



# *Policy & Internet*

[www.psocommons.org/policyandinternet](http://www.psocommons.org/policyandinternet)

Vol. 2: Iss. 2, Article 5 (2010)

## **The Development of Japanese Data Protection**

**Andrew A. Adams, *Meiji University***  
**Kiyoshi Murata, *Meiji University***  
**Yohko Orito, *Ehime University***

### **Abstract**

In 2003, Japan enacted its first private-sector data protection legislation, complementing the concurrent update of the public-sector regulations. The publicly stated goal of the Japanese government was to support trade with Europe by providing suitably strong protection to qualify for European data-export approval. In this paper we examine the internal social and political pressures that led to the adoption of apparently strong private-sector data protection, despite prior long resistance to such a move. The pressures we have identified include direct and indirect effects of Japanese economic difficulties since the early 1990s, media pressure to update public-sector rules because of the introduction of Juki Net, and similar media pressure to apply similar rules to the private sector. We also examine the role that the technology of kanji input systems played on the lack of urgency in demands for private-sector data protection until 2000.

**Keywords:** privacy, data protection, Japan

**Author Notes:** Supported by a Global Research Award from the UK's Royal Academy of Engineering. Supported by the UK's EPSRC under grant EP/G069808/1. Supported by the Japanese Ministry of Education, Culture, Sports, Science, and Technology within the open research centre project "Quality-Oriented Human Resource Development and Smart Business Collaboration: Quality Management Science" (2007–2012).

**Recommended Citation:**

Adams, Andrew A.; Kiyoshi Murata; and Yohko Orito (2010) "The Development of Japanese Data Protection," *Policy & Internet: Vol. 2: Iss. 2, Article 5.*

**DOI:** 10.2202/1944-2866.1038

**Available at:** <http://www.psocommons.org/policyandinternet/vol2/iss2/art5>

## Introduction

In 2003, the Japanese government introduced the first substantial piece of legislation governing the processing of personal data on computers by nongovernmental organizations, although governmental use of personal data held on computers had been controlled since 1988. (These regulations were also updated in separate pieces of legislation passed at the same time). These various acts (Act on the Protection of Personal Information 2003; Act on the Protection of Personal Information Held by Administrative Organs 2003; Act on the Protection of Personal Information Held by Independent Administrative Agencies 2003; etc.) embody the basic principles of the Organization for Economic Co-operation and Development's (OECD's) guidelines on data protection (OECD 1980). However, as is common in Japanese law, while the laws covering the public sector (Act on the Protection of Personal Information Held by Administrative Organs 2003; Act on the Protection of Personal Information Held by Independent Administrative Agencies 2003; etc.) set out a clear enforcement regime, including penalties for individuals violating the regulations, the law for nongovernmental organizations (including of course commercial actors but also private citizens, nonprofit organizations [NPOs], etc.) is really only a specification of the principles to be adhered to. Despite the Act on the Protection of Personal Information (2003, Article 4) (see below), mandating state responsibility for ensuring the correct handling of personal data by non-state bodies, the exact controls under which organizations may process data, and the handling of complaints from data subjects about the handling of their data, is left to commercial-sector trade bodies authorized by the appropriate minister (Act on the Protection of Personal Information 2003, Article 37) (see below).

### Article 4

The State shall be responsible for comprehensively formulating and implementing measures necessary for ensuring the proper handling of personal information in conformity with the purport of this Act.

### Article 37

[Trade bodies] may be authorized by the competent minister [to perform]:

- (i) The processing ... of complaints about the handling of personal information ...
- (ii) The provision of information for target entities about the matters contributing to ensuring the proper handling of personal information

(iii) In addition to what is listed in the preceding two items, any business necessary for ensuring the proper handling of personal information by target entities.

However weak or strong these enforcement structures may turn out to be, the introduction of the principles of data protection into Japanese law to cover non-public bodies represents a significant shift in policy. The purpose of this article is not to analyze the contents of the new Japanese data protection law, but to present an analysis of how and why the shift occurred from little or no restriction on private data processing to an embodiment of a strong set of principles (whether or not those principles lead to strong practice or not at this point). Although not strictly a *path dependence* or *historic institutionalism* (Boas 2007) argument, some elements of these theoretical principles are in evidence with regard to the background pressures leading to the adoption of the new legislation.

Public government statements regarding the reasons for introducing the new data protection legislation focused primarily on protection of citizens and harmonization with EU data protection legislation in order to ease international business dealings. Evidence is presented of the other pressures leading to these acts, particularly including the introduction of Juki Net, the national computerization of the existing local register of citizens, enabled by 1999 legislation and starting operation in 2003, a theme also explored by Okamura (2005).

It is striking that a country which is regarded as having a relatively low regard for the concept of privacy generally (Mizutani, Dorsey, and Moor 2004; Masuhara 1984; Aoyagi 2006) should apparently move to a relatively strong position on data protection. Elsewhere the authors have challenged this judgement that the Japanese attach a relatively low priority to information privacy, when compared with other cultures (Adams, Murata, and Orito 2009).

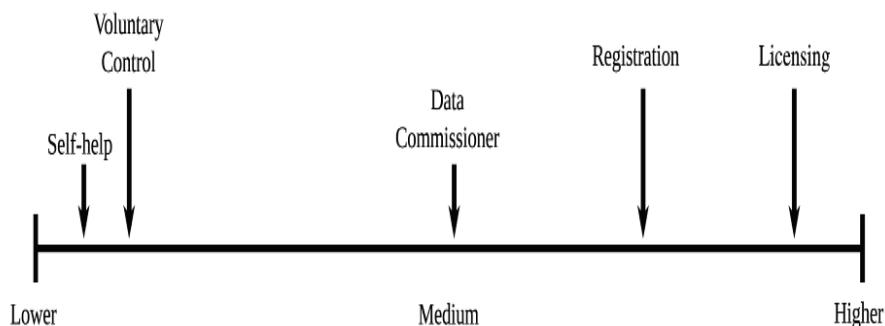
This article is organized as follows. First, a brief international overview of approaches to data protection is given, providing the international context for the Japanese situation before and after the adoption of the new laws in 2003. Next, consideration is given to the historical difficulties of data processing in Japan (a context shared with a number of other countries using primarily non-phonetic character sets, such as China) and in particular the issue of what constitutes personal data in such contexts. The economic situation of the time period in which the difficulties of data processing in Japanese were substantially reduced is then presented. These economic issues led to two particularly important developments in the late nineties, which are covered in the next two sections: the rapid push towards

individual and commercial use of the Internet, and in particular the influence of computer networking nationally and internationally (the Internet) on public views of this processing; the convergence of government belief in a potential significant increase in tax receipts that could be brought about by a new citizen registration system with the long-running Japanese bureaucratic desire for social sorting (Lyon 2002), leading to proposals for a computerization and centralization of citizen registration details. These government proposals represent a key focal point in the story, leading as they do to media pressure first for updating the data protection regulations for government handling of personal data and then to calls for commercial processing to be regulated as well. The changing attitudes of the influential Japanese finance and trade body Keidanren (経団連) to these calls are then covered, including the growing issue of international data transfers over the Internet and the growing economic strength of the EU with its strong data protection legislation. Following a brief consideration of the ongoing issues of slow implementation of the principles of the new legislation, and in particular highlighting weaknesses in the current situation in Japan with regard to the issue of EU data-export regulations, concluding remarks summarize the public reasons given for adoption of the new legislation and the more complicated deeper background to the new laws, as well as identifying areas for further study.

## A Brief International Overview of Data Protection

Milberg et al. (1995) suggest a clear placement of governmental protection of personal data on a linear scale from lower protection for the individual to higher, shown in Figure 1.

**Figure 1. Milberg's Data Protection Scale**



So, for example, the United States is mostly within the *Self-help* area, although U.S. companies within the Safe Harbour scheme agreed between the U.S. and the EU could be placed within the *Voluntary Control* segment. European Economic Area (EEA) countries are required under the EU Data Protection Directive (European Data Protection Directive 1995) to have national legislation at least at the level of *Registration* on this scale. Only a few countries outside the EEA have adopted sufficiently strong (and properly enforced) data protection regimes to qualify for inclusion in the *safe export* area defined within the European Data Protection Directive (1995, Preamble [56]):

[T]he protection of individuals guaranteed in the Community by this Directive does not stand in the way of transfers of personal data to third countries which ensure an adequate level of protection

At the time of writing, places outside the EEA where data may be routinely exported (as approved by the *Article 29 Working Party*) include only the following:

- Argentina
- Canada
- Switzerland
- United States (Air Passenger Records under a specific agreement)
- United States (under the Safe Harbour agreement)
- Guernsey
- Isle of Man

In 2003, the Japanese parliament passed Law Nos. 57, 58, and 59 (Act on the Protection of Personal Information 2003; Act on the Protection of Personal Information Held by Administrative Organs 2003; Act on the Protection of Personal Information Held by Independent Administrative Agencies 2003; etc.) which came into force in 2005. One of the publicly avowed purposes of the Japanese government in promulgating such laws was to comply with EU regulations on the export of data. Horibe (1994) (an influential academic lawyer in Japan) provided a roadmap for data protection in Japan, considering the tide of events worldwide, but paying particular attention to moves in the EU towards a data protection directive (European Data Protection Directive 1995). The various voluntary guidelines on data protection issued by Japanese ministries in the late nineties reflect the EU directive: for example, following the directive's approach on defining the

same types of data as *sensitive*, a clear indicator of significant EU influence beyond the OECD (1980) guidelines, which state that “it is probably not possible to identify a set of data which are universally regarded as being sensitive.”

The Japanese move potentially represents a major shift in the global landscape of data protection, assuming that the Japanese system does indeed produce a suitably strong system. Bennett and Raab (2006, chap. 4) divided the world into various policy blocs on data protection, including the Council of Europe, OECD, and EU as long-standing arenas, but also presenting the Asia-Pacific region (including the United States and Australia as well as the Southeast Asian countries such as Japan, China, and Korea) as an emerging new bloc. The Japanese enactment of broader data protection legislation, which it is claimed should comply with the EU policy agenda, could have a major impact on developments in the Asia-Pacific arena. Australia already has significant protections, in some ways akin to the developments in Japan, although the restriction of protection to Australian citizens caused the EU to judge the protection insufficient for third-country export status, on the grounds of a lack of protection for European citizens (which is after all the purpose of the EU Directive), and significantly reduced its international impact.

## Japanese Data Processing: The Kanji Problem

Concerns regarding the computer processing of personal data by large corporations began to emerge by the late sixties (Westin 1967), particularly in the United States, leading to the Privacy Act (1974) (5 U.S.C. §552a), the OECD (1980) guidelines, and various European countries enacting data protection legislation such as the Data Protection Act (1984) in the UK. Legislation has, of course, continued to be developed: for example, the UK significantly updated its legislation with the Data Protection Act (1998), which implemented the provisions of the European Data Protection Directive (1995).

The encoding of the English alphabet (and therefore the production, processing, and distribution of personal data) was a fairly straightforward matter, although complicated by competing *standards* such as ASCII<sup>1</sup> and

---

<sup>1</sup>American Standard Code for Information Interchange, an encoding, originally in seven bits, of upper- and lowercase English letters and various punctuation marks. Originally fully specified in 1963, extensions (particularly eight-bit ASCII) continue to be used.

EBCDIC<sup>2</sup> and by little-endian versus big-endian architectures.<sup>3</sup> However, the encoding and transfer of kanji characters was a more difficult matter. In particular, the large number of kanji characters led to a significant difficulty in input. Indeed, Gottlieb (2000) claimed that Japan never really had a significant typewriter culture, and that until the eighties the vast majority of information interchange within and between businesses was done via hand-written documents. Only documents for wide circulation were economical to typeset, and although typewriters did exist they were difficult to use and required almost as much skill as typesetting, restricting their use to certain types of business and purposes.

Even the variety of orientation of Japanese text made adoption of early Western information technology difficult at least and often impossible. There are still two commonly used orientations:

- characters written vertically top-to-bottom in each line, with lines right-to-left on a page and pages in right-to-left binding order;
- characters written horizontally left-to-right in each line, with lines top-to-bottom on a page and pages in left-to-right binding order.

In addition, from the beginning of the Meiji period until the end of the Second World War (1868–1945), there was some use of characters written horizontally from right to left where text was used as a banner: for example, on posters or as headlines in newspapers, below which vertical text would follow. There are still occasional uses of right-to-left text where there is some external reason for it, such as on the starboard side of a boat where

---

<sup>2</sup> Extended Binary Coded Decimal Interchange Code, an IBM eight-bit encoding of English letters and punctuation marks developed separately from ASCII but released almost simultaneously in 1963. EBCDIC is used principally on IBM machines, although also on some others. Conversion programs between ASCII and EBCDIC are relatively easy to encode, although perhaps losing information from eight-bit EBCDIC to seven-bit ASCII. Early networking between ASCII and EBCDIC systems caused interoperability problems for applications such as email.

<sup>3</sup> Sequences of binary digits such as 1010 can be interpreted in either direction: the leftmost digit 1 can be interpreted as either decimal value 1 or decimal value 8. Consequently, 1010 can have two decimal values: 10 (in big-endian architectures where the leftmost digit has the highest value) or 5 (in little-endian architectures where the leftmost digit has the lowest value). It is not actually the interpretation of individual binary digits that is determined by the endianness of a computer architecture, but the interpretation of sequences of bytes, each byte being big-endian in format, but the whole *word* (sequence of bytes) being interpreted with the largest section first or last. Translation between big-endian and little-endian interpretations is generally relatively straightforward, but misinterpretation can cause significant programming errors.

the boat's name in kanji is written right-to-left, that is, from bow to stern. This also appears on company cars where the company name is written from front to back on both sides.

These issues may well have reinforced Japan's "insular collective" attitudes (Adams, Murata, and Orito 2009),<sup>4</sup> following Nakane's (1970) "Verticality Principle,"<sup>5</sup> and increased the tendency of Japanese firms to deal only with a small number of known partners. The difficulties of sharing data reinforce beliefs that cooperation across boundaries is fraught with heavy initial costs, undermining potential partners' confidence in each other and impeding their ability to work together. This ties in with the findings of Yamagishi and Yamagishi (1994) about the levels of trust, confidence, and risk-taking in Japanese businesses. Once businesses have developed confidence in each other, written contracts are used in a very limited way and verbal agreements are more important. Written contracts are merely *tatema* (surface speech, sales talk, and lip service), whereas verbal contracts are *hon* (reality, honest communication, and binding statements) (Masuhara 1984; Doi 1985; Adams, Murata, and Orito 2009). Thus only in the nineties when the input, processing, and output of Japanese kanji had been fully standardized, and implemented in software rather than hardware, and the technology infrastructure for its use in business had been deployed, did questions of networked sharing of data become socially significant.

### **Development of Japanese Encoding Formats**

The first standard computer encoding of Japanese symbols, JIS C 6220, was defined in 1969, but this only covered katakana<sup>6</sup> and roman letters. It was

---

<sup>4</sup> Collective-oriented societies place the interests of the group above those of the individual, whereas individual-oriented societies do the reverse. Within collective-oriented societies, however, there is significant variation as to the definition of the group whose interests predominate. In India, for example, the group is defined by blood family. In Japan the group is more fluidly defined, but in business settings the outer boundary is the company. Horizontal relationships between members of different groups, even within the company, are typically very weak and almost always overridden by the vertical barriers between groups.

<sup>5</sup> Vertical relationships between subordinate and superior are the strongest relationships in a Japanese group. This causes brittleness in group dynamics where the common superior is too distant or too absent to influence harmonious horizontal relationships. On the permanent departure of a superior, or a breakdown of a vertical relationship, a group can fracture along these vertical lines.

<sup>6</sup> Katakana is one of the two sets of Japanese phonetic characters with identical meaning but in general slightly different usage, the other being called hiragana. Katakana is used primarily for Western language loan words, while hiragana is used for native Japanese

not until 1978 that a standard encoding for kanji characters was issued: JIS C 6226. This was heavily revised in 1983, with other standards and minor revisions of this standard following. Further details about the technical standards were presented by Lunde (1993), and an excellent socio-technical examination of the evolution of Japanese language processing capabilities, and the social pressures underlying it, was presented by Gottlieb (2000).

It can thus be accepted that although significant business processing of personal data was underway in the West from the seventies or early eighties, such wide-scale processing was not even conceivable in Japan until well into the eighties, and not truly feasible until the nineties.

The rate of adoption of special-purpose word-processing equipment in the eighties suggests that even then text editing remained the major use of such information technology in most businesses. Only in the nineties did sales of general-purpose personal computers overtake special-purpose word processors in Japan. (It was also at this time that the transfer was made from hardware interpretation of kanji encodings with proprietary input interfaces to common standard software interpretation and interfaces.)

Of course, large-scale processing of personal data happens at least as much on large central mainframe servers as on individual PCs. However, these mainframe systems in Japan suffered from the same limitations as smaller machines in processing kanji characters. Japanese banking is a good example of a business where both mainframe processing and large amounts of personal data coexist. Even today Japanese banks still primarily rely on very simplified katakana representations of names on accounts, to allow for backwards compatibility with the earliest bank payment processing systems. Until the emergence of easy-to-use and interoperable interfaces able to deal with the kanji characters which are then encoded into databases using appropriate kanji encoding, processing of personal data about people in Japan was highly constrained, in particular by the difficulty of dealing with individuals' names.

### **What's in a Name?**

Most Westerners are at least vaguely familiar with the difficulty in parsing Asian names, in that one never knows in which order the names are presented. Traditionally in Japan (as is the case with many Western countries) only the nobility had official surnames. Once the Meiji restoration repealed the Japanese class system of the Shogunate era, all individuals

---

for which kanji characters do not exist, or whose use is deprecated, and for grammatical constructs such as particles and verb conjugations.

gained the right to a family name, which was given first.<sup>7</sup> Although many common names have well-understood and expected kanji forms, such as 中田 (*Nakata*), even these sounds have variant kanji forms, such as 仲田. The problem also exists in reverse, with some sequences of kanji having multiple pronunciations. For example, 神野 has four possible pronunciations: *Jinno*, *Kamino*, *Kano*, and *Kanno*. As mentioned above, even now bank records use only the phonetic representation printed in katakana for account names.

Any Westerner with a name not spelled how it is pronounced is familiar with the difficulty of dealing with a company over the phone. Having to spell a name is often frustrating, showing the difficult nature of trying to transmit non-phonetic information over a phonetic transmission medium. Consider the greater difficulty of achieving such communication where the desired end result is not a sequence of phonetic letters with an odd pronunciation, but an ideograph with a many-to-many relationship between sounds and representation. Despite over a century of attempts to rationalize and specify the kanji in use in Japan, with an ebb and flow of government insistence on limits and on social acceptance of those limits, Japan still retains a broad range of kanji in use, many outside the official lists of recognized kanji. Until recently, the official computer encoding of the Japanese kanji included 12,156 characters (Gottlieb 2000), based on a set defined by the Trade Ministry. The current computer encoding of the Japanese kanji, again endorsed by the Trade Ministry, was published as a standard called JIS X 0213:2004 and contains 11,233 characters, including kana (hiragana and katakana) and some other non-kanji symbols. A set of 1,850 official characters, supposedly the only ones officially recognized for use for anything except names (the 当用 [*tōyō*] kanji list), was issued in 1946 by the Ministry of Education, Science and Culture (now replaced by the Ministry of Education, Culture, Sports, Science and Technology, also known as MEXT). This was updated and slightly expanded in 1981, and the renamed 常用漢字 (*jōyō kanji*) list includes 1,945 characters (adding 95 and replacing one character with a simplified version). A further revision is underway, and as of this writing MEXT predicts the release of a new list in 2010. In 2007, however, the Ministry was predicting that this list would be released in 2007 or 2008, so there may yet be further delays. The draft of

---

<sup>7</sup> There are two, not mutually exclusive, explanations for this ordering. First, it accords the ancestors and broader family greater prominence than the individual. Second, it fits with the general linguistic ordering of concepts in Japanese, giving the broadest concept first and then centering in: Japanese usage for times, dates, and geographic locations follow this pattern.

this list reported in newspapers in October 2009 adds an extra 196 characters and removes five (Shiraishi 2009; Noguchi 2009).

There is an additional list, the 人名用漢字 (*jinmeiyō kanji*), allowed only for personal names. This included only 284 characters in 1993 (Lunde 1993) but was updated in 2004 to include 983. All of the kanji in the various Culture Ministries' lists have been ones included in the technical encoding standards.

Despite newspaper companies having been at one time among the strongest proponents of limiting the number of characters in use (Gottlieb 2000, 37), they are now one of the major sources of regularly used kanji not in the official lists. Estimates vary, but many place the number of characters needed for full adult literacy at around the 3,000 mark, with selections from another 3,000 appearing in various specialist fields.

Japanese kanji characters differ from Chinese hanzi and Korean hanja characters in ways that are well beyond the scope of this paper to consider. Interested readers may find *The Unicode Standard* (Unicode Consortium 2006, chap. 11) a useful place to start.

### **After the Kanji Problem Was Solved**

To summarize, it was not until the mid-nineties that significant processing of personal information about Japanese individuals became both commonplace and fully interoperable between commercial organizations and between private and public bodies. Before considering what happened with regard to processing of personal data in Japan once the kanji problem was solved, two other important elements of the context of the early nineties must be presented: the economic conditions in Japan and government attitudes towards citizen registration.

### **The Bursting of Japan's Economic Bubble**

The failure of the Japanese *Economic Miracle* in the nineties is sometimes called Japan's "lost decade" (Callen and Ostry 2003; Saxonhouse and Stern 2004); although with the global financial crisis beginning in 2008 undermining a long-awaited mild recovery of the Japanese economy, a *lost two decades* might be a more appropriate name. This prolonged economic stagnation caused significant social change in Japan, which is only just beginning to stabilize once more (Noble 2000; Pekkanen 2006).

The bursting of the Japanese property bubble in 1991 (Oizumi 1994) led to some significant shifts in political power in Japan (Curtis 1999). For example, Pekkanen (2006, 134) discusses how these shifts in power led to a revision of the law governing the establishment of nonprofit organizations (NPOs) in Japan in 1998 (coming into force in 1999). The prior situation gave civil servants in Japan enormous power over NPOs, which resulted in only those NPOs that employed retired senior civil servants from their authorizing ministry continuing to gain the necessary annual approval. The change to significantly reduce, though not entirely remove, the annual approval by ministries of NPOs represented a significant shift of power from the bureaucracy to the elected legislature in Japan, as it was the first Act drafted principally by legislators rather than bureaucrats (though with the bureaucrats' advice on suitable wording). Normally, bureaucrats had drafted legislation, supposedly in line with the manifesto commitments of the elected government. This locus of power is still a major issue in Japan, forming a significant element of the manifesto of the first truly non-Liberal Democratic Party (LDP/自民党) government to be elected since 1955, in 2009.<sup>8</sup>

Although the reform of the NPO legislation in 1999 is representative of the political shifts in Japan during the nineties, it would be noted that the increased ease of gaining NPO status took a number of years to have any significant impact on Japanese civil society. No Japanese privacy group had formal NPO status in Japan as of adoption of the data protection legislation in 2003, so the NPO legislation itself did not impact the development of that legislation. There was one related NPO, the Information Clearinghouse Japan (<http://clearinghouse.org>), focused on freedom of information, and a number of for-profit groups on data privacy existed, including the Japan Privacy Consultants Association, the Japan Privacy Professionals Association, and the Japan Accreditation Council for Marketing Privacy, which have now changed their status to NPO. These previously for-profit groups, despite the names, are principally funded by commercial organizations and mostly lobby for weak privacy protection (only as much as is needed to reassure the public, not so much as to significantly reduce the profits of their funders).

---

<sup>8</sup> There were three Prime Ministers in Japan in the mid-nineties not officially from the LDP; however, they were all strongly linked to that party: Morihiro Hosokawa, the first non-LDP Prime Minister since 1955, was a former LDP member of the House of Councillors and LDP governor of Kumamoto prefecture; he was succeeded by fellow LDP House of Representatives defector Tsutomu Hata, foreign minister under Hosokawa; and while Tomiichi Murayama was not an LDP member, he led a coalition government including the LDP.

In addition to the political changes brought about by the economic downturn, there have been significant changes in the labor market in Japan. While the concept that the default position of a Japanese man was as a *salaryman* (with lifetime employment, full benefits, and virtually assured promotion on the basis of time served rather than merit) was a myth that only ever covered a proportion of even the employed population, it nevertheless represented an ideal that helped define the Japanese view of working life. The major sets of redundancies at large Japanese firms in the early and mid-nineties severely undermined this ideal of mutual loyalty between employee and employer (Namaoto 1997) and eroded trust in the good faith of large commercial organizations in Japan. There was also a very low level of trust in the government in Japan in the nineties (Kikuchi 2007), which had significant consequences when the government proposed computerizing and centralizing individual registration systems, as covered below.

The economic woes of Japan in the nineties are well documented. The lackluster performance of the economy led large companies in Japan to be hungry for growth. Thus when the kanji problem was solved in the mid-nineties, the potential for immediate capitalization of the combination of networking and database technology suddenly available for use in this way overwhelmed existing social norms regarding information privacy in Japan (Adams, Murata, and Orito 2009). These economic pressures were present in government as well as the commercial sector, leading to a separate pressure to increase the processing of personal data by public bodies, as discussed in the next section.

## **Government Registration of Citizens**

Under economic pressure due to recession, and faced with the fastest-growing demographic age imbalance issues in the world,<sup>9</sup> Japan's government needed to increase tax revenue. The new electoral structure, which led to a broad coalition government for the first time (a narrow coalition with two other minor parties having been formed in 1983) and

---

<sup>9</sup> Japan has the largest elderly population in the industrialized world and also has one of the lowest birth rates (and it has been declining for decades). It still has very limited immigration (a tiny percentage of the population) when compared to most large industrialized nations, and this has two related impacts: immigrant workers help re-balance the working-age/retired ratio directly and are also more likely than lifelong residents to have children (Ezrati 1997).

placed the LDP in the previously unconsidered position of having to curry favor with the electorate, was a situation unlikely to lend itself to general tax increases. However, although Japan's employee workforce paid appropriate taxes on their income, it was believed that a substantial proportion of self-employed or company-owning citizens evaded a significant part of their tax burden. There is a saying in Japan that taxation follows the *964* or *KuRoYon* rule:

- For regular employees, 90% or more of their income is recognised and taxed.
- For business owners, only about 60% of their income is recognised and taxed.
- For agricultural workers, only about 40% of their income is recognised and taxed. (Ishi 1981)

In 1996, the Japanese government introduced a single taxation identification number as part of the new computerized tax system, the 国税総合管理 (*kokuzei sōgō kanri*). This was in an effort partly to reduce the overhead costs of collecting taxes, but also to address the *KuRoYon* issue. In order to improve the data quality of this system, it was an obvious measure to tie it in with the existing local residents' register (the 住民票 [*jūminhyō*]). The local nature of this system, however, made such a link infeasible, thus requiring the government to follow through on the existing bureaucratic pressure for a national registration system. Despite claims (Ohta, Tsubouchi, and Tsuji 2003) that the *KuRoYon* problem had been resolved, this has been refuted by others (Japan Research Institute 2005).

### **Prior Registration Systems**

Japanese citizens resident in Japan were already required to register with their local authorities. However, the registration consisted of various manual or small local database systems without interoperability and with little in the way of cross-checking capability or central government access to the data. A new centrally accessible database system was thus proposed, backed up by an individual registration card. The legal basis for this system, formally titled 住民基本台帳ネットワーク (*jūmin kihon daichō network*) (Basic Residents' Registration Network) but whose name was quickly shortened to 住基ネット (Juki Net), is contained in the 1999 Law No. 113.

The pre-Juki Net system of local registration descends from the Tokugawa shogunate's system of requiring all citizens to be registered with

a Buddhist shrine, the 檀家制度 (*danka seido*) affiliation system. Hendry (2003) suggests that the principal aim of this was as part of the suppression of Christianity:

Christianity was seen as a threat to the new social order that was being created and the expulsion of the missionaries was ordered.

... Every family was by law to be registered with a local Buddhist temple, to help eliminate lingering Christianity, and these temples also kept a record of deaths as they occurred. (15-16)

Marcure (1985), however, suggests that although suppressing Christianity was one goal of the registration system, the other effects of improved taxation and control of citizens in other ways (in particular the tying of the peasants to the land they worked by requiring permission to move registration between temples) was of greater importance to the government, although not publicized to the population at large:

The initial and avowed impetus for legislation concerning the *danka* system was the fear of Christianity, a religion that not only recognised an authority higher than that of shogun or daimyo but also carried with it the implied threat of foreign powers and their territorial ambitions.

... The Tokugawa government patronised Buddhism for its emphasis on rites of passage and its ability to control its members. (Marcure 1985, 42, 44)

The particular choice of Buddhist temples as the agency of registration was probably in part due to its utility in helping suppress Christianity. It also brought the Buddhist temples themselves into the centralized governmental structure, whereas before they had been the local affiliations of competing centers of power.

The parallels between this centuries-old political maneuver and recent history are compelling. Despite the actual purpose of taxation and control (Sakurai 2003), the proposals to create the Juki Net system were justified by Japan's government in much the same way that ID card (and associated databases) proposals in the UK and United States were being justified, by dual reference to benefits to ordinary citizens in their dealings with local and central government and to benefits in tackling illegal activity

such as benefit fraud, illegal immigration, and so on. Take, for example, this admission by a UK government minister:

The government has admitted that it has been guilty of *overselling* the case for a compulsory national identity card scheme in Britain and conceded that it will not prove a panacea for fraud, terrorism or the abuse of public services. (Travis 2005)

The Meiji restoration of 1867 and the Meiji constitution of 1889, while removing class barriers and restrictions to choice of domicile, still retained a registration system, introducing the 戸籍 (*koseki*) patriarchal family registration system. The resurgent military regime of the early Shōwa era continued this and also instituted compulsory membership in 町内会 (*chōnaikai*) (neighborhood association). In 1938, following Japanese colonial expansion into Korea and Manchuria, an individual registration system was introduced to supplement the family-based *koseki* in order to enable tracking of individuals for drafting into the armed forces (Ogasawara 2008). While the neighborhood associations were banned under the occupation, they were re-enabled as a voluntary scheme (but with strong normative pressure to join) soon after sovereignty was returned to Japan (Schwartz and Pharr 2003). In areas where only piecemeal building of new houses and apartment blocks has taken place, strong *chōnaikai* still exist, but in areas where wholesale redevelopment has taken place, the resulting high-density apartment buildings tend to have much weaker associations. The individual registration system from 1938 was named *jūminhyō* and confirmed as a permanent feature of Japanese bureaucracy in 1951 by the Resident Registration Act, alongside the *koseki* system also authorized under that legislation. It is the *jūminhyō* system that forms the local basis for the national Juki Net system. The *koseki* family registration system is now principally used to trace family connections for marriage, inheritance, and similar circumstances, while the *jūminhyō* system is used for proof of identity and address for a variety of purposes.

## **The Japanese Bureaucratic Dream of a Surveillance State**

There are rumors of an occupation-era (c. 1948) proposal for a computerized national identity database, once more linked to issues of conscription and military service. As reported by Koketsu (2007), the re-arming of Japan in

the postwar era was a difficult political subject. The Korean War provided a simple rationale for the expansion of civil defence forces, ostensibly as police reserves but in reality a military reserve (in most democracies the police do not use many tanks). It also provided the rationale for enhanced moves to surveillance of the general public, and in particular for surveillance of the population by the population, combined with bureaucratic tracking. While these rumored early proposals remain difficult to track down, the regularization of the *jūminhyō* and *koseki* systems in 1951 (and the related Alien Registration Ordinance of 1947, reaffirmed by the Alien Registration Law of 1952) continued the system of paper-based tracking of both nationals and non-nationals in Japan.

There was certainly a 1968 proposal for a computerized system, which attracted significant opposition from the mainly Marxist-oriented academic bodies in sociology and economics in Japan at the time. It is difficult to judge whether this opposition was the principal reason why the system was never more than a paper proposal. As discussed above, however, the practical difficulties of implementing such a system with the kanji-based name and address data of Japan were probably more of a barrier. In the absence of the feasibility of a national high-tech system, the paper-based *jūminhyō* and *koseki* systems were retained and gradually updated in a piecemeal fashion, becoming computer based in some regions.

The rhetoric from bureaucrats and ministers in proposing the Juki Net system spoke of the dream of a single point of identification, not only linked in to national and local government services, but also used for banking, travel, and payment—in fact anywhere that identification, authentication, or authorization is needed.

### **Political and Legislative Developments of Juki Net**

Before the original Juki Net bill passed in 1999, there was little in the way of serious opposition to the proposals. Only when the enabling legislation had been passed and the initial groundwork laid in creating the bureaucracy and defining systems architecture, did public opposition begin in earnest. A two-year campaign against the law enabling the pilot schemes failed to prevent it, despite public support:

[During a campaign for a two-year moratorium on a bill to start the Juki Net], we had an overwhelming amount of media on our side. More than half of the people polled, I think it was by the Asahi Shimbun newspaper, said they were uncomfortable. Most of the big factions of the [ruling] Liberal Democratic Party had

signed our letter. And yet the bill went through anyway. I asked some people what the problem was, and they said that it would've caused too much confusion if we had stopped the bill at that point, because they had set up a group in the ministry and they had gotten all the vendors going (Otake 2006 [bracketed inclusion in original])

The weblog of the campaign is still online, although last updated in December 2003, at <http://nationalid.hantai.jp>. The campaign presented a report to the Japanese government in March 2003 reviewing international privacy approaches and concerns (Ito 2003). Following their failure to prevent the initialization of Juki Net, this particular campaign appears to have become moribund, although related legal challenges were mounted for years afterwards. Indeed, it was only in *Ikuta v. Moriguchi City* (2008) that the Supreme Court of Japan has deemed Juki Net constitutional, overturning some and confirming other lower-court decisions.

### **Current State of Juki Net and Beyond**

Following the Supreme Court decision, all localities in Japan have followed the requirement to computerize their residents' registration system and connected the relevant elements to the national system. However, the associated identity card has seen very limited adoption by citizens. By 31<sup>st</sup> March 2008, fewer than 2.4 million cards (2,339,949) had been issued, according to the Ministry of Internal Affairs and Communications (2008), out of an adult (15 and over) population of approximately 110 million (Ministry of Internal Affairs and Communications 2010).<sup>10</sup>

This is despite some pressure from the national government both on citizens to adopt the cards and on local authorities to promote them. For example, it is quite common for a Japanese citizen to need a recent official copy of their registration document, such as when opening a bank account or signing a housing rental agreement. In the past, this printout could be obtained not only from main district offices but also from more common smaller local offices. However, this is now only possible for those citizens with Juki Net cards.

In February 2010, a new Commission on the Number Systems for Tax and Social Security was launched within the National Policy Unit of the Japan Cabinet Office (2010), based on the Outline of General Tax Reform

---

<sup>10</sup> Children are registered in Juki Net immediately on registration of their birth with the local government. Juki Net cards are available for parents to receive and hold on behalf of their children as soon as they have been registered.

2010. At the second meeting of this panel, held on 22<sup>nd</sup> February 2010, the policy of using Juki Net numbers as social security numbers as well as taxpayer identification numbers was proposed.<sup>11</sup> There have been discussions of setting up all-in-one identification cards based on such an integrated number system, but at the time of writing a majority of the MPs of the ruling Democratic Party of Japan (DPJ) appear hesitant to agree to such a system.

It is assumed by many local governments that elderly people are retaining their driver's licenses purely as a form of identification. The driver's license in Japan requires renewal every three or five years, for which there is a charge. In order to reduce the number of elderly people with driver's licences, many local governments have introduced a scheme where those who voluntarily return their licenses are given Juki cards with photos, without charge (it usually costs ¥500 for the card to be issued, with a further charge of ¥500 for encryption of the contents). Figures could not be found on the numbers accepting this offer.

## **Push for Rapid Internet Adoption**

The heavy chemical industry, which was a prime mover in Japan's rapid economic growth after the Second World War, suffered a downturn due to the maturity of domestic markets and increasing competition in the globalized economy, and this downturn forced Japan to adopt a knowledge-based economic structure. By the mid-nineties, information and communication technology (ICT) was recognized as a strong strategic choice to maintain Japan's international competitive strength. The Advanced Information and Telecommunications Society Promotion Headquarters was established in 1994, and its successor, the Information and Communication Technology Strategy Headquarters, was set up within the Cabinet in 2000 and given significant aims and funding by the Basic Act on the Formation of an Advanced Information and Telecommunications Network Society (2000) under the initiative of the Mori Administration to realize the information technology (IT) revolution, a restructuring of industries and society in Japan by using ICT. The stated purpose of these organizations was to develop a policy environment in which all Japanese could share the benefits of ICT, and to make Japan the most advanced nation in ICT, leading to the e-Japan Strategy (IT Strategic Headquarters 2001). This strategy advocated four

---

<sup>11</sup> See minutes of the meetings, available at <http://www.kantei.go.jp/jp/singi/kokkasenryaku/kaigi/syakaihosyou.html>.

prioritized policy areas: (a) construction of a low-price, ultra-high-speed (30–100 Mbps) network infrastructure; (b) enhancement of e-commerce; (c) establishment of e-government; and (d) cultivation of ICT human resources. Based on the strategy, a series of e-Japan Priority Policy Programmes has been developed by the headquarters since 2001, resulting in a sophisticated broadband network infrastructure that offers low-price, continuous Internet connections throughout the country. The strategy and the policy programs reflected Japan's socioeconomic conditions in the “lost decade,” when the Japanese government was pressed for economic structural reform and sought a smaller government.

In 1984, Murai began the creation of the Japan University Network (JUNET), a telecommunication network for research using the Internet. In 1988, he and others founded the Widely Integrated Distributed Environment Project (WIDE), an Internet research project. Murai is called the “father of the Internet in Japan,” “Mr. Internet,” and the “Internet Samurai.” In Japan, 1995 is called the “First Year of the Internet” (Murai 1995) because that is when Murai (1995) explained for the first time in Japanese not only the technological characteristics of the Internet but also its social impact and possible dilemmas. The construction of Internet infrastructure in Japan was led by the Ministry of Posts and Telecommunications (郵政省/MPT, integrated into the Ministry of Internal Affairs and Communications, 総務省, in 2001). The Council on Electric Telecommunication (1994) recommended the Fibre to the Home (FTTH) program, which involved laying optical fiber cables throughout the country by 2010 so that every household would have access to high-speed telecommunication networks, with public facilities such as schools, library, hospitals, community centers, and welfare facilities to be covered by 2000. Based on this report, Nippon Telegraph & Telephone (NTT) (which was privatized in 1985) finished digitization of their telephone switching networks in December 1997 and started to introduce the Π system<sup>12</sup> in March 1998, replacing copper cables with optical fiber cables at relatively low cost. Progress in the FTTH program was at one point obstructed by the introduction of low-cost ADSL services provided by new carriers such as Yahoo! BB, introduced in December 1999. In addition, the U.S. government criticized Japan's FTTH program as an unjustifiable industrial policy in 2001 (Ishiguro 2003). The Office of the U.S. Trade Representative (USTR) had included the free and open software development project TRON (The Realtime Operating Systems Nucleus) on its 1989 list of unfair trading items, based on Super 301 of the

---

<sup>12</sup>An early protocol for local multiplexing of analogue voice calls over fiber optic cables developed by NTT.

Trade Act (Sakamura 2002); thus U.S. criticism of FTTH was in line with U.S. international economic and technology policies more generally. However, the low-cost DSL services did provide an entry level for broadband, which drove consumer demand for the higher-speed access offered by FTTH. The competition offered by DSL also forced down the price of FTTH connections, also aiding early adoption. By 2008 FTTH subscribers outnumbered ADSL subscribers.

## **Media Attention**

Spurred by continuing economic difficulties, both government and commercial organizations in Japan found the sudden influx of capabilities for processing personal data irresistible. Both the general public and in particular the media were bound to notice. Adams, Murata, and Orito (2009) have argued elsewhere that the Japanese have a significant awareness of the importance of information privacy, despite others' claims to the contrary (Benedict 1946; Murakami Wood, Lyon, and Abe 2007; Ogura 2001; 2003; 2005). The sudden shift in the use of personal data in the late nineties undermined confidence in the ability of social norms to provide sufficient protection to the individual from intrusion by both the state and commercial actors.

In particular, following the passage of the original enabling legislation in 1999, the proposed new Juki Net system came to the attention of the media in Japan. The major Japanese media outlets have a reputation of being uncritical of government activity (Freeman 2003). However, in the case of Juki Net, certain sections of the Japanese media have maintained a skeptical or even downright hostile approach. Although the media did not pay much attention during passage of the original legislation, soon afterward Japanese newspapers and news magazines began carrying articles suggesting that the new system would open up new avenues for fraud and calling for further controls on the potential misuse of information by the government, and penalties for deliberate or careless disclosure by government officials (Yamada 2000; *Asahi Shimbun* 2002).

There was an existing Act on the Protection of Personal Information Held by Administrative Organs and Processed on Electronic Computers (1988). It is interesting that in 1988 such a law was deemed necessary to regulate the government's processing of information, but no such laws were passed at that time to cover the use of personal data by private companies or other nongovernmental bodies. Despite the existence of the 1988 law, however, the media coverage of the development of Juki Net included calls

for revision and significant strengthening of the legal basis under which government bodies could process and, crucially, disclose information about individuals. These calls to update the legislative framework protecting citizens from the government's misuse of data about them also led to a broader discussion of the issue of nongovernmental use of data. The Japanese media were generally supportive of this expansion but, being protective of their own prerogatives in processing and disseminating data about individuals, were slightly ambivalent. The allowances for journalistic use in the EU Directive reassured the Japanese media that strong data protection law and freedom of the press can comfortably coexist. As discussed above, Japanese commercial use (and particularly networked sharing) of personal data lagged behind such practices in the West. This might explain the 1988 legislation's exclusive focus on government agencies, which were already processing large amounts of personal data in registration systems, albeit primarily via paper-based systems with digital data using reference numbers that could then be linked to an individual primarily via cross-referencing the identification numbers with the paper records.

In response to the media pressure, including the campaign demanding a moratorium on the introduction of Juki Net (Otake 2006), the Japanese government stated in 2001 that it would revise the data protection law before the Juki Net system came into operation. As mentioned above, however, the law allowing the piloting of Juki Net was passed in summer 2002, well before the passage of the new data protection laws.

Prior to the Act on the Protection of Personal Information (2003), use of personal data by commercial organizations was covered in only a voluntary code first issued by the Ministry of International Trade and Industry (MITI) in 1989 and updated in 1997 to reflect the EU Directive. The sectoral organization Electronic Network Consortium issued similar guidelines for its members also in 1997, and the Japan Information Processing Development Corporation (JIPDEC) developed a *Privacy Mark* system similar to the TRUSTe mark in 1998.

The governmental response to the media's questions, as is common in Japan, was to discuss the issue with representatives of the 財界 (*zaikai*) (the financial world), and in particular with *Keidanren*, the representative body for large Japanese commercial and industrial concerns.

## **Keidanren and International Trade**

Under pressure from the media to expand the scope of promised personal data protection to include commercial entities as well as government agencies, the Japanese government approached *Keidanren* for their views on the possibility of a data protection law encompassing nongovernmental processing. Although initially skeptical, after consulting its members, *Keidanren* perhaps surprisingly threw its considerable political weight behind the development of such a law, provided of course that the regulations to be applied would be agreed with industry cooperation.

Although this might initially seem like a strange case of “turkeys voting for Christmas,” the rationale of the members of *Keidanren* seems to have been that their international trading operations with European companies were already subject to significant data protection regulation. With the United States having agreed to the Safe Harbour agreement with the EU, a similar regime in Japan should not adversely affect Japanese–U.S. trade, while a national legislative data protection regime in Japan would put Japanese companies at a potential competitive advantage in EU trade.

In September 2000, Keidanren (2000a) issued an interim proposal for the enhancement of the rules on computerized commerce, which clearly asserts the view that industry self-regulation is the way forward for data protection regulation in Japan, following the U.S. model. However, a few months later in December 2000, a Japanese Cabinet Office official had a meeting with Keidanren representatives in which details of comprehensive (i.e., covering both governmental and commercial sectors) new laws on data protection, modeled on the EU Directive, were put forward. The minutes of this meeting are available from Keidanren (2000b). The context of the U.S./EU Safe Harbour agreement, concluded in July 2000, allowing movement of data between the EEA and industry-regulated U.S. companies, needs to be noted here (and is mentioned as one of the early points in Keidanren 2000b).

By March 2003, whether persuaded by media pressure, the experience of the U.S. Safe Harbour scheme, or the government’s arguments, Keidanren (2003) significantly changed its public position, issuing a new policy on constructing a secure and safe Net society.

## **Implementation and Enforcement**

Despite the passing of the acts in 2003, and their entering into force in 2005, the Japanese data protection landscape in 2009 remains unclear. Laws 57 and 58 do set out some clear elements of law, such as appropriate punishments for breaking it. These punishments are far clearer in the case of government misuse of data, however, than are the rules that must be followed. In fact, despite two years to prepare for the acts coming into force, the Japanese government seems to have more or less forgotten about the laws once they were on the statute books. In UK or U.S. terms, the 2003 acts are in fact principally enabling legislation; that is, they set up a framework and provide authority for ministers, civil servants, and/or industrial representative groups to provide appropriate codes of practice and administrative arrangements for oversight and enforcement of data protection in Japan. As of writing in 2010, it is clear that the Japanese data protection regime is far from sufficient to meet those requirements, both in structure and in enforcement. By now, only a small number of the expected sectoral leaders have been approved by the relevant ministries. In addition, there have been no significant prosecutions over the release or misuse of personal data, despite continuous revelations about mass leaks from both public and private bodies.

### **Continuing Concern over Data Leakages**

Milberg et al. (1995) suggest that a country that has a moderate level of data protection legislation is likely to have the highest level of public concern over misuse of data. Although Japan's new data protection laws are supposed to place it relatively high on the government regulation status bar shown in Figure 1, the fact that the laws were only recently adopted and are still in the process of full implementation, including public and corporate understanding of their requirements, leads us to reduce this to medium. High-profile court cases involving citizens requesting exemption from inclusion in Juki Net, on the grounds that it constitutes either a fundamental or practical invasion of privacy in violation of Article 13 of Japan's constitution, as well as continual stories of data leaks from public and private sources, contribute to the concerns of citizens over their data safety. The recent final decision by Japan's Supreme Court that Juki Net is constitutional goes only some way to alleviate public disquiet. Court decisions that Juki Net has adequate security protection are undermined by media reports of its vulnerabilities:

Three municipalities—Kunitachi city in western Tokyo, Tokyo’s Suginami Ward, and the town of Yamatsuri in Fukushima Prefecture—have refused to join the network due to concerns over the handling of private information.

... According to the ministry, about 60 cases of forged ID cards have been reported by municipalities during fiscal [year] 2007. (*Asahi Shimbun* 2008)

These continuing problems were addressed in detail by Orito and Murata (2008).

## **Conclusions**

The pressures leading to Japan introducing apparently strong (but still not completely implemented) data protection legislation are complex and interrelated. These include the following:

- the legal pressures of the international web of treaties, agreements, guidelines, and other national and supranational legislation;
- the development of Juki Net;
- pressure from the Japanese media over data leakage and the anomalous mismatch between public-sector protection and private-sector lack of protection;
- and Keidanren’s shift in belief (following the EU/U.S. Safe Harbour agreement) that private-sector regulation would be of economic benefit.

The stated goal of the Japanese government of achieving EU third-country data-export approval status requires further regulatory development within the new legal framework of the laws passed in 2003, but the continuing media coverage of data leakages from both public and private bodies and the growing awareness of the necessity of privacy and confidentiality in personal data flows (Adams, Murata, and Orito 2009) seem likely to maintain the pressure for strong enforcement within this framework.

Further work is needed on why the strong data protection principles embodied in this enabling legislation have been so slow to produce significant changes in the processing of personal data in Japan. With the EU undertaking a wide-ranging review of its data protection legislation, enabling

data transfer between the EU and Japan unencumbered by individual contractual requirements appears further away than ever. The reporting of regular breaches of personal data stores in both government and the private sector have led to few penalties for either individuals or organizations, and so to a continued lack of trust by citizens in the mechanisms supposed to protect their personal data. At the same time, citizens in Japan, as elsewhere in the world, continue to post enormous amounts of personal information online in social networking sites (SNSs), often without apparent knowledge of the risks or the possible protections available to them in the shape of privacy settings.

All these things need further study in a wide range of social, legal, and technical contexts (in Japan as well as the EU, the United States, and developing countries) to enable global commonality of principles and local understanding of desires for data protection.

## References

- Act on the Protection of Personal Information. 2003. 個人情報保護に関する法律 平成十五年五月三十日 法律第五十七号 (Act on the protection of personal information, Act No. 57 of May 30, 2003).
- Act on the Protection of Personal Information Held by Administrative Organs. 2003. 行政機関の保有する個人情報の保護に関する法律 平成十五年五月三十日 法律第五十八号 (Act on the protection of personal information held by administrative organs, Act No. 58 of May 30, 2003).
- Act on the Protection of Personal Information Held by Independent Administrative Agencies. 2003. 独立行政法人等の保有する個人情報の保護に関する法律 平成十五年 法律第五十九号 (Act on the protection of personal information held by independent administrative agencies, etc., Act No. 59 of May 30, 2003).
- Act on the Protection of Personal Information Held by Administrative Organs and Processed on Electronic Computers. 1988. 行政機関の保有する電子計算機処理に係る個人情報の保護に関する法律 昭和六十三年十二月十六日 法律第95号 (Act on the protection of personal information held by administrative organs and processed on electronic computers, Act No. 95 of December 16, 1988).

- Adams, A.A., K. Murata, and Y. Orito. 2009. "The Japanese Sense of Information Privacy." *AI & Society* 24 (4): 327–341.
- Aoyagi, T. 2006. サイバー監視社会 (*Cyber-Surveillance Society*). Tokyo: 電気通信振興会 (Denkitsushin Shinko-Kai).
- Asahi Shimbun*. 2002. 個人情報、どう守る 住民基本台帳ネット (検証) (How is personal information protected in Juki Net system?). January 9.
- Asahi Shimbun*. 2008. "Distrust Stymies Online Network." March 7. <http://www.asahi.com/english/Herald-asahi/TKY200803070097.html>.
- Basic Act on the Formation of an Advanced Information and Telecommunications Network Society. 2000. 高度情報通信ネットワーク社会形成基本法 平成十二年十二月六日法律第百四十四号 (Basic act on the formation of an advanced information and telecommunications network society, Act No. 144 of December 6, 2000).
- Benedict, R. 1946. *The Chrysanthemum and the Sword: Patterns of Japanese Culture*. Boston, MA: Houghton Mifflin.
- Bennett, C.J., and C.D. Raab. 2006. *The Governance of Privacy*. Cambridge, MA: MIT Press.
- Boas, T.C. 2007. "Conceptualizing Continuity and Change: The Composite Standard Model of Path Dependence." *Journal of Theoretical Politics* 19 (1): 33–54.
- Callen, T., and J.D. Ostry. 2003. *Japan's Lost Decade: Policies for Economic Revival*. Washington, DC: International Monetary Fund.
- Council on Electric Telecommunication (電気通信審議会). 1994. 21世紀の知的社会への改革に向けて—情報通信基盤整備プログラム (Towards restructuring the intellectual society in the 21st century: Programs for constructing the infrastructure of information and telecommunication).
- Curtis, G.L. 1999. *The Logic of Japanese Politics*. New York: Columbia University Press.
- Doi, T. 1985. *The Anatomy of Self*. Tokyo: Kodansha International.
- European Parliament and Council of the European Communities. 1995. *Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of Such Data*. O J L 281: 31–50.
- Ezrati, M. 1997. "Japan's Aging Economics." *Foreign Affairs* 76 (3) (May–June): 96–104.

- Freeman, L. 2003. "Mobilizing and Demobilizing the Public Sphere: Mass Media and the Internet in Japan." In *The State of Civil Society in Japan*, eds. F.J. Schwartz, and S.J. Pharr (Cambridge: Cambridge University Press), chap. 11, 235–256.
- Gottlieb, N. 2000. *Word-processing Technology in Japan: Kanji and the Keyboard*. Richmond: Curzon Press.
- Hendry, J. 2003. *Understanding Japanese Society*. Oxford: Routledge.
- Horibe, M. 1994. 情報公開制度・個人情報保護制度の回顧と展望 (Systems for information disclosure and personal information protection: Looking backward and forward). *Jurist* (Supplement, Freedom of Information and Protection of Privacy): 2–15.
- Ikuta (生田) v. Moriguchi City (守口市). 2008. 最高裁判所第一小法廷 平成一九(オ)第四〇三; First Petty Bench of the Supreme Court, 2007 (Heisei 19), (O) No. 403. <http://www.courts.go.jp/hanrei/pdf/20080306142412.pdf>
- Ishi, H. 1981. 課税所得捕捉率の業種間格差—クロヨンの1つの推計 (Differences of taxable income recognition between industries: An estimation of KU-RO-YON). 季刊現代経済 (Kikan gendai keizai), 72–93.
- Ishiguro, K. 2003. "Law and Economy in the Electronic Age." Tokyo: Iwanami Shoten.
- Ito, J. 2003. "Privacy Report to Japanese Government." [http://joiwiki.ito.com/joiwiki/index.cgi?privacy\\_report\\_to\\_japanese\\_government](http://joiwiki.ito.com/joiwiki/index.cgi?privacy_report_to_japanese_government).
- IT Strategic Headquarters. 2001. "e-Japan Strategy." [http://www.kantei.go.jp/foreign/it/network/0122full\\_e.html](http://www.kantei.go.jp/foreign/it/network/0122full_e.html).
- Japan Cabinet Office. 2010. 「社会保障・税に関わる番号制度に関する検討会」を開始 (Launch of the commission on numbering systems for tax and social security). Press Release, February 8. [http://www.kantei.go.jp/jp/singi/kokkasenryaku/image/20100208\\_syakaihosyou\\_1\\_news.pdf](http://www.kantei.go.jp/jp/singi/kokkasenryaku/image/20100208_syakaihosyou_1_news.pdf).
- Japan Research Institute. 2005. 所得補足率推計の問題と今後の課題—90年代以降格差大幅縮小との判断は早計 (Problems and challenges in estimation of income recognition rate: Differences have still existed after 1990s). [http://www.jri.co.jp/press/2005/jri\\_051007.pdf](http://www.jri.co.jp/press/2005/jri_051007.pdf).
- Keidanren. 2000a. IT化に対応した取引ルール整備に向けた中間提言 (Interim proposal for enhancement of rules on computerized commerce). September. <http://www.keidanren.or.jp/japanese/policy/2000/042/>.

- Keidanren. 2000b. 「個人情報保護基本法制に関する大綱」について (Outline of personal protection of information law). December. <http://www.keidanren.or.jp/japanese/policy/2000/065.html>.
- Keidanren. 2003. 安心・安全で自由なネット社会を目指して (Towards constructing a secure and safe Net society). March. <http://www.keidanren.or.jp/japanese/policy/2003/023/>.
- Kikuchi, M. 2007. "Assessing Government Efforts to (Re)Build Trust in Government: Challenges and Lessons Learned from Japanese Experience." *International Public Management Review* 8 (2): 183–203.
- Koketsu, A. 2007. 監視社会の未来：共謀罪・国民保護法と戦時動員体制 (The future of surveillance society). Tokyo: 小学館 (Shōgakukan).
- Lyon, D. 2002. *Surveillance as Social Sorting: Privacy, Risk and Automated Discrimination*. Oxford: Routledge.
- Lunde, K. 1993. *Understanding Japanese Information Processing*. Sebastopol, CA: O'Reilly Associates.
- Marcure, K.A. 1985. "The Danka System." *Monumenta Nipponica* 40 (1): 39–67.
- Masuhara, Y. 1984. *タテマエとホンネ (Superficiality and Truth)*. Tokyo: 講談社 (Kodansha).
- Milberg, S.J., S.J. Burke, J.J. Smith, and E.A. Kallman. 1995. "Values, Personal Information, Privacy, and Regulatory Approaches." *Communications of the ACM* 38 (12): 65–74.
- Ministry of Internal Affairs and Communications (Japan). 2008. 住民基本台帳カードの利用状況 (The use of Juki Net Cards). May 20. [http://www.soumu.go.jp/menu\\_news/s-news/2008/pdf/080520\\_1\\_bt.pdf](http://www.soumu.go.jp/menu_news/s-news/2008/pdf/080520_1_bt.pdf).
- Ministry of Internal Affairs and Communications (Japan). 2010. "2005 Census of Japan: Summary of Results." <http://www.stat.go.jp/english/data/kokusei/2005/nihon/pdf/summary.pdf>.
- Mizutani, M., J. Dorsey, and J.H. Moor. 2004. "The Internet and Japanese Conception of Privacy." *Ethics and Information Technology* 6: 121–128.
- Murai, J. 1995. *インターネット (The Internet)*. Tokyo: 岩波書店 Iwanami Shoten.
- Murakami Wood, D., D. Lyon, and K. Abe. 2007. "Surveillance in Urban Japan: A Critical Introduction." *Urban Studies* 44 (3): 551–568.
- Nakane, C. 1970. *Japanese Society*. London: Penguin.

- Namaoto, M. 1997. "Death of the Salaryman." *Financial Times* (Weekend), May 17–18.
- Noble, G.W. 2000. "Let a Hundred Channels Contend: Technological Change, Political Opening, and Bureaucratic Priorities in Japanese Television Broadcasting." *Journal of Japanese Studies* 26 (1): 79–109.
- Noguchi, M.S. 2009. "Get Set for Next Year's Overhaul of Official Kanji." *Japan Times*, October 21. <http://search.japantimes.co.jp/cgi-bin/ek20091021mn.html>.
- OECD. 1980. "OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data." September. [http://www.oecd.org/document/18/0,2340,en\\_2649\\_201185\\_1815186\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/18/0,2340,en_2649_201185_1815186_1_1_1_1,00.html).
- Ogasawara, M. 2008. *ID Troubles: The National Identification Systems in Japan and the (mis) Construction of the Subject*. MA Thesis, Queen's University, Ontario, Canada. [http://qspace.library.queensu.ca/bitstream/1974/1222/1/Ogasawara\\_Midori\\_200805\\_MA.pdf](http://qspace.library.queensu.ca/bitstream/1974/1222/1/Ogasawara_Midori_200805_MA.pdf).
- Ogura, T. 2001. *監視社会とプライバシー (Surveillance Society and Privacy)*. Tokyo: インパクト出版会 (Impact Shuppankai).
- Ogura, T. 2003. *路上に自由を (Freedom in the Streets!)*. Tokyo: インパクト出版会 (Impact Shuppankai).
- Ogura, T. 2005. *グローバル化と監視警察国家への抵抗 (Resistance against Globalisation and the Surveillance/Police State)*. Tokyo: 樹花舎 (Kinohanasha).
- Ohta, H., H. Tsubouchi, and T. Tsuji. 2003. 所得税における水平的公平性について (Horizontal fairness of income taxation). Japanese Cabinet Office Report. <http://www5.cao.go.jp/keizai3/discussion-paper/dp031.pdf>.
- Oizumi, E. 1994. "Property Finance in Japan: Expansion and Collapse of the Bubble Economy." *Environment and Planning A* 26 (2): 199–213.
- Okamura, H. 2005. *個人情報保護法の知識 (Knowledge on Act on the Protection of Personal Information)*. Tokyo: 日本経済新聞社 (Nihon Keizai Shimbun).
- Orito, Y., and K. Murata. 2008. "Socio-cultural Analysis of Personal Information Leakage in Japan." *Journal of Information Communication and Ethics in Society* 6 (2): 161–171.
- Otake, T. 2006. Master of Multitasking Revels in Cyber-Elite Life; Interview with Joi Ito." *Japan Times*. November 5. <http://search.japantimes.co.jp/cgi-bin/fl20061105x1.html>.

- Pekkanen, R. 2006. *Japan's Dual Civil Society*. Palo Alto, CA: Stanford University Press.
- Sakamura, K. 2002. 21世紀日本の情報戦略 (*Japan's 21st Century Information Strategy*). Tokyo: 岩波書店 (Iwanami Shoten).
- Sakurai, Y. 2003. やはり嘘だった大臣の発言 徴税事務に住基ネット使用 (The minister told a lie: Juki Net will be used for tax collection). *Weekly Diamond*. February 24.
- Saxonhouse, G.R., and R.M. Stern. 2004. *Japan's Lost Decade: Origins, Consequences and Prospects for Recovery*. Oxford: Blackwell.
- Schwartz, F.J., and S.J. Pharr, eds. 2003. *The State of Civil Society in Japan*. Cambridge: Cambridge University Press.
- Shiraishi, A. 2009. 「柿」など9字追加、「鷹」は選外 新常用漢字の修正案 (New draft table adds 196 everyday-use kanji). *Asahi Shimbun*. October 23.
- Travis, A. 2005. "Labour Steps Back in Push for ID Cards." *The Guardian*, August 4.
- Unicode Consortium. 2006. *The Unicode Standard, Version 5.0*. Boston, MA: Addison-Wesley.
- Westin, A.F. 1967. *Privacy and Freedom*. Parsippany, NJ: Atheneum.
- Yamada, H. 2000. 個人情報守れぬ住民台帳ネット (Juki Net cannot protect personal information). *Asahi Shimbun*, July 15.
- Yamagishi, T., and M. Yamagishi. 1994. "Trust and Commitment in the United States and Japan." *Motivation and Emotion* 18 (2): 129–166.