Due to space limitations, Chapter 5 does not provide enough space to include the thoughts of a wide variety of ethical scholars, including a variety of information ethicists. In 1986, Dr. Richard Mason¹ wrote a seminal article in which he categorized information ethics issues into four categories. The PAPA model categorizes information ethics as being about either Privacy, Accuracy, Property, or Accessibility. A brief description of Mason's PAPA model follows with a concluding note from the Canadian author.

Privacy
Accuracy
Property
Access
A Final Note

Privacy
The ethical issue of privacy in the Information Age involves the ability of others to access personal information from computer files and databases. Data that we readily provide to creditors, health providers, financial institutions, and others may be accessed or used for purposes other than the purposes for which we provided the information.

For example, an individual fills out a warranty registration card online, and the company providing the warranty for its product uses that information to conduct their own market research. Most of us would readily accept that use as being beneficial to product owners since it permits the company to determine its markets and pricing more effectively.

However, if the company sold our warranty data (name, address, income range, etc.) to another company so that the second company could send us advertising material or use our data in a telemarketing campaign, it could be perceived as unethical, provided the first company did not inform us of the possibility that it might sell our data to a third party.

Today there are privacy laws (see Chapter 5) in many countries that protect their citizens from invasion of privacy. In addition, many companies and organizations publish their policies on privacy, usually on their Web sites, so that those who provide data to the organization understand how their data may be used. Some companies go so far as to permit their customers to opt in or opt out of having their data used for purposes other than the original purpose. For example, American Express periodically includes with its bills a mailer to offer their customers the opportunity to designate whether they wish to receive additional, non-bill-related mailings from
American Express or from third parties to whom American Express may provide the data. By returning the mailer, an American Express cardholder can indicate that he or she wishes to receive American Express mailings but no others, and so on.

**Accuracy**
How accurate is accurately enough? Who is responsible for accuracy? Who will be held accountable for accuracy?

A simple mistake, whether in posting a grade or updating the price of a stock or a credit report, can have serious consequences. Investment and lending decisions rely on the accuracy of the data that is input to the decision support system or other application being used, as well as on the accuracy of the programs themselves. As we increasingly depend on information systems, it is important that the programs in these systems are error-free, that the data the systems use is accurate and up to date, and that all parts of the system work together to produce accurate, error-free outputs.

**Property**
The key issue of property is copyright. As discussed in Chapter 5, most software and computer files are protected by copyright laws, regardless of the country of origin. Violating copyright is theft—plain and simple. The author of the software or computer file is robbed of either money (their portion of another sale) or credit for the creation of the software or file. In either case, the author is viewed as being diminished by the violation of copyright.

Research shows that many individuals do not understand what clearly violates copyright. For instance, a student loans another student a CD-ROM containing software that cost $100. The second student installs the software on his computer to see if he likes it and would like to purchase it. This act is a violation of copyright. Even if the student then uninstalls the software after the test, it is still considered copyright violation. Violation of software property rights is also known as piracy.

It has been estimated that if the computing public did not illegally duplicate and use widely available software like Microsoft Office, such software would cost less than half of what it costs today. All of the research and development costs, along with advertising and other overhead costs, would have been spread among three or four times as many purchasers, resulting in a much lower cost of the individual software package.

**Access**
Ethical use of information includes the ability of all people to access information in the public domain. The purpose of public libraries is to provide the general public with access to information, primarily in written form. Public libraries provide equitable access, regardless of race, creed, age, gender, or income level; of course, an overriding assumption is that the general populace can read.
Online information access is challenged even more than public libraries by the notion of *universal access*. First, individuals attempting to access and use online information must be educated enough to read, write, reason, and even calculate. In other words, they must have at least a minimal level of education; today, that minimum level is probably close to a high-school education to be able to fully understand the accessed content.

Second, individuals attempting to access and use online information must have physical access to the technologies—hardware, software, databases, telecommunications—that are necessary to retrieve information. For many less-affluent individuals, particularly minority groups, this is a major expense—too expensive for many lower-income households, since they require centralized facilities, such as schools or libraries, to view online information via information technology. In sparsely populated areas like the NorthWest Territories and Nunavut, this is particularly a critical issue, as Internet access is scarce.

Finally, the issue of property rights may restrict access to online information; unless individuals can pay to obtain the information, it may not be in the *public domain*.

It has been said that a society that does not provide universal access, including education and physical access, creates a society of *Knows* and *Know-nots*. Knows are a class that has access to knowledge and learning, while Know-nots are an underclass of less-educated, less-affluent people who have little access to information and who suffer a disadvantage in the modern workplace. Here in Canada, governments take this premise seriously. At both the federal and provincial levels, governments are issuing—and funding—mandates for universal access and training, primarily through high schools, so that the general populace will be computer literate and have universal access to the technology needed to gain access to online information.

**A Final Note**

Mason's PAPA model does not deal directly with issues of equity. The PAPA model was developed before massive lay-offs and downsizing due to rapidly increasing automation driven by computers. Which employees are the first to be laid off? How are employees laid off? How much notice is given to them? What levels of support are given to laid-off employees as they seek new employment? These are issues related to treating employees in an equitable manner. It remains to be seen how these issues of equity are dealt with by ethical employers, but actions such as providing a resume service, counselling, and continued supplemental health benefits for a period of time after termination are ethical ways of handling the situation.