for more effective internal quality assurance and external review.

- 
- ✓ **Does the automated system have the capacity to automatically generate a comprehensive audit trail of the administrative decision-making path?**

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  - ✓ **Are all the key decision points identifiable in the audit trail?**
-





# Part 6

## Implementation and Maintenance

# 6 Implementation and Maintenance

Implementation of an automated system represents one of the final activities of the automated system 'project', and marks the beginning of the operational management of the new administrative decision-making processes, often incorporating new staff roles, new business processes, and training and maintenance procedures.

Implementation of an automated system is not just about 'the IT system' itself, but should also incorporate business process re-engineering, affirmation of the measures in place for evaluation and review, and management of impacts of the project. Well-executed projects producing accurate and transparent automated systems are of little use to agencies if business processes are out-of-date, and there are no timely or effective means to update the system.

Consideration of maintenance requirements for an automated system should have been made during the design phase, and processes for the execution of changes to the business rules decided upon before a system is operational.

## Implementation

**Implementation of an automated system presents opportunities for agencies to reform poorly designed business processes.**

Implementation of an automated system represents the culmination of much preparation and collaboration on the business rules, technical design, user interface and verification processes, and other important aspects of the system itself.

However, the implementation phase of an automated system project represents more than just integration of a new information technology system. It also presents agencies with the opportunity to reform redundant and/or poorly designed business processes, to reaffirm how the automated system project will be evaluated and reviewed, and to ensure that any unforeseen impacts of the project are identified and managed.

Agencies should note that the implementation phase of an automated system project should be managed and overseen by appropriately skilled and experienced officers, and not relegated to junior and/or technical staff alone. In many cases, senior management leadership and oversight is essential to the achievement of agency outcomes and to the realisation of other benefits resulting from the automated system project.

### ***Business process re-engineering***

Implementation of any new information technology system can change the work flows and practices of an agency. Often, implementation of an automated system for administrative decision-making involves substantial changes to agency work practices.

Agencies nearing implementation of an automated system should be aware of the need to assess the impact on existing business processes and, where possible, redesign poorly designed and/or redundant business processes.

Consultation with service delivery and program managers should take place and consideration of corporate and departmental reporting processes is advised, as is stakeholder consultation with affected agency employees (whose roles, responsibilities and activities may be significantly changed under the new business processes).

In many cases, it is the re-engineering of business processes (aside from the automated system itself) that delivers substantial efficiencies and cost savings to agencies.

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- ✓ **Have poorly designed and/or redundant business processes been re-engineered and/or retired?**

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  - ✓ **Have you identified new business processes brought about by the automated system, such as mapping new business interactions, roles and responsibilities?**

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  - ✓ **Has adequate consultation and stakeholder management been undertaken to address the change to new business processes?**
- 

### ***Impact on other agency systems***

The implementation of an automated system can impact on other agency systems. Legacy systems, databases and other information technology infrastructure may be rendered unnecessary and/or obsolete. While management of these systems may be outside the responsibility of an automated system's managers and business owners, it is important that the impacts of an automated system on the usefulness and currency of other agency systems is assessed during implementation and review phases.

- 
- ✓ **Have you identified the likely impacts that implementation of the automated system will have on the usefulness and currency of older information technology infrastructure and systems?**
- 

### ***Evaluation and review***

Measures for evaluation and review should be established as early as possible in automated systems projects, to allow for the possibility that report generation and the collection of relevant data can be built into the system.

Agencies planning the evaluation and review cycle for an automated system will be best served by establishing the frequency and level of information required to determine benefits' realisation at, or before, implementation of the system. This includes agreement on the specific data sources and information to be monitored and reviewed, and on a schedule for assessment and reporting of these variables.

A number of variables could be considered for monitoring and review, from business outcomes, to system statistics and client outcomes. Other important data will include budget and spending patterns, user and/or client numbers and feedback, and the ongoing monitoring and management of risks. Agencies should also be aware that program and policy areas of the agency may consider automated system data useful with regard to policy refinement.

Feedback and the incorporation of monitoring data will form an important picture of the success of an automated system project, in addition to creating a valuable source of information for the review, improvement and/or expansion of a system into the future.

- 
- ✓ **Have you established a monitoring and review cycle for the automated system, including agreement on the information and data to be collected?**

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  - ✓ **Have you considered collecting data that might be useful for policy and/or program refinement? If so, have you consulted the policy areas of the agency in relation to this issue?**

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  - ✓ **Have you established appropriate user/client feedback mechanisms?**

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  - ✓ **Have you clarified who has responsibility for the incorporation of learnings, monitoring and review?**
-

# 6 Implementation and Maintenance

## User training

Technology is an enabler of efficient and effective administration in government. Its use supports, not replaces, administrative decision-making and operational processing. Automated systems deployed internally (i.e. as part of internal agency processes) can reduce the need for large numbers of agency decision-makers, while at the same time creating new roles to support new work processes.

### *Comprehensive training*

Automated systems often provide agencies with the ability to make a vast number of high quality decisions to better assist their clients. However, these systems are no substitute for comprehensive, regular training of officers engaged in decision-making.

Decision-makers need to understand the legislative and other contexts, and how the system and its tool/s support the process to effectively exercise legislative delegation. Automated systems and their inbuilt tools assist in providing consistency and structure but, depending on the scope of the system, may not cater for every circumstance that arises. Agency decision-makers in particular must be skilled in assessing system responses and their applicability.

Traditionally, training programs associated with the introduction and uses of new technologies have focused on 'what-button-to-push'. With technology now an integral part of government activities, training programs should focus on what business outcomes are required and how systems can be used to support these outcomes.

Officers still need to be able to make a decision manually (in the event of system malfunction) and explain the decision to an applicant. This may include an explanation of the relevant legislation and policy, and any changes to it. Officers (particularly those with a customer-facing role) may also be required to give explanations of decisions to individuals or entities affected by administrative decisions. These officers in particular – and others engaged in other aspects of the decision-making process – should be regularly and comprehensively trained in the policy and legislative basis for administrative law decisions.

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✓ **Does the project plan include a training program for users of the system?**

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✓ **Have you established which of the following components are to be included in the training program: business rules, legislation, use of the system, the wider business context and broader administrative decision-making skills?**

---

### *New and changed roles*

Implementation of an automated system can result in new or changed roles for agency officers. These roles are often created as a result of broader business improvement or process re-engineering programs, not just the implementation of automated administrative decision-making processes, and can require significant new skills development and training for officers.

Under these circumstances, agencies may find that highly detailed, in-depth legislation and policy training is no longer required, as the automated system logic now builds in such detail. Training for officers may be better focussed on a broader understanding of the underlying legislation, the new business context, and use of the system. Agencies may also consider a training program to assist the development of broader administrative decision-making skills in agency officials, including how to consider evidence, make judgements, and give appropriate weightings to the factors leading to an administrative decision.

New roles may require development of more specific skills, for example in customer service, specialised interviewing skills, or systems verification and quality assurance. Regardless of the skills and training mix the changed business processes demand, agencies should ensure that they have identified and addressed training requirements upon implementation of the automated system, including adequate provision for ongoing officer training.

- 
- ✓ **Have officers in new or changed roles been appropriately trained for their new roles?**
  - ✓ **Has an ongoing training program for the users of a system been developed, including ongoing training updates for system enhancements?**
- 

## Maintenance

Business owners of automated systems should ensure that appropriate maintenance procedures are established and adhered to for the life of the system. This is particularly important in areas where there is a change (or, indeed, frequent change) to the legislation, policy and procedures underlying the business rules of the automated system.

### *Adequate funding*

Because of the importance of maintaining an up-to-date automated system, sufficient funds need to be secured during the project planning phase. A dedicated budget for maintaining an automated system is essential.

- 
- ✓ **Has adequate funding been secured for ongoing maintenance and upgrades to the system?**
- 

### *Maintenance cycles*

Consideration of the maintenance requirements of an automated system should be made at the outset of the project. Often, the frequency of legislative and/or policy change – and subsequently the frequency of maintenance of the business rules of an automated system – is familiar to the policy owners of a project.

Consultation with policy owners regarding the likelihood and frequency of change to legislation and/or policy should be discussed in the scoping phase, so that the system is constructed to respond quickly and efficiently to ongoing changes to law and policy. Clear accountability should be assigned to the business areas responsible for system maintenance and upgrade in response to technical, policy and legislative change respectively. This process should be undertaken early in the development process.

- 
- ✓ **Have clear business owner/s been identified as responsible for the ongoing maintenance and/or change requirements of the system?**
  - ✓ **Do the project and quality assurance processes support the rapid approval and update of commentary within the system?**
- 

### *System monitoring and evaluation*

It is vital that agencies using an automated system for administrative decision-making have robust processes for testing the system, both during its development and following its implementation. Testing of the system should commence from first principle (i.e. from the first level of legislative rules), occur each time a modification to the system is made, and provide an ongoing monitoring cycle of the appropriateness of the decision-making carried out throughout the life of the system.

- 
- ✓ **What testing processes have been undertaken prior to and following implementation of the system?**
  - ✓ **What testing processes are in place to verify modifications to the system or its business rules?**
-

# 6 Implementation and Maintenance

## ***Succession planning***

Retaining IT officers with the skills and knowledge to support automated systems can be a challenge. Early engagement with in-house officers may partially mitigate the risk of loss of IT officers dedicated to an automated systems project, by ensuring that knowledge of the system is shared with (permanent) officers from the outset.

Regardless of whether an agency's automated system is maintained in-house or by an external supplier, members of the team responsible for system maintenance need to have a good understanding of the design history and modifications made to the system, to ensure that any further updates or modifications are consistent with the original model.

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✓ **What strategies are in place to ensure that the automated system's design and modifications history is documented?**

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## ***Business continuity***

Agencies should ensure that interim strategies are in place in the event that the system fails, or an update cannot be made immediately.

When errors in the system cannot be fixed immediately, management-initiated 'workarounds' can be developed, whereby officers are advised of the problem and given instructions for remedying it. In this regard, 'alerts' can be placed in the system as soon as the policy change occurs. These alerts can notify decision-makers that the business rules might have changed and those parts of the system can be 'turned off'.

Business continuity management arrangements should be in place to ensure that, when required, an appropriately trained officer can make a decision manually and explain this decision to an applicant.

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✓ **What business continuity arrangements are in place?**

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✓ **Do business continuity management arrangements address the event of system unavailability or malfunctioning?**

---

✓ **Are officers able to make manual decisions if necessary?**

---

# Part 7



## Summary of Checklist Points



# 7 Summary of Checklist Points

The following checklist points summarise items that should be addressed when considering the implementation or update of an automated system for administrative decision-making.

They have been developed to assist agencies assess the objective of an automated system at the point of development or redevelopment, and to ensure that agencies who automate decision-making are aware of their administrative law obligations when automated systems are used to administer government programs.

The checklist points are intended to be a guide for officers engaged in the design and/or implementation of automated systems, particularly policy owners, business analysts, system developers and administrative decision-makers.

The items in the checklists are not mandatory, and the checklist points are not intended to be comprehensive. Rather, they highlight key issues for agencies in relation to automated systems projects.

The summary of checklist points is iterative and draws on the expertise and experience of Australian Government agencies with automated systems.

For further information and context on checklist points, please consult the relevant chapter or section of this *Better Practice Guide*.

## 1 Where are automated systems suitable?

### *Identifying business needs*

- 
- ✓ Have you identified the key business drivers for automating the administrative decision-making process?

---

  - ✓ Have you clearly identified the business issues and problems that need to be resolved?

---

  - ✓ Is the program area covered by the automated system likely to fund this investment into the future?

---

### *Service delivery options*

- 
- ✓ Have you considered deployment of the automated system through multiple service delivery channels (such as online, for self-assessment or via external agency systems)?

---

  - ✓ Have you identified potential user groups for the automated system?

---

  - ✓ Have you considered the impact of the automated system on your agency's channel management and service delivery strategies?

---

  - ✓ Have you considered the access and equity issues that may arise, particularly if the automated system is to be deployed online or as a self-assessment tool?

---

### *Administrative law and automated systems*

- 
- ✓ Do the administrative decisions you propose to include in the automated system require the exercise of discretion or judgement by the assessing officer? If so, how does the system address the discretionary process?

---

  - ✓ Have you designed the system so that the decision-maker is not fettered in the exercise of any discretion or judgement they may have?

---

  - ✓ Has the automated system appropriately modelled parts of the administrative decision-making involving discretion and judgement?

---

  - ✓ Have all decision points in the automated system that involve the exercise of discretion or judgement been clearly identified as requiring human input, in the form of either a consideration of the facts or a review of a decision already made?

---

  - ✓ Are the business rules relating to discretion or judgement (and any research linked to such rules) contained in the automated system open to internal and external review?

---

# 7 Summary of Checklist Points

## 2 Development and Governance

### *Automated systems projects*

- 
- ✓ Does the project planning process apply best practice IT project management methodologies?

---

  - ✓ Does the project plan comprise a formal benefits' realisation or evaluation plan, including metrics and benchmarks for their achievement?

---

  - ✓ Does the project plan consider stakeholder management, and have agency executives been given realistic expectations about the delivery of the project phases?

---

  - ✓ Does the automated system project have appropriate formal governance arrangements?

---

  - ✓ Is the scope of the automated system clear, and clearly reflected in project documentation?

---

  - ✓ Have the relevant areas of legislation, policy or procedure been identified during the scoping phase?

---

  - ✓ Have you considered the change management ramifications of the project?

---

  - ✓ Have you developed a stakeholder and communications strategy to address the management of changed work practices for officers?

---

  - ✓ Does the design team include officers with technical, legal, policy and service delivery experience?

---

  - ✓ Does the project plan involve consultation and input from the appropriate business and/or program areas?

---

  - ✓ Have the relevant program area/s and end users been consulted during the testing phase of the system?
- 

### *Roles and responsibilities*

- 
- ✓ Do the project governance arrangements unambiguously assign policy ownership?

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  - ✓ Do the governance arrangements provide an appropriate role for the policy owner in the design, development, implementation and maintenance phases of the system?

---

  - ✓ Do the project governance arrangements unambiguously assign project ownership?
-

### 3 Automated systems design

#### *Important factors in design*

- 
- ✓ Have you considered service oriented architectures and business rules modularity to allow for ease of update and maintenance of the system?

---

  - ✓ Does the automated system's audit trail clearly set out decision points involving discretion or judgement?

---

  - ✓ Can the decision-maker's reasoning or deliberations (which are collected by the automated system where discretion or judgement is involved) be incorporated into a statement of reasons or other notification, where required?

---

  - ✓ Will the design of the audit trail assist with efficiently monitoring recommendations, decisions and processes?

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  - ✓ Does the audit trail feature in the agency's design for automated systems?

---

  - ✓ Will the audit trail's design meet the agency's business requirements, internal controls, transparency and accountability criteria, and audit requirements?

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  - ✓ Have you designed the audit trail to include clearly identifiable links to authorised delegations (at every stage of the process)?

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  - ✓ Will the audit trail's design provide for archiving and continuity of access?

---

  - ✓ Have you considered how change control processes will be reflected in the audit trail:
    - to record modifications to the system's operation or performance?
    - to reflect changes to the legislation that underpins the operation of the system?
- 

#### *Integration with other IT systems*

- 
- ✓ Where an automated system interfaces with other agency IT systems, have you clearly identified the business processes that occur between systems?

---

  - ✓ Does the design of the automated system allow for ease of update and interoperability with other agency IT systems?

---

  - ✓ Have you consulted with the appropriate architecture, data and information management professionals within your agency environment?

---

  - ✓ Where required, is the data mapping of terms and definitions relevant to the decision-making process interoperable with other agency IT systems?

---

  - ✓ Will the automated system be required to process backdated administrative decisions?

---

  - ✓ Does the design of the automated system allow for maintenance and execution of different versions of the business rules if required?

---

  - ✓ If the underlying business rules of the automated system change, will the system be required to process changes to multiple decisions or records held within the system?

---

  - ✓ Does the technical design of the automated system allow for the timely and efficient processing of changes to multiple decisions or records if required?
-

# 7 Summary of Checklist Points

## *The automated system interface*

- 
- ✓ Do the governance arrangements provide for business rules to be reviewed (for example, by the policy owner) to ensure they do not fetter the information gathering function?

---

  - ✓ Does the automated system provide a commentary function, clarifying ambiguity or highlighting problem areas in administrative decision-making?

---

  - ✓ Do the governance arrangements and quality assurance processes support the rapid approval and update of commentary and user-support materials within the automated system?

---

  - ✓ Is there a process in place to diagnose quality assurance problems, and to document how quality issues were resolved during the design process?

---

## *Automated systems and privacy*

- 
- ✓ Is the automated system designed to collect only the minimum amount of personal information necessary to meet a clearly defined and articulated purpose?

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  - ✓ Can the collection of personal information (that could identify an individual) be avoided or minimised, while still delivering a useful self-assessment tool?

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  - ✓ Do self-assessment tools make it clear whether information collection is mandatory or optional?

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  - ✓ Do self-assessment tools make clear whether information is being stored and/or retained for further use?

---

  - ✓ Is the IPP2 Notice within your automated system ‘fit for purpose’?

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  - ✓ Are there business processes to ensure that any release of information (outside of the purpose of collection, and for which an IPP2 notice has been given) has been properly considered against the *Privacy Act*?

---

  - ✓ Are data-matching programs associated with use of the automated system properly authorised?

---

  - ✓ Is there legal authority to use existing data (previously collected for another purpose) for a new or secondary purpose?

---

  - ✓ Does the automated system design enable notes of disclosure decisions (and reasons) to be appended to the record?

---

  - ✓ Are appropriate security procedures in place to ensure the security of personal information?

---

  - ✓ Have appropriate strategies been employed to manage the risk that outdated or unreliable data is used to make an automated decision?

---

  - ✓ Does the automated system enable individuals to have access to the personal information collected (for example, via the generation of a personal information report where requested by an individual)?

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  - ✓ Do the business processes associated with use of the automated system have clear information access and complaint pathways?

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## 4 Ensuring Accuracy

### *Modelling the business rules*

- ✓ Do all members of the system design team share an understanding of the primacy of the law and is this understanding reinforced at all levels and stages of the automated system project?
- ✓ Are the business rules authorised by the law and verified as such by the policy owner?
- ✓ Where the automated system makes decisions, is this authorised by the relevant law, policy or procedure?
- ✓ Do the business rules mimic the structure and detail of the source legislation, policy or procedures?
- ✓ Have the business rules been referenced or linked to the source material (i.e. the specific part of the legislation, policy or procedures)?
- ✓ Where the automated system makes a decision, is this authorised by the relevant legislation?
- ✓ Have decisions about business rule definition relating to administrative decision-making discretion been adequately recorded?
- ✓ Have the business rules been reviewed (for example, by the policy owner) to ensure they accurately and comprehensively represent the relevant law, policy or procedure?
- ✓ Does the business rules review process examine discretion points to ensure they are not narrowly modelled or fettered?
- ✓ Do the project governance arrangements provide for settling anomalies and inconsistencies in legislation, policy or procedure?
- ✓ Have all areas of legislative or policy complexity and ambiguity been appropriately resolved?
- ✓ Has the automated system appropriately modelled parts of the administrative decision-making process involving the exercise of discretion and judgement?
- ✓ Does the automated system mandate the collation of the decision-maker's deliberations or reasoning on matters of discretion or judgement?
- ✓ Does the automated system provide links to relevant research and decision-support materials for each question or decision point contained in the system?

### *Technical issues affecting accuracy*

- ✓ Where automated systems interface with other agency IT systems, have you ensured that the accuracy of the legislative or policy rules within the automated system are not compromised (for technical efficiencies or otherwise)?
- ✓ Where automated systems interface with other agency IT systems, what measures have been taken to ensure systems interoperability and ease of update for the total solution?
- ✓ What measures have you taken to protect the integrity and quality of data held within the automated system?

# 7 Summary of Checklist Points

## *Verification with stakeholders*

- 
- ✓ Do the project governance arrangements provide for, and link with, a verification strategy and quality assurance process?

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  - ✓ Does the agency have appropriate verification processes, including visual verification of the underlying business rules as well as ‘known outcome’ scenario testing?

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  - ✓ Does the policy owner lead the ‘known outcome’ scenario-based testing process?

---

  - ✓ Are the underlying business rules contained within the automated system accessible and readily understood by non-IT professionals?

---

  - ✓ Does the verification strategy include a ‘gap analysis’ to assess whether the system design is appropriate to user needs, and is it being used as designed and intended?

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  - ✓ Does the verification strategy incorporate a review of user training to ensure the policy intention is communicated effectively and rapidly, and applied consistently?

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  - ✓ Does the verification strategy allow for external scrutiny by, and seek input from, external stakeholders?

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## 5 Ensuring Transparency and Accountability

### *Transparent rules*

- 
- ✓ Are the business rules incorporated within the automated system publicly available?

---

  - ✓ Are appropriate strategies in place to ensure that the business rules contained in the automated system are verified?

---

  - ✓ Are the business rules contained within the system in a form that can be readily understood by non-IT professionals?

---

  - ✓ Does the automated system have the capacity to automatically generate a comprehensive audit trail of the administrative decision-making path?

---

  - ✓ Are all the key decision points identifiable in the audit trail?

---

  - ✓ Are all the key decision points within the automated system’s logic linked to the relevant legislation, policy or procedure?

---

  - ✓ Are all decisions recorded and accessible by the system’s user, a reviewer or an auditor?

---

  - ✓ Can the audit trail generated by the automated system be easily integrated into a notification of the decision (including a statement of reasons or other notification) where required?

---

  - ✓ Is the audit trail secure from tampering (to provide protection and data integrity)?

---

  - ✓ Does the audit trail include a comprehensive and printable modification history including:
    - who created the document (with time and date recorded)?
    - who has modified the document (with time and date)?
    - a record of what was modified?
    - for privacy and commercial-in-confidence matters, who has viewed the document (with time and date)?
    - who made the final decision (with time and date)?

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## *Audit issues*

- ✓ Does the audit trail start by identifying the authority or delegated authority identified in legislation?
- ✓ Does the audit trail show who an authorised decision-maker is?
- ✓ Does the audit trail enable the recording of human intervention in automated processes, for example, recording who is authorised to exercise intervention?
- ✓ Does the automated system have the capacity to automatically generate a comprehensive audit trail of the administrative decision-making path?
- ✓ Are all the key decision points identifiable in the audit trail?

## **6 Implementation and Maintenance**

### *Implementation*

- ✓ Have poorly designed and/or redundant business processes been re-engineered and/or retired?
- ✓ Have you identified new business processes brought about by the automated system, such as mapping new business interactions, roles and responsibilities?
- ✓ Has adequate consultation and stakeholder management been undertaken to address the change to new business processes?
- ✓ Have you identified the likely impacts that implementation of the automated system will have on the usefulness and currency of older information technology infrastructure and systems?
- ✓ Have you established a monitoring and review cycle for the automated system, including agreement on the information and data to be collected?
- ✓ Have you considered collecting data that might be useful for policy and/or program refinement? If so, have you consulted the policy areas of the agency in relation to this issue?
- ✓ Have you established appropriate user/client feedback mechanisms?
- ✓ Have you clarified who has responsibility for the incorporation of learnings, monitoring and review?

### *User training*

- ✓ Does the project plan include a training program for users of the system?
- ✓ Have you established which of the following components the training program will include: business rules, legislation, use of the system, the wider business context and broader administrative decision-making skills?
- ✓ Have officers in new or changed roles been appropriately trained for their new roles?
- ✓ Has an ongoing training program for the users of a system been developed, including ongoing training updates for system enhancements?



# 7 Summary of Checklist Points

## ***Maintenance***

- 
- ✓ Has adequate funding been secured for ongoing maintenance and upgrades to the system?

---

  - ✓ Have clear business owner/s been identified as responsible for the ongoing maintenance and/or change requirements of the system?

---

  - ✓ Do the project and quality assurance processes support the rapid approval and update of commentary within the system?

---

  - ✓ What testing processes have been undertaken prior to and following implementation of the system?

---

  - ✓ What testing processes are in place to verify modifications to the system or its business rules?

---

  - ✓ What strategies are in place to ensure that the automated system's design and modifications history is documented?

---

  - ✓ What business continuity arrangements are in place?

---

  - ✓ Do business continuity management arrangements address the event of system unavailability or malfunctioning?

---

  - ✓ Are officers able to make manual decisions if necessary?

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**Automated system:** An information technology system that makes or helps make administrative decisions for a government agency, through a process of automation of the decision-making logic.

**Business rules:** The rules underlying the decision-making processes and logic paths built into an automated system. In automated systems used for administrative decision-making, the business rules are often derived from legislation, policy and/or agency procedures.

**Decision-makers:** Officials with responsibility for administrative decisions made during the delivery of agency programs.

**Decision-making system:** An automated system that recommends or makes an administrative decision through a process of automation of the decision-making logic.

**Decision-support tool:** An automated system that automates the decision-making process, but does not make or recommend the administrative decision itself.

**Discretion:** Statutory decision-making provisions that include words such as ‘the decision-maker may’ are indicative of discretion. Discretion may also be associated with the exercise of judgement where a statutory standard is to be applied, for instance, that the person is a ‘fit and proper person’.

**Expert system:** see definition ‘Automated system’.

**IPPs:** Information Privacy Principles, for the protection of individuals’ personal information as defined in the *Privacy Act 1988*.

**IPP2 Notice:** Notice informing an individual of the purposes for which their personal information will be collected and used, as defined in Information Privacy Principle 2 in the *Privacy Act 1988*.

**Notice of decision:** Official notification from a government agency to an individual or organisation informing them of the outcome of an administration decision-making process, and outlining the basis for the decision made.

**Service delivery and channel management strategy:** Business driven choices aimed at delivering services to the customer efficiently and effectively.

**Statement of reasons:** A reasoned and logical argument that demonstrates the consideration given to an administrative decision, setting out the findings on material questions of fact and referring to the evidence (or other material) on which those findings are based.

# Appendix A: Case Studies

## Automated Systems in the Department of Veterans' Affairs

### *Compensation Claims Processing System (CCPS)*

In 1994, the Department of Veterans' Affairs (DVA) implemented an automated Compensation Claims Processing System (CCPS). CCPS is used to assist the investigation and determination of claims from veterans and their families for compensation in relation to disabilities or death caused by Defence service.

#### **Background**

Prior to the introduction of the CCPS in DVA, manual administrative procedures resulted in some compensation claims passing through up to nine stages before the family or veteran (claimant) could be paid.

Before automation, the claims process consisted of multiple handlings of the claim by both specialist and administrative officers, each with responsibility for only their particular part of the process, whether medical verification, assessment under the *Veterans' Entitlement Act 1986* (VEA), or entitlement payment.

The resulting business process was fragmented, with no single area or person having responsibility for the timeliness of response, or for the quality of service provided to veterans and their families. Varying approaches were applied to the decision-making process, resulting in poor consistency of decisions. There were high costs attached to claims processing and review, and long processing periods before decisions and payment could be made (the average claim processing time was over 160 days).

#### **The Compensation Claims Processing System solution**

The CCPS is an automated system which guides DVA decision-makers through some 2000 pages of legislation and over 9700 rules, providing end-to-end support from the lodgement of claim to payment. The automated claims processing system:

- records claimant details and registration of claims
- validates claims to verify that the legal requirements for lodging a claim have been observed
- confirms that diagnoses of the medical conditions claimed meet diagnostic criteria
- investigates the causes of the conditions claimed
- decides if the conditions claimed were caused by war service or were linked to Australian Defence Force employment
- assesses the rate of pension or levels of compensation
- notifies the claimant of the decision and reasons.

The CCPS also produces personalised correspondence to the claimant, appointment letters for claimants and doctors, and draft reasons for a decision. The system is integrated into the DVA enterprise architecture (it exchanges data with a number of other Departmental IT systems), and is used by around 350 officers in branch offices around Australia.

#### **Business results**

The first full year of operation of the CCPS was 1995–96, during which period DVA achieved a substantial improvement in performance in the processing of compensation claims when compared with previous years. The Department estimates that the CCPS has resulted in:

# Appendix A: Case Studies

- productivity improvements of around 80 per cent, since approximately 30 per cent fewer officers now finalise almost 30 per cent more decisions per annum than was the case before introduction of the system
- 60 per cent reduction in average time taken to process claims and appeals (from 160 days to around 60 days)
- estimated reductions in running costs of \$2–3 million per annum (excluding on-costs) or upwards of \$6 million per annum (including on-costs such as State and National office overheads)
- improvements in the consistency of decisions, and therefore, more equitable treatment of claimants
- improved internal review of claims
- better management of information
- better support and acceptance by the veteran community.<sup>18</sup>

## System supports

The CCPS has two dedicated support teams. The first support team monitors, updates and tests the business rules-base in conjunction with the rules service provider. The system undergoes regular maintenance reflecting amendments in legislation, changes to services and updates to statutory rates of payment. Rigorous testing is undertaken when system upgrades are planned to ensure all implications of the upgrade are considered and assessed.

The second support team for the CCPS monitors the operational quality of the overall system. Both teams regularly consult with decision-making and policy officers, for example, by attending consultative forums with ex-Service organisations on the operation of claim and internal review processes.

## External review

DVA ensures that the accountability and transparency of decisions produced by the CCPS are regularly examined by the following activities:

- continued external scrutiny and successive reviews of the compensation process by the Australian National Audit Office
- certification under section 52 of the *Financial Management and Accountability Act (1997)* and *Financial Management and Accountability Regulation 6*
- regular internal scrutiny of both systems by contracted IT auditors or Departmental auditors.

## User training

A specialised program of training was developed to assist DVA officers to adapt to changed work roles, brought about by the implementation of automated systems.

- Working in teams and interacting with new technology

To facilitate new work flows created by the automated system, CCPS claims assessors were placed in teams with departmental medical officers. Training was provided in both the new technology and the new team-based work structures.

- New work processes

Implementation of the CCPS required claims assessors to take responsibility for a claim from receipt to payment, rather than just their own input. The change of business process was addressed by training officers working in the new teams to accept responsibility for the entire business process, including making the decision, and to be more accountable to claimants.

19 Australian National Audit Office, *Review of Veterans' Appeals Against Disability Compensation Entitlement Decisions*, Audit Report No. 29, 2000–01, p 91.

# Appendix A: Case Studies

- Management changes

Managers were also trained to shift their focus from managing the parts of the process, to provision of better claimant services. Managers became accountable for outcomes rather than their area's particular input to the process.

- Ongoing training

A National Training Strategy Steering Committee sponsors training programs identified from activities such as the quality assurance process, Veterans' Satisfaction Surveys and other training programs. In addition, a regular program of Medical Concepts training supports users of automated systems to better apply and understand the medical aspects of the systems.

## **Military Compensation Expert (MCE)**

In 2004, DVA expanded the Compensation Claims Processing System (CCPS) business rules to include decision-making and decision-support for payments to veterans, serving members of Australia's armed forces and their dependants for compensation for war and defence-caused injuries, diseases and death. These claims are made under both the *Veterans' Entitlements Act 1986* and the *Military Rehabilitation and Compensation Act 2004*.

### **Web-enabled decision-making and support**

Building on the capabilities of the CCPS, the Military Compensation Expert (MCE) automated system takes decision-support to a web service format, and guides users (both departmental decision-makers, and veterans and their families) through an interactive investigation process led by the underlying Statements of Principles.

Modelled from approximately 40 pages of legislation, the MCE automated system has a business rules base containing around 3500 rules, resulting in 3000 intermediate and substantive outcomes.

### **In-built reference tools**

Claimants and officers using the MCE are supported by a comprehensive and accessible inbuilt reference library, and a medical rules base covering 65 injuries and diseases (which DVA plans to expand to around 260 injuries and diseases covered under the Acts).

Links to online versions of the relevant Acts and other support materials are also provided, ensuring claimants and officers have quick and up-to-date access to legal, medical and policy materials they may require during the claims process.

### **Business benefits**

The business benefits of the MCE service are realised not just in the decision-making and decision-support tools, but also in web delivery of the system. Deployment as a web-service has enabled DVA to deliver benefits to its claimants: veterans and their families, ex-service and advocacy organisations.

Claimants with access to the internet can test their own eligibility to the various entitlements, while the Department can clearly demonstrate transparency and openness in decision-making by making eligibility testing and the reasons for decisions available publicly. This has resulted in improvements in the quality of the relationship between the Department and veterans and their families, who have since reported increased trustworthiness in the Department and its decisions.

# Appendix A: Case Studies

## ***e-tax: Income tax preparation and online lodgement***

At first glance it is probably not obvious that the Australian Tax Office's (ATO) income tax return product, 'e-tax', is an administrative decision making tool. But when you take a closer look it is not just one decision tool, but a series of tools combined to enable taxpayers to meet their obligations under the self-assessment system.

### **e-tax: not your typical administrative decision tool**

e-tax makes doing the annual income tax return or Baby Bonus claim easy by asking questions and completing each section based on the answers provided. It helps taxpayers understand their obligations under the law, by providing information that explains what each question means and skipping past information that is not relevant (based on the answers provided). A help file supports the information on screen, so taxpayers always have access to additional information as required. All calculations are done automatically and e-tax provides an estimate of the user's tax assessment.

The interview style format of e-tax allows the taxpayer to work through the application screen by screen, or jump ahead via a navigator bar, masking the complexity of the law while maintaining the integrity of self-assessment.

Each year e-tax undergoes an overhaul to bring it into line with new and changed tax and social policy legislation. It is also enhanced each year based on feedback and opportunities that arise to improve the user experience. In 2006, the ATO introduced initiatives to pre-populate certain information into the e-tax product, assisting the taxpayer to 'get it right' when preparing the return.

The success of e-tax is evidenced by the uptake in lodgements since 1999. e-tax 2006 had in excess of 1.6 million lodgements, with more expected in 2007.

## ***e-tax Medicare Tax Statement***

The e-tax Medicare Tax Statement (MTS) service allows citizens to access their Medicare Tax Statement electronically and automatically populates the net medical expenses section of the e-tax return. By providing the Medicare Tax Statement as an on-demand service, taxpayers preparing an e-tax return no longer need to travel to a Medicare Australian branch office or phone Medicare Australia to request their statement.

### **e-tax Medicare Tax Statement (MTS): a tool for assisted decision making**

Experience has shown the Australian Taxation Office that some citizens do not turn their minds to the need to keep tax-related records such as net medical expenses until they start preparing their income tax return. Annually over 100,000 Medicare Tax Statement (MTS) requests are handled by Medicare Australia, which can generate over 380,000 mail items.

For e-tax users, this means having to stop their 'online' return while they wait for further information – such as their MTS – to complete their records. By providing the MTS as an on-demand service, citizens no longer need to travel to a Medicare Australian branch office or phone Medicare Australia to request their statement, and they do not need to wait three to five days for the statement to arrive.

# Appendix A: Case Studies

Since 1 July 2006, the Medicare Australia e-tax MTS web service has provided over 90,000 citizens with their Medicare Tax Statement, with each request taking under 12 seconds to fulfil. The MTS data is automatically loaded into the net medical expenses question of the e-tax tax return, where additional information can be added, and calculations are then made to quickly assess taxpayers' eligibility for the net medical expenses offset.

The e-tax MTS web service is cost effective, reliable and fast. Automating the administrative process has provided a better service for citizens, and efficiencies in service delivery for Medicare Australia and the Australian Taxation Office.

## ***Online automated system decision-support tools in the Australian Taxation Office***

The Australian Taxation Office has a range of self-assessment tools available on its web site to support users self-assess their payment entitlements and tax obligations. A number of tools take the form of tax calculators, others operate as decision-support tools, and the remainder offer combined functionalities.

The decision-support automated systems operate on the application of business rules. By asking questions, they collect a response and guide users through a decision process relevant to their circumstances, to a results and advice screen. Supporting reference information is made available in the form of help files, tool tips and links to other relevant materials on the ATO web site (e.g. tax rulings and determinations). Once sufficient information has been supplied for the tool to reach a result, a report page is presented with advice that this should be printed and retained for future reference. The report includes:

- Advice of the result or outcome
- Summary of the user information entered
- Advice on the basis for the decision
- Advice on what to do next
- Extra references and the opportunity to provide feedback.

### **Am I a resident for tax purposes?**

Originally released in 2003, this decision-support tool provides a determination on the residency status for tax purposes of people coming to Australia. It covers common circumstances such as those coming to Australia for purposes of studying, working on contract, migrants, family reunion, working holidays, and retirees etc.

Within the framework of the self-assessment regime, users are asked to determine their obligations, to retain a copy of the determination with their records and lodge a return in accord with the advice received. The tool has been accessed over 30,000 times in each of the three years since release, and the feedback received on this tool has been consistently positive.

Interest in both this product, and the following determination of residency status tool, has been received from the Canadian Revenue authority.

### **Residency tool for taxpayers leaving Australia**

This tool provides advice on residency status for tax purposes for expatriates leaving Australia to undertake working holidays, overseas assignments, migrating, etc. First published in September 2005, it has since been accessed 9500 times.

## Appendix A: Case Studies

### **Capital gains for property tool**

Introduced on 1 July 2005, this application helps users determine the level of their exemption or obligation for capital gains tax on property, subject to acquisition dates and the use to which their property has been put. In 2005–06, the tool was accessed 23,000 times. Very positive feedback has been received on the product, and initial results indicate that the number of applications for Private Binding Rulings – on issues relating to the status of the main residence in reference to capital gains tax issues – has fallen significantly over the previous year’s averages.

### **Building and construction industry employer/contractor tool**

In response to ongoing compliance issues in relation to ambiguity over the employment status of various workers, the ATO released a decision-support tool to help building industry employers clarify the employment status of workers and better understand their obligations. Released in December 2005, the tool has been accessed over 9000 times. It has received very positive feedback and been the subject of significant interest from a range of State authorities. A further product in this complex area of law is planned.



# Appendix B: ARC Best-Practice Principles

## **Administrative Review Council Automated Assistance in Administrative Decision-Making**

### **Report No. 46 to the Attorney-General**

**Please note:** The ARC Report uses the term ‘expert systems’ (as reflected in the principles below). This Guide uses the term ‘automated systems’ (see discussion on page 4).

#### ***The suitability of expert systems for administrative decision-making***

##### **Principle 1**

Expert systems that make a decision – as opposed to helping a decision-maker make a decision – would generally be suitable only for decisions involving non-discretionary elements.

##### **Principle 2**

Expert systems should not automate the exercise of discretion.

##### **Principle 3**

Expert systems can be used as an administrative tool to assist an officer in exercising his or her discretion. In these cases the systems should be designed so that they do not fetter the decision-maker in the exercise of his or her power by recommending or guiding the decision-maker to a particular outcome.

##### **Principle 4**

Any information provided by an expert system to assist a decision-maker in exercising discretion must accurately reflect relevant government law and policy.

#### ***Authority for using expert systems***

##### **Principle 5**

The use of an expert system to make a decision – as opposed to helping a decision-maker make a decision – should be legislatively sanctioned to ensure that it is compatible with the legal principles of authorised decision-making.

#### ***Overriding an expert system***

##### **Principle 6**

Before overriding a decision made by or with the assistance of an expert system, the primary decision-maker should contact a senior officer to discuss the decision to override the system.

If decisions made by or with the assistance of expert systems can be overridden only by a senior officer, it might be advantageous for this to be legislatively clarified.

#### ***Grounds for review of decisions***

##### **Principle 7**

The construction of an expert system must comply with administrative law standards if decisions made in accordance with the rule base are to be lawful.

Decisions made by or with the assistance of expert systems must comply with administrative law standards in order to be legally valid.

# Appendix B: ARC Best-Practice Principles

## *Privacy*

### **Principle 8**

The people responsible for constructing an expert system must ensure that it is compatible with their agency's privacy obligations.

## *Disclosure requirements*

### **Principle 9**

Expert systems should comply with administrative law disclosure requirements – in particular, requirements associated with freedom of information and statements of reasons.

## *Accuracy and consistency*

### **Principle 10**

Expert systems should be designed, used and maintained in such a way that they accurately and consistently reflect the relevant law and policy.

## *Design and maintenance*

### **Principle 11**

The team designing an expert system should be made up of a combination of people with technical expert systems knowledge and legal and policy experience.

### **Principle 12**

Expert systems must be regularly updated and maintained in order to ensure the currency of the information on which the rule base is constructed.

The people responsible for maintaining an expert system need a detailed knowledge of the system.

### **Principle 13**

Agencies should have robust system-testing processes in operation to ensure the initial and continued accuracy and effectiveness of expert systems used in administrative decision-making.

To the extent to which it is technically possible, expert systems should be designed to be self-evaluating – that is, designed in such a way that the system identifies errors in itself.

## *Time and cost*

### **Principle 14**

To ensure the continuing accuracy and currency of an expert system and the material it contains, there should be sufficient funding available for a program of periodic maintenance for the system.

### **Principle 15**

When amendments to an expert system cannot be made immediately, agencies should have interim strategies – for example, alerts on the system and notification of interim instructions to system users – to ensure that decision-making remains accurate.

# Appendix B: ARC Best-Practice Principles

## *'Skilling' or 'de-skilling' decision-makers?*

### **Principle 16**

Officers using expert systems should receive continuing training in order to ensure that they understand the relevant legislation and are able to explain a decision to the affected person.

### **Principle 17**

In the event that the system malfunctions, there should be officers available who have sufficient training to make the decision manually.

## *Human manipulation*

### **Principle 18**

A process – for example, robust quality assurance or auditing – should be in operation to ensure that officers are not using informal workarounds to manipulate the result of an expert system.

## *The audit facility*

### **Principle 19**

Expert systems should provide a comprehensive audit trail that can be used for review and audit purposes.

## *Data quality*

### **Principle 20**

Agencies should use suitable practices for accurately collecting and storing data used by expert systems in administrative decision-making.

### **Principle 21**

Agencies should take steps to ensure that the data collected and used by expert systems for administrative decision-making remain accurate and complete.

## *Review procedures*

### **Principle 22**

Agencies should have the capacity and the will to conduct internal reviews of decisions manually where appropriate, particularly where review of a matter involving the decision-maker's judgement is sought.

### **Principle 23**

External reviews of administrative decisions should be done manually, in accordance with the procedures and practices of the particular tribunal or court conducting the review.

# Appendix B: ARC Best-Practice Principles

## ***Independent scrutiny***

### **Principles 24**

Independent scrutiny and oversight of expert systems should focus on ensuring that the administrative law values are reflected in the decision-making process.

### **Principle 25**

A panel should be created to oversee and provide advice to government on the operation of expert systems in administrative decision-making. The panel should be advisory in nature, with the agencies themselves and external overseeing bodies such as the Auditor-General and the Ombudsman remaining responsible for system testing and quality assurance. Among the members of the panel should be representatives of the following:

- the Office of the Ombudsman
- the Australian National Audit Office
- Commonwealth agencies
- community organisations.

## ***Diverse service delivery mechanisms***

### **Principle 26**

In the development and operation of expert systems for use in administrative decision-making, account should be taken of access and equity.

## ***Self-assessment***

### **Principle 27**

Self-assessment options delivered by the use of expert systems, including self-assessment, should supplement – rather than replace – direct human services.

# Appendix C: Suggested Further Reading

Australian Government Solicitor publications: <http://www.ag.gov.au/>

Australian National Audit Office Better Practice Guides and Performance Audit Reports: <http://www.anao.gov.au/>

Clayton Utz, (2003) *Good decision-making for government* series,  
[http://www.claytonutz.com/areas\\_of\\_law/controller.asp?aol=17&page=5](http://www.claytonutz.com/areas_of_law/controller.asp?aol=17&page=5)

Commonwealth Ombudsman's Office publications: <http://www.comb.gov.au/>

National Archives of Australia publications: <http://www.naa.gov.au/>

## **Administrative law**

Creyke, Robin and McMillan, John (2005) *Control of Government Action*, Lexis Nexis Butterworths.

## **Automated systems**

Administrative Review Council (2004), *Automated Assistance in Administrative Decision-Making*, Report No. 46 to the Attorney-General, Canberra.

## **Data modelling**

Govdex development framework: <http://www.govdex.gov.au/confluence/display/GTM/Home>

## **Good decision-making**

Queensland Ombudsman (2003) *An easy guide to good administrative decision-making*,  
<http://www.ombudsman.qld.gov.au/>

NSW Ombudsman Fact Sheet Series (2005) *A-Z of public administration*, <http://www.nswombudsman.nsw.gov.au/>

Administrative Review Council (2002) *Practical Guidelines for Preparing Statements of Reasons*, Canberra.

Administrative Review Council (2002) *Commentary on the Practical Guidelines*, Canberra.

<http://www.ag.gov.au/agd/www/archome.nsf/Page/RWP0B6231E2BAC00125CA256B370017E3DE?OpenDocument>

## **Privacy**

The Office of the Privacy Commissioner, *Information Privacy Principles under the Privacy Act 1988*

<http://www.privacy.gov.au/publications/ipps.html>

## **Security**

Defence Signals Directorate, *Australian Government ICT Security Manual (ACSI33)*:

<http://www.dsd.gov.au/library/infosec/acsi33.html>

Attorney-General's Department, *Protective Security Manual (PSM)*:

<http://www.ag.gov.au/www/protectivesecurityhome.nsf/0/3ABEF2858B90B6D3CA256BB3001AE07C?OpenDocument>

# Appendix C: Suggested Further Reading

## **Australian Government ICT frameworks and tools**

### ***Better Practice Checklists***

Checklists developed to help web managers and business unit owners quickly enhance their understanding of a range of issues associated with the provision of services online.

<http://www.agimo.gov.au/practice/delivery/checklists>

### ***Demand and Value Assessment Methodology***

A methodology to assist agencies in developing transparent and auditable demand and value propositions for online government programs. These propositions underlie the business case and assist in substantiating the viability of the initiative, in justifying resource investment and in demonstrating transparency and accountability.

<http://www.agimo.gov.au/government/damvam>

### ***Australian Government e-Authentication Framework (AGAF) for Business***

Australian businesses conduct a wide variety of transactions with Australian Government agencies using various delivery channels, including the internet. To manage some of the risks associated with online transactions, the *AGAF for Business* is based on a set of principles for the whole of government: these include transparency in government, cost-effectiveness, risk management, consistency, trust and improved privacy for citizens.

### ***The ICT Investment Framework***

The ICT Investment Framework provides tools to assist agencies to improve the quality of strategic planning, business cases, project management, and evaluation for ICT investments.

[http://www.agimo.gov.au/government/the\\_ict\\_investment\\_framework](http://www.agimo.gov.au/government/the_ict_investment_framework)

### ***Gateway™ Review Process***

Gateway™ is a project assurance methodology that involves short, intensive reviews at critical points in the project's lifecycle by a team of reviewers not associated with the project. Gateway™ applies to new projects undertaken by FMA Act agencies, which require Cabinet approval and which satisfy certain financial and risk thresholds.

<http://www.finance.gov.au/gateway>

### ***National Service Improvement Framework***

The *National Service Improvement Framework* aims to facilitate projects requiring collaboration within and between governments at all levels. The framework provides a knowledge base that will assist Australian, State/Territory and Local government agencies in the effective implementation of cross-jurisdictional projects.

<http://www.agimo.gov.au/services/services>

### ***Delivering Australian Government Services: Access and Distribution Strategy***

A high level strategy for the delivery of integrated, multi-channel services across the Australian Government.

<http://www.agimo.gov.au/publications/2006/may/ads>

# Appendix C: Suggested Further Reading

## ***Delivering Australian Government Services: Managing Multiple Channels***

A guide for the strategic assessment and development of service delivery channels.

<http://www.agimo.gov.au/publications/2006/may/mmc>

## ***Delivering Australian Government Services: Service Delivery Capability Model***

A guide for mapping an agency's capability to deliver multi-agency, multi-channel and customer-centric services.

<http://www.agimo.gov.au/publications/2006/may/sdcm>

## ***Australian Government Technical Interoperability Framework***

Interoperability, or enabling seamless connections, is fundamental to reducing the cost of government and improving service outcomes to citizens. The *Technical Interoperability Framework* provides a foundation of common standards to support collaboration across government agencies, the community and business sectors.

<http://www.agimo.gov.au/publications/2005/04/agtifv2>

## ***Australian Government Information Interoperability Framework***

The *Information Interoperability Framework* outlines the principles, practices and tools for sound information management and the successful sharing of information across government boundaries.

<http://www.agimo.gov.au/publications/2006/may/iif>

## **Reports**

### ***2006 e-Government Strategy: Responsive Government: A New Service Agenda***

*Responsive Government: A New Service Agenda*, will build on the momentum and achievement of the past three years, taking into account lessons learnt, to deliver an even more coordinated and citizen-driven focus to the government's e-government initiatives. It is about strategically applying ICT to improve and reform underlying government processes.

The strategy charts how the government will build on progress in e-government to date and how government will progress towards the vision of connected and responsive government by 2010.

[http://www.agimo.gov.au/government/e-government\\_strategy](http://www.agimo.gov.au/government/e-government_strategy)

### ***Australians' Use of and Satisfaction with e-Government Services***

This report outlines how people are using different channels to contact Australian, state/territory or local government services. It also examines the level of satisfaction they have with those services and their preferences and expectations.

[http://www.agimo.gov.au/publications/2006/july/australians\\_use\\_of\\_and\\_satisfaction\\_with\\_e-government\\_services\\_2006](http://www.agimo.gov.au/publications/2006/july/australians_use_of_and_satisfaction_with_e-government_services_2006)

## Appendix C: Suggested Further Reading

### ***Measuring the Efficiency and Effectiveness of e-Government***

Australian Government policy is that agencies use the Internet to deliver all appropriate programs and services, leading to considerable agency investment in Internet-based service delivery. The Australian National Audit Office examines whether agencies are measuring the efficiency and effectiveness of the services and programs they deliver through the Internet.

<http://www.anao.gov.au/WebSite.nsf/Publications/2C3CDF64278872A9CA256FA2007F445E>

### ***Future Challenges for e-Government***

This series of papers covers community collaboration; multi-channel delivery; collective accountability; privacy and legal issues; accessibility; value and evaluation; and organisational and management issues.

[http://www.agimo.gov.au/publications/2004/05/egovt\\_challenges](http://www.agimo.gov.au/publications/2004/05/egovt_challenges)





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