

Automated assistance to administrative decision-making: Launch of the better practice guide

Text of an address by Professor John McMillan to a luncheon seminar of the Institute of Public Administration of Australia Canberra, 23 April 2007

Introduction

It is a great pleasure to be part of this launch of the Better Practice Guide on Automated Assistance in Administrative Decision-Making (AAADM)¹. This is a unique publication - the product of collaboration between 16 Australian Government agencies, and consultation with a further eight. The fact that 24 government agencies were involved in the preparation of this Guide is a statement of the special importance the topic holds to government administration in Australia.

Indeed, this is a field in which Australian Government agencies are leading the way internationally. The earlier report of the Administrative Review Council (ARC)², premised on the need to align administrative law values with technological innovation in the business of government, was the first of its kind and attracted a great deal of attention in Australia and abroad. This new Better Practice Guide, the product of an inter-agency project, is likewise the first of its kind and heralds a new approach to a topic of great and increasing importance.

The Better Practice Guide has been prepared by four agencies - the Australian Government Information Management Office (AGIMO), the Australian National Audit Office (ANAO), the Commonwealth Ombudsman, and the Privacy Commissioner. Staff who played a key role in developing the guide were George Masri and Nick Sellars, from the Ombudsman's office, Wendy Michaels from the ANAO, and Johanna Bagot from AGIMO.

Problem areas in automated decision-making

The Ombudsman's office has a dual interest in this project. The first is that the Commonwealth Ombudsman is an ex officio member of the ARC. This project specially appealed to the diverse membership of the ARC, because of the challenge it posed to fuse law, technology and public administration.

The second interest of the Ombudsman's office is that, through thousands of complaints that we receive each year and that lead to a constant dialogue with government agencies, we see two sides to the computerisation of government administration.

¹ The Guide is available on the Ombudsman website - <http://www.ombudsman.gov.au/>.

² Administrative Review Council, Automated Assistance in Administrative Decision-Making, Report No 46, 2004.

On one side, we see that technology has significantly improved the quality, efficiency and accountability of public administration. Yet we also see that computerisation creates special problems that cause detriment to members of the public. Among them:

There can be a large spike in complaints if an agency introduces a new information technology (IT) system, because system changes sometimes give rise to unanticipated problems that were not picked up during testing of the system.

Systems that are not programmed properly or regularly updated sometimes do unexpected things - such as send letters to the wrong address, send multiple and conflicting letters to the same address, recalculate a person's financial liability or entitlements when new data is recorded on the system, merge the information from unrelated files in a new file, or continue to pay money to a person long after their entitlement ceased.

Officers tend to believe the answer that an IT system delivers to them: if the system says that no correspondence was received from a person, or that the last contact between the agency and the person occurred on a particular date recorded on the system, officers will often trust in the integrity of that response, even though it is fallacious and the result of a data entry or retrieval error.

Simple errors of those kinds can have significant consequences for members of the public. At a less serious level, a data or system error can cause someone to be confused or angry, to be required to repeat the same administrative steps as before, or to spend time with a government agency or the Ombudsman's office clarifying an unexpected problem.

In more serious cases, errors in automated decision-making can mean that someone is stripped of their entitlement to government financial support, is wrongly assessed as having a liability to pay money to a government agency or their former partner, or is not recognised as being a citizen or visa holder and thereby exposed to the danger of detention or exclusion from residence in Australia.

The central message from the Ombudsman's office is that at the end of every activity of government is a member of the public who can be affected, beneficially or adversely, by what government does. That message applies across the spectrum of administration, from the inquiry counter to the final decision-making process. The message equally applies to the design of administrative systems and automated support systems. System problems and errors are also human problems and errors.

The growth of automated systems

The ARC report in 2004 noted that expert systems, as they were then called, were increasingly being used by government agencies to make or help make administrative decisions. Expert systems had the potential to make decisions more accurately, consistently and cost effectively, particularly in areas of high volume decision-making.

The ARC did a stocktake of the current and proposed uses of automated decision-making systems in Australian Government agencies³. The list included:

³ Ibid, Appendix B, 'The Council's stocktake of expert systems'

- decide whether imported commodities should be inspected at the border, for quarantine or customs purposes
- provide a risk assessment on the discharge of ballast water by ships in Australian waters
- determine eligibility for primary industry payments
- provide evidence for the possible prosecution of suspected breaches of fisheries legislation
- determine a taxpayer's rate of taxation and rate of taxation penalty
- decide eligibility for family tax benefit and the baby bonus
- determine a recipient's rate of social welfare payment
- decide liability and the rate of payment for workers' compensation
- provide a ranking of defence officers eligible for promotion, and to aid career planning
- inform developers if a development proposal raises environmental protection or biodiversity conservation issues
- identify Australian regions for natural heritage identification work
- evaluate commercial tenders
- trigger consideration of whether to impose a sanction on a nursing home
- analyse scientific data in applications for therapeutic goods registration
- determine eligibility for and the rate of veterans' pension
- help an applicant to select the statute under which a claim is to be lodged.

That list - which is by no means comprehensive - illustrates how far the Australian Government has moved down the path of automated administrative decision-making. The list also points to some characteristics of decision-making that drive this technological innovation. Specifically, a striking feature of Australian Government administration is the sheer size and complexity of many legislative and administrative schemes.

Agencies such as Centrelink, Australian Taxation Office, Child Support Agency, Australian Customs Service, Department of Immigration and Citizenship, and Department of Veterans' Affairs, employ thousands of administrative staff (in some cases over 20,000) who are spread around Australia. They administer highly complex legislation in a setting where accuracy, consistency and efficiency are expected. It is the experience of the Ombudsman's office that the complexity of the system, rather than the competence or integrity of administrators, is the single most important cause of the problems that cause people to complain.

Automated decision-making is an essential mechanism in that context. This is well illustrated in a case study in the Better Practice Guide (at p 68) of an automated system used by the Department of Veterans' Affairs (DVA) - the Compensation Claims Processing System. That system manages all stages in the decision-making process from claim lodgement to payment. This includes the recording and validation of claims, medical evaluation, deciding eligibility and the rate of payment, and notifying the final decision to a claimant. The DVA system guides decision-makers through over 2000 pages of legislation and over 9700 rules. DVA estimates that, compared to the former system of manual claims processing, the new automated system has led to 30% fewer officers deciding 30% more claims, it has reduced the decision-making time by 60%, produced savings to the department of over 60%, and improved the consistency of decision-making, the internal review of decisions, and liaison with claimants and the veterans' community.

The ARC report and the Better Practice Guide both acknowledge the importance and inevitability of this trend to automation in Australian Government administration. The next step, which is the theme of both reports, is to recognise that cost, efficiency and accuracy are not the only factors that should govern the development of automated systems.

Aligning automated systems with public law principles

Public law values of fundamental importance underpin our system of government. Decisions must be lawfully made. The decision-making process must be fair. The reasoning to support a decision must be rational and evidence-based. Decisions and the decision-making process must be transparent and open to public scrutiny. Decisions must also be made in an efficient and timely manner.

The ARC report counselled that those five public law values - lawfulness, procedural fairness, rationality, transparency and efficiency - should be captured in the design and implementation of automated systems. The report distilled that message to 27 Best Practice Principles to be observed in the design of expert systems.

The Better Practice Guide takes that base position three steps further: by targeting a particular audience for that message; by defining the scope of the issue for that audience; and by providing practical guidance on how public law values can be embodied in automated systems. I will say a little about each of those three steps.

Firstly, as to the audience, the Guide is directed to those engaged in designing and implementing automated systems. That is a broad group with differing skills, in policy management, business analysis, systems development and administrative decision-making. The Guide provides practical guidance to that broad audience, using clear and simple language and concepts that are commonly used in those fields. Indeed, a clear difference between the ARC publication and the Better Practice Guide is in the style and pitch of the Guide.

Secondly, as to the scope of this publication, the Guide deals with more than just administrative law. There is guidance on the factors that should be considered in deciding whether to develop an automated system, who should be consulted in that process, and the integration of new automated systems with existing systems being used across government. The Guide deals also with the governance arrangements for automated systems, such as the need to identify the policy and project owners of the system, and to establish reference groups and consultation arrangements. Safeguards that are needed in a system are a verification strategy to ensure accuracy and consistency in rules and decisions, an audit trail of the decisions made and actions taken by the system, and ongoing maintenance and review of the system. Helpfully, on those and other issues, the Guide has a checklist of 120 questions to be considered by those designing and implementing automated systems.

Thirdly, and closer to my own interest, the Guide provides practical advice and guidance on embodying public law values in automated systems. The Guide does that in different ways. It emphasises the fundamental importance of public law values - for example, that a system must be consistent with legislation, both initially and on an ongoing basis; that in the mix of legislative, policy and procedural rules incorporated in a system, it is the legislative rules that have primacy over other rules; and that transparency and accountability are bedrock

principles in Australian government and should likewise underpin the design of automated systems.

The Guide summarises the main principles of administrative law that are relevant to automated systems. Thus, there is an explanation of the Information Privacy Principles; of the Freedom of Information Act requirements for public disclosure of the rules applied in government; of the elements of a statement of reasons; and of the oversight role of the Ombudsman, Auditor-General and Privacy Commissioner.

There is also practical guidance on key administrative law principles and how they should be anchored in automated systems. They include the following:

Identifying the decision-maker or responsible officer

A drafting feature in nearly all statutory schemes is that decisions are to be made by individual officers. The individual decision-maker bears responsibility at the end of the day for formally making a decision, explaining the decision in a statement of reasons, and ensuring that critical legal requirements are observed (such as natural justice and the obligation to consider relevant matters). It should therefore be possible to identify a decision-maker from an automated system. This is particularly important if a decision requires the exercise of judgement or discretion. Conversely, if legislation authorises a truly automated decision, the system should identify an agency officer who bears ultimate responsibility for the decision in the system of government. In summary, however automated we become, we should not submerge the human element that is the foundation of decision-making in both public administration and administrative law.

Identifying delegated authority

Not all officers in an agency have the authority to exercise the powers conferred on the agency by legislation. Typically, the authority to exercise statutory powers can be delegated to a nominated person or position by an instrument of delegation. An automated system should take heed of that principle, by ensuring that the person recorded in the system as a decision-maker has an authorisation or delegation to act, that the instrument of delegation is identified by the system and can be easily obtained, and that this requirement can be checked through the audit facility.

Identifying the rule base

An automated system will contain a mixture of legislative, policy and procedural rules that are to guide decision-making. It must be possible to distinguish between those rules, and to identify the source of each rule (for example, the statute or policy manual from which the rule derives). Responsibility should be assigned to the policy owner for verifying that the rules based on legislation are consistent with their statutory source, and that they are accurate over time when there are changes in legislation, policy, procedure or judicial interpretation of the law. The governance process should stipulate how anomalies and inconsistencies in legislative and policy rules that are detected during the development of the system are to be resolved.

Recording the reasons for decisions

It is a requirement of administrative law that a decision-maker can be required to explain the reasons for a decision. The validity and adequacy of decisions can hinge on the content of those reasons. A system should therefore have both a facility and the capacity to capture and record a decision-maker's reasoning. This requirement should be broadly construed, and may extend to findings of fact, a decision-maker's probative weighting of evidence, and why a discretion was exercised one way rather than another. As that indicates, a system should prompt a decision-maker as to the separate elements of the decision, especially those elements requiring the exercise of discretion. A further option is to provide a link to supplementary commentary and relevant research material.

Safeguarding accuracy in decision-making

The validity of a decision can be tainted by a simple error. This can occur either in the way that the law is understood and applied by a decision-maker, or as a result of a simple factual error that results in the law being misapplied. There is an ever-present danger that errors will creep into or be manifested in automated systems. This may be the product of human error (for example, incorrect data entry or search, or incorrect representation in the system of a legislative rule), technical error (a hardware or software malfunction), or natural disaster (a fire or flood). A system should be designed with those risks in mind, and incorporate measures to ensure data integrity and accuracy in the business rules of the system.

Commitment to review and quality control

An agency bears a responsibility for ensuring that its decisions are lawfully and properly made. This responsibility is independent and ongoing, and runs parallel to an agency's obligation to justify its decision-making before courts, tribunals and the Ombudsman. There are many ways this principle can be embodied in the design of an automated system. The responsibility for the business rules of a system should be assigned to a policy owner; the system should be structured to allow manual checking of rules and decisions; there should be scenario testing in the design of the system, including consultation with the Ombudsman and others; and the system should be able to generate a comprehensive audit trail of the decision-making path.

Ensuring transparency in an automated system

Transparency and accountability are, as noted above, bedrock principles in Australian government. The Guide deals with both the practical as well as the aspirational side to those principles. Among the practical implications for automated systems are that the business rules of the system should be accessible and verifiable visually; a system should be able to generate or assist in the preparation of a reasons statement that meets administrative law requirements; the audit trail of the system should be in plain English, detail all steps in the decision-making path, and identify changes in records and officers who accessed the system; and the system should be designed with external scrutiny in mind, including advice to people in decision notices on avenues for appeal and challenge.

Conclusion

A great strength of this Better Practice Guide is that it brings together three topics - administrative law, public administration, and technological change - in a coherent and

accessible manner. It is a unique publication that could not have been crafted by only one agency or from only one perspective. It contains the wisdom of 24 Australian Government agencies that participated in this project, and provides guidance that will be useful to the whole of government.

It is a pleasure to be associated with the production and launch of the Better Practice Guide. I commend it to everyone interested in better government and service to the public.