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Understanding Information Ethics Practice through the PAPA Framework

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Abstract

This article discusses the dimension of the PAPA (Privacy, Accuracy, Property, and Accessibility) framework used in information ethics practice in various fields. PAPA framework provides a holistic view of information ethics practice research. The aim is to identify what is the dimension used in PAPA components. An analysis of literature has been performed to capture the dimension and a brief description is presented. The analysis found unique dimensions used, and finally, a Hybrid PAPA framework is illustrated to provide a framework guide for further information ethics research.

Keywords: Information ethics; library and information science; PAPA; ethical issues

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1.0 Introduction

Living in the information era exposed citizens to the inevitable challenges of being an ethical information practice. The question of 'right' and 'wrong' has been troubling human beings for centuries. Almost every man or woman faces a moral dilemma of determining what is 'right' and what is 'wrong' in everyday life (Hoq, 2019). An ethical information practitioner requires individuals to possess skills and knowledge about the information they are dealing with. Information ethics is one of the crucial issues discussed from the 1980s until now. The issues have become increasingly important in recent years due to technological advancements, depersonalization of the workplace, and other social environments, including the growing population (Smith, Millberg & Burke, 1996). Information issues, including awareness and ethics, are among the skills that receive the least attention among citizens; only those with high information literacy skills can judge and assess the information received (Abu & Sabri, 2018). Fake news spreading is a result of poor information ethics practice. Research on information ethics practice (Mason, 1986) identified the real challenge rooted in the nature of information itself and the social contract of the society. However, the ethical aspects of handling information lie in the person's intellectual and moral spirit. This paper examines the understanding of information ethics practice through Mason 1986's framework, PAPA. Privacy, Accuracy, Property, and Accessibility (PAPA) provides a holistic view of the ethical issues of information. This study focus on the question: i) what is the research dimension of PAPA framework components. This paper is organized as follows, beginning with the introduction and literature review and followed by the research methodology and discussion. The final section represents the research conclusion and recommendation.

2.0 Literature Review

This section reviews the literature on the topics of information ethics and the PAPA framework. The review focuses on literature discussing the information ethics practice through the PAPA framework. An emphasis is given to the major impact of information ethics practice. PAPA is an acronym for Privacy, Accuracy, Property, and Accessibility, which is among the most frequently used framework in information ethics research. The four components will be explained in the literature review section. Privacy becomes difficult to maintain because of the accessibility of data to anyone, while accuracy deals with the multiplicity of sources. Property in the framework refers to the permeable boundaries of the information, and accessibility relies upon literacy skills.

2.1 Ethics

Ethics symbolizes the principles of right and wrong of individual choice in guiding behaviors. Originated from the Greek term *ethos* means the way of being, customs, and human habits. Ethics are guidelines to influence human social behavior in a manner intended to protect and fulfill the rights of individuals in a society. Ethics are moral principles, or rules, which govern a person's attitudes and behaviors. In general, information ethics is a field of applied ethics that addresses the uses and abuses of information, information technology, and information systems for personal, professional, and public decision-making.

2.2 Information ethics

The historical trace of information ethics grew out of the professional ethics from the traditions of librarians and early information professionals to describe and evaluate the competing interests that sought to control the information assets of a high-tech society. Like other areas of applied ethics in science and technology, information ethics focuses on social responsibility and the meaning of humanity concerning machines. The term information ethics first appeared in the literature of library and information science in the late 1980s (Hauptman, 1988) alongside other terms such as information technology ethics, cataloging ethics, and archival ethics. In the next few years, information ethics grew to encompass dilemmas facing librarians and information professionals as they introduced new Information and Communications Technologies (ICTs) to public, academic, and special libraries and also into publishing, healthcare, and the new information industry. Today information ethics encompasses a wide range of issues involving the creation, acquisition, organization, management, translation, duplication, storage, retrieval, and any other processes involving printed or digital texts, graphics, voice, and video. Information ethics can address any issue relating to the information society or the knowledge economy (Floridi, 1999). The United Nations Educational, Scientific and Cultural Organization (UNESCO) uses the term information ethics to focus attention on global problems ranging from literacy, including cell phone access in the developing world, to the need to protect local cultures and languages from the dominance of English on the Internet, and the ramifications of expanding databases of genetic information. According to Hauptman (2008), information ethics deals with the moral conduct of information users based on their responsibility and their accountability.

2.3 Information ethics influences

Literature reports several factors that influence information ethics. Hoq (2019), Chuang & Chen (1999) highlight seven (7) factors that influence information ethics:

1. Globalization, one of the essential features of modern society, is characterized by extensive use of information and communication technologies (ICTs), an increasingly open society, greater sharing of information, and also greater conflict among individuals and societies in asserting their dominance over others.
2. More emphasis on individualism: People tend to be more individualistic these days; they frequently place more importance upon individual good rather than social good. As a result, there has been an increased demand for individualized and customized services from the library and information centers.
3. Privacy and information security: In this increasingly networked world, the security of public and private data held in databases, websites, and other information repositories are always at risk. People have become more worried about their privacy and libraries, as preservers and providers of sensitive information have to deal with this concern.
4. Diversification of 'information works': Unlike their predecessors, today's library and information professionals are burdened with greater and bigger responsibilities. In addition to being information providers, they now frequently have to assume the roles of educators, consultants, technology experts, translators, and synthesizers, among others. They must achieve new skills and capabilities for successfully performing these duties.
5. The conflict between 'right to information and 'ethical use of information: Many countries around the world have laws ensuring people's right to receiving and using information.
6. Access to information: The issue of universal access to information may create a dilemma for many libraries. Pointing out, many public and professional declarations refer unequivocally to free and public access to information. For example, the British Library Association code of conduct states that any individual should be granted free and public access to information. But, there is the risk that too great an emphasis on providing a service free of charge may result in funding problems that could endanger the survival of the information center. Similarly, providing a service at zero cost often results in its devaluation, which also has as a consequence the undermining of the prestige and feasibility of the profession.
7. Intellectual property rights: With the advent of new technologies, the reproduction of information materials through photocopying, scanning, or otherwise has become much easier. This ease of reproduction sometimes hampers the intellectual property rights of authors and publishers. It may create tension between the desire of information professionals to obtain information at the lowest cost possible and the interest of the owners of this information. Besides, growing recognition of information as a 'raw material' for development has resulted in increasing commoditization of information. Accordingly, information is being transferred from the public sector to the private and

corporate sector, and 'price tags' are being attached to information, which is making it difficult for less affluent people to access and use. It is the market criterion – the ability to pay. This determines who will receive and who will be excluded from the benefits of the information lubricated economy.

2.4 PAPA Framework

The study of information ethics practice in the recent information era has opened-up several new perspectives. This section will discuss the PAPA framework to better understand the information ethics practice from the people, technology, and environmental forces. PAPA framework (Mason, 1986) described the ethical issues in the information age through four elements Privacy, Accuracy, Property, and Accessibility. The four components will explain the ethical issue surrounding the people, technology, and environmental perspectives.

2.4.1 Privacy

Privacy or anonymity, from some standpoint, refers to the expectation of fairness and control over personal information and the expectation of confidentiality (Sahid et al., 2021). Privacy is also described as the ability of individuals to control the access others have to personal information about them. It is about the right of individuals to retain certain information about themselves without disclosure and to have any information collected about them with their consent protected against unauthorized access. Mason (1986) designated privacy as what information about a person must be revealed to others, under what conditions, and with what safeguards? Privacy provides a border between what to keep and what to reveal to others, regardless of any circumstances. The main forces in privacy are the growth of technology and the increased value of information for decision-making. Research on information privacy issues addressed by most literature revealed seven (7) dimensions, including collections, unauthorized secondary use (internally), unauthorized secondary use (externally), improper access, errors, reduced judgment, and combining data.

2.4.2 Accuracy

Accuracy deals with the authenticity, fidelity, and accuracy of information. Accuracy is to be ensuring that the information is correct and without any mistakes. In short, it describes the accountability for errors in information or "misinformation". The pervasive use of information in our societal affairs means we have become more vulnerable to misinformation. Accurate information is error-free, complete, and relevant to the decisions that are to be based on it. It is the condition or quality of being true, correct, or exact, free from error or defect. Inaccuracy may cause a detracting situation in a person's life, organization, and business values. The technology and amount of information forces have tremendously affected information accuracy (Masrom et al., 2011). Research on information accuracy demands we hold responsibility for the vigilantism in ensuring accuracy in information. Research in information accuracy focuses on two (2) main dimensions, including information ownership and misinformation.

2.4.3 Property

The main concern in property is who owns the information. Property issues concentrated on ownership and value of information. Research indicated two main issues in the property, including copyright and intellectual property right, especially in Information and Communication Technology (ICT) (Harris, 2000; Peslak, 2006). Violating copyright for printed or media resources, including books, computer software, and programming, is common in the information age. Violating both copyright and intellectual property right involved issues of economics and ethics. Information is had to be treated as inclusive to the individual or organization from both quality and quantity perspectives (Woodward, Martin & Imboden, 2010). Recent legal enforcement on the property such as copyright, patents, encryption, oaths, and confidentiality (Mason, 1989). However, the technological force, including artificial intelligence and expert systems, have somehow upshot the moral and ethical spirit. Concern on the property right relates to the content of information and ownership of the channel and medium of the information transmitted. (Ponelis, 2013).

2.4.4 Accessibility

Accessibility, or the ability to obtain the data, becomes increasingly important. Accessibility deals with the issues of what information does an individual or an organization have a right or privilege to obtain, what information conditions, and what safeguards the process? It also relates to the ethical use and access to information in the public domain (universal access). Mason (1986) tied accessibility with literacy; there are three (3) skills to be mastered in the information age to achieve literacy standards, including intellectual skills (reading, writing, reasoning, and calculating), access to information technologies channels, and venue (libraries, computer terminal, telephones, etc.), and finally access to the information itself. This includes property and also social economics (Masrom et al., 2011).

3.0 Methodology

This desk research analyzed the literature on the topic of information ethics practice and the PAPA framework. A content analysis method is applied in this paper. A literature search covers from the 1980s to the present, including the prominent literature from the early introduction of PAPA. The subject coverage ranges from the library and information science, technology, cybernetics, and medical. As this study aims to identify the dimension of the PAPA framework from a broad range of subjects, analytical analysis of the literature contents has been done to identify the research framework and extract the dimensions. The dimension analysis matrix is presented in the discussion section as the proposed hybrid model of the PAPA dimension.

4.0 Discussion

This analysis of the literature revealed an interesting blend of a component in information ethics using the PAPA framework. The variations of dimensions in the components are driven by the growth of the people, technology, and information forces. The forces breakdown internet and digital access shifts emphasis, but there is a core of intellectual freedom issues, privacy, and secrecy, concerns with social equity and justice, and matters of the ownership of the information that show differing faces across all of the domains. The analysis proposed hybrid PAPA dimensions as described in Table 1.

Table 1: Dimensions of Hybrid PAPA Framework

Component	Dimension	Description	References
Privacy			
	Collection	The amount of data and information that was personally identified had been collected and stored in a database.	Acquisti & Grossklags, 2005 Smith, Milberg & Burke, 1996 Stone et al., 1983
	Unauthorized secondary use (Internally)	Data that has been collected for an individual purpose but has been used for other purposes (secondary use/purpose) without authorization.	Hersh, 2003 Linowes, 1989 Smith, Milberg & Burke, 1996
	Unauthorized secondary use (Externally)	Data that has been collected for one purpose but has been used for other purposes (secondary use/purpose) is disclosed to the external party.	Culnan, 1983 Kuzu, 2009 Linowes, 1989 Sturges, 2009
	Improper access	Data about individuals is readily available for unauthorized viewing or use.	Date, 1986 Ikokoh & Ikonne, 2021 Linowes, 1989
	Errors	Protections against deliberate and accidental errors in personal data.	Acquisti & Grossklags, 2005 Date, 1986 Miller, 1982
	Reduced judgment	Inadequate automated process and mechanism of decision making.	Laudon, 1986 Sturges, 2009
	Combining data	Mosaic effect of data – combining personal data onto a large database.	Ikokoh & Ikonne, 2021 Laudon, 1986
Accuracy			
	Information ownership	Owners who hold accountability, assigning responsibility for managing the information from creation to consumption.	Braunstein, 1990 Ellis, 1994 Ji & Gan., 2022 Lipinski, 1998 Reed, 2021
	Misinformation	Inaccurate claims are shared largely unwittingly and without the intention to deceive.	Mrah, & Tizaoui, 2018 Pennycook & Rand, 2022 Primiero & Kosolowski, 2013 Safieddine, Dordevic, & Pourghomi, 2018
Property			
	Copyright	The legal right to have control over the work of a writer, artist, musician, etc.	Ikokoh & Ikonne, 2021 Mason, 1986
	Intellectual property	Something that someone created or invented and that no one else is legally allowed to make, copy or sell.	Ikokoh & Ikonne, 2021 Mason, 1986
	Patents	An official document that gives someone who has invented something.	Ikokoh & Ikonne, 2021 Mason, 1986
Access			

	Information literacy	Information literacy is the ability to find, evaluate, organize, use, and communicate information in all its various formats, most notably in situations requiring decision-making, problem-solving, or the acquisition of knowledge.	Mason, 1986 Masrom et al., 2011
	Intellectual skills	The ways of thinking and problem-solving used by professionals in a field.	Mason, 1986 Masrom et al., 2011
	Information channel	The medium used for transmission of information.	Mason, 1986

5.0 Conclusion & Recommendation

It clearly illustrates the effect of the PAPA framework in information ethics research. PAPA framework provides clear guidance on investigating the element of information science, librarianship, and Information and Communications Technologies (ICTs), including cybernetics research. This research poses new ethical challenges for library and information professionals in ascertaining their roles and responsibilities in this complex 'infosphere' and determining how they could assist the underprivileged people in upholding their right to accessing and using information ethically. Finally, this research contributes to providing conceptual guidance for research applying the PAPA framework in the fields of library and information science, librarianship, and Information and Communications Technologies (ICTs). Hence, future research may validate this model for advancing their information ethics practice investigation.

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