Ethics of Computing in Pharmaceutical Research and Computer in Market Analysis

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INTRODUCTION

- There is no doubt that computers, computing technology in pharma domain and the consequent information systems have raised ethical challenges and conflicts to pharma professionals.

- Computer ethics are increasingly becoming important because of the rising number of cyber crime issues, including software piracy, unauthorized hacking.

- The challenges and conflicts have been presented not only to the practitioner facing new problems but also to the professional pharmacist and researcher dealing with computer use at a conceptual level.

- Malware, spyware, freeware, and browser cookie exploits are some of the notorious computing applications that have spurred the debate of importance of ethical behaviour in technology.

ETHICAL ISSUES:- PRIVACY, LIABILITY, OWNERSHIP AND POWER

PRIVACY

- More precisely defined, the right to privacy is thought of as the right of individuals to determine the nature, scope, and manner

  of information revealed about themselves.

- Philosophers have identified two general aspects with regard to the right to privacy. For any intrusion into the right to privacy, the elements of relevance, consent.

- The element of relevance involves the necessity of the intrusion into privacy as bearing a direct relationship to the matter at hand. For instance, in employer-employee relationships, the employer may, at times, investigate work-related problems by encroaching upon the employee's private life. Such "encroachments" must be relevant to the job the employee does.

☐ Assuming that standard codes of conduct, for example, the Nuremburg Code (1947) and the World Medical Association's Declaration of Helsinki, are followed by researchers, the element of consent will already have been satisfied.

☐ In fact, as far as the element of consent to the intrusion into privacy goes, the medical community's doctrine of "informed consent" is a very strict application of the element of consent.

LIABILITY

☐ Among the topics related to liability and computer use in general are legal liability, the duty of honesty, the nature of contracts, misrepresentation, express and implied warranties, and negligence.

☐ Several pharma companies, for example, Eli Lilly and Company, have said that their research will be made public so people may view the work and come to their own judgments about the efficacy of a drug.

☐ With the increased importance of accuracy, though, comes an increase in knowledge about an individual. If the right to privacy demands protection, then there may need to be strict limits on who has access to programs, especially programs involving research. So, not only is there a need for technological "blockers" to protect against intrusions into programs, policy and procedure must strictly limit access to programs.

OWNERSHIP

❑ Paintings, poetry, music have a lot of similarities, computer software does not consistently share similarities.

Devic such as copyrights, patents, encryption, secrets, and oaths of confidentiality and genuineness of key standard virtues like trustworthiness and loyalty have been tried to protect ownership and the right to property.

❑ As such, health like life and liberty is an important and powerful end or goal. Ownership of property is a lesser end or goal.

❑ The concrete reality is that programmers who provide a service may have some ownership rights over the research and its results.

POWER

- Johnson identified the issue of power as a crucial matter

  forthe development of computer ethics.

- He has suggested that the computer revolution has now gone through two distinct stages, namely, the introduction stage and the permeation stage.

- He believes the computer revolution is now entering a third stage, the power stage.

- This stage will necessarily deal with the impact of computers on human life especially in the areas of politics, socialization, and law.

CODES OF CONDUCT RELEVANT TO THE USE OF COMPUTERS

- A professional code of conduct serves several purposes: to allow a profession to regulate itself; to state the agreed- upon values of a profession; to make members aware of issues to which they might not otherwise be sensitized and to provide guidelines for ethical behaviour.

- A recent study identified the ten most important behaviour that are sanctionable offences in scientific research, and subsequently used this list to survey scientists about whether they committed any of these offences.

- By applying computers to pharmaceutical research, researchers introduce new ethical issues in the execution of their research. The Association for Computing Machinery (ACM), the United States' largest organization of computer professionals, was aware of such potential when it adopted its first code of professional conduct in 1972.

TABLE 30.2 Computing Organizations with Codes of Conduct

Professional Organization	Web Address
Association of Computing Machinery	www.acm.org
Association of Information Technology Professionals	www.aitp.org
The Australian Computer Society	www.acs.org.au
The British Computer Society	www.bcs.org/bcs
Canadian Information Processing Society	www.cips.ca
The Institute for the Management of Information Systems	www.imis.org.uk

COMPUTER IN MARKET ANALYSIS

❑ Computerized marketing facilitates the collection and Dissemination of current market information.

☐ Most information used in the produce industry today is acquired through telephone conversation with other traders.

☐ Computer aided marketing facilitates more efficient dissemination of current, accurate market information.

INCREASED COMPETITION

☐ Implementation of computerized marketing should also result in increased competition.

☐ Because most produce is traded over the telephone, competition is limited by the number of conversations traders can effectively carry with each other.

☐ Computerized marketing may not (probably will not) result in more traders, but it should result in more quantity and quality communication between traders.

HIGHER GROWER PRICES

- The most consistent benefit measured in previous computerized marketing systems has been higher grower prices, Higher grower prices result from at least two factors, increased competition and improved operational efficiency.

- The impact of increased competition will result in higher grower prices if growers gain bargaining power as a result of more buyers bidding for their product.

- The impact of increased competition in the produce industry should be positive for growers, but the impact will probably be less noticeable than in previous systems since the produce industry is not generally considered to be a "thin" market.

- Because of improved operational efficiency, grower prices should increase because it costs less to get produce to market. At least part of this cost savings should be passed to growers in the form of higher grower prices.

IMPROVED MARKET ACCESS

☐ Computerized marketing should also ease the problems of accessing major produce markets.

☐ Because market access is limited by communication of information, improvements in communications should make market access easier.

RESEARCH PROCEDURES

☐ The potential trader acceptance of computer aided marketing of produce was determined from a survey of the industry.

☐ Thesurvey was administered with personal interviews in a "mirror image" approach.

☐ The mirror image survey technique asks related questions from the unique perspective of each   individual surveyed so that similarities and contrasts   in the operations of the different participant groups could be identified.

☐ The market channel participants were divided into three broad categories for survey purposes: buyers, dealers and sellers.

□ The survey was designed to collect demographic information about the individual surveyed, the present and expected use of computers by the market participants, and the attitude of the participants about the concept of computer aided marketing.

CONCEPTUALIZING THE COMPUTER AIDED MARKETING SYSTEM

- The results of this analysis were used with other information collected in the survey to draw important conclusions about the potential to develop a computer aided marketing program for produce.

- The Advisory Committee concluded that a computer aided marketing system should be developed for the produce industry.

- Because of the high level of general satisfaction with the present market system, the committee determined that the computer aided marketing system should be developed as a tool to complement the present marketing system.

- The approach used to conceptualize a computer aided marketing system was to learn as much as possible about the present marketing practices with emphasis on the methods used to obtain information.

- The case study method was used to learn about present marketing practices.

- The case study involved choosing several traders that would allow us to study every facet of their marketing operation.

Thank you