# Chapter 10
# Global Challenges for Humanity: How Can Ethical Considerations Become More Routinely Incorporated into Global Decisions?

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## 10.1 Introduction

Incorporating ethical principles into global decision-making and implementation is not an easy or monolithic task. Different cultures perceive ethics from different perspectives, making it challenging for international bodies and organizations make ethics-related decisions and set ethics-related goals.

The Oxford Dictionary defines ethics as "a set of moral principles, especially ones relating to or affirming a specified group, field, or form of conduct". Roots of the term are based on Latin word *ethice*, which was derived from Greek word ē*thik*ē (the science of morals). As civilization progressed, the understanding of ethics has evolved. In the modern era ethics is often related to duty (Waller 2005) and to scientific progress (Liszka 2011).

Today, ethics is globally and tacitly negotiated among cultures, religions, and generations of the human society on social networks (SN). SNs have become an irreplaceable part of everyday life for a large percentage of the world's population, so it is rational to expect that the age structure of SNs corresponds closely with the age structure of the analysed society. However, not all parts of society participate equally in SN, as research shows that "digital production inequality suggests that elite voices still dominate in the new digital commons" (Schradie 2011).

This research paper seeks to denote the state of the art and the future of incorporating ethical principles into worldwide decisions. In so doing the literature review provides a detailed overview of published work in IS on this topic, and explores the potential role of information systems (IS) in this area.

The paper is structured as follows: first, we review the academics' and practitioners' literature and analyse existing SN and IS-mediated platforms that have emerged. Then a summary of this review is used to derive future fields

of research that might contribute to solving the challenge by leveraging IS. Finally, the paper discusses the literature review and concludes with questions aimed toward further augmentation and promotion of this only lightly investigated topic.

## 10.2 Research Method

The paper follows a systematic literature review process (vom Brocke et al. 2009) with the aim of creating a valid foundation for future research. The criteria applied in the initial literature search required that the papers' publication dates be after 2005, and keywords were searched in the titles, abstracts, and (where applicable) investigated areas of the papers based in the disciplines of IS, economics, sociology, and politics. The literature review was conducted from the end of October to the beginning of December 2011. The journals searched were those in the Senior Scholars Consortium (2011) "Basket of 8".

The literature research focused on four fields of interest that correlate with IS:

(1) **Global ethical considerations**: What are the current issues that are discussed globally and have a global effect? What is the consensus for how the ethical dimension is regarded? How are global decisions being made and implemented?
(2) **Beneficial movements supported by IS**: How are ISs contributing to increasing the transparency efforts of non-governmental organizations? What effect is observable?
(3) **Effect of public opinion on global decisions**: Do ISs help to inject public opinion into decision processes that have global effects? What is necessary to influence those processes?
(4) **Ideal place for ethical discussions**: What is the ideal environment in which ethical issues can be considered and archived in the most effective way? How such an environment be achieved?

As a consequence of the low number of results, an additional search was conducted using loosened criteria. First, we conducted a full text search, with most of the queries based on the combinations of the words *decision*, *ethic\**, *global*, *information system\**, and *routine*. Furthermore, year constraints were completely removed, as well as the discipline exclusions. The articles from these search results were selected by analysing their introductions, abstracts, and conclusions. The relevant research papers are grouped into four categories (Table 10.1), which are used as the basis for the upcoming discussion of the results.

**Table 10.1**  Qualitative classification of relevant research papers

| Category | Literature |
|---|---|
| IS augmenting global decisions | Brey, P. (2007). Is Information Ethics Culture-Relative? International Journal of Technology and Human Interaction, 2–24 |
| | Davis, T., & Forester-Miller, H. (1996). A Practitioner' s Guide to Ethical Decision Making |
| | Miscione, G., Staring, K., Ostmo, L., & Fossum, C. (2008). The Shifting Legitimation of an Information System: Local, Global and Large Scale. GlobDev 2008, Paper 7. AIS |
| IS aligned with ethical principles | Altman, C. (2004). Converging Technologies: The Future of the Global Information Society. San Francisco |
| | Ess, C. (2006). Cybernetic pluralism in an emerging global information. Ethics and Information Technology, Volume: 8, Issue: 4, 215–226 |
| | Maner, W. (1996). Unique Ethical Problems in Information technology. Science and Engineering Ethics, 137–154 |
| | YanFang, C. (2005). Ethical Factors in Decision Making for Information System Management. Department of SCIS, Baruch College and Graduate Center CUNY |
| IS as a broker for social interaction | Floridi, L. (2008). Network Ethics: Information and Business Ethics in a Networked Society. Journal of Business Ethics, Volume 90, Supplement 4, 649–659 |
| | Nye, J. S. (2004). Power in a global information age. New York: Taylor & Francis |
| | Pippa, N. (2001). Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide. New York: Taylor & Francis |
| IS as supporter of global activism | Floridi, L. (2007). Global Information Ethics: The Importance of Being Environmentally Earnest. International Journal of Technology and Human Interaction, 1–11 |
| | Nye, J. S. (2004). Power in a global information age. New York: Taylor & Francis |
| | Sorj, B. (2006). Internet, Public Sphere and Political Marketing: Between the Promotion of Communication and Moralist Solipsism. Rio de Janeiro: The Edelstein Center for Social Research |

## 10.3  Research Results

(1) Information systems augmenting global decisions

Scholars have gained insight into the mechanisms of global decision-making that are related to the field of IS. There is no universal IS that has been defined and developed solely for the purposes of global decision-making, although many existing ISs can improve the environment for global decisions. Miscione et al. (2008) note that "social development in the context of globalization is related to the use of ICT and determined by the ability to establish synergistic interactions between technological innovations and human values." However, existing mechanisms of decision-making on the global level should incorporate tools that take into account that "cross-cultural normative ethics cannot be practiced without a

thorough understanding of the prevailing moral system in the culture that is being addressed" (Brey 2007). Scholars suggest that all ethically relevant decisions can be enhanced through a framework for ethical decision-making as "a useful method for exploring ethical dilemmas and identifying ethical courses of action" (Davis and Forester-Miller 1996).

(2) Information systems aligned with ethical principles

Although early insight into current research states that "there is no general consensus with respect to the complete framework of ethical decision making in IS" (YanFang 2005), it possible to find beneficial works that relate, although not directly, to this paper's topic of interest. As a foundation, ethical pluralism must be recognized (Ess 2006). However, since Western and Asian traditions define the majority of the stakeholders, and since those two moral centres have shaped and influenced the overall understanding and implementation of ethics around the globe, if IS is to be enabled to cooperate and somewhat improve global ethics and decision-making processes (by making them more ethical in a routine sense), analogies based on these two traditions must be used for upcoming ethical decisions and considerations.

However, scholars raise the question concerning whether the use of IS is beneficial or malignant in its ethical effects, as they "have the power to transform civilization into potential utopia—or dystopia—depending on society's ability to confront the questions with maturity and tolerance" (Altman 2004).

(3) Information systems as a broker for social interaction

As important as the use of IS in the area of decision-making and ethical support is the role of IS in mediating the discussion that reshapes existing ethical norms. Academia has already distinguished specific spheres that can be mediated by IS. Researchers have investigated various forms of newly emerging cultures and found numerous ways to derive overall trends and opinions from very different discussion places. Participants in those discussions are usually so dynamic and free that research has even coined a new term to describe those changes, "fragmegration", which expresses the idea that "both integration toward larger identities and fragmentation into smaller communities can occur at the same time" (Nye 2004). IS-mediated discussions and communications are widely recognized as intriguing and fruitful spheres for further research endeavours. The sphere of social communication has been defined as the *infosphere*, and research has recognized its importance of it by stating that the "infosphere is a common space [that] needs to be preserved and improved to the advantage of all" (Floridi 2008).

(4) Global activism supported by information systems

Global activism, which is supported by IS and technology, is not unlike other forms of protests against social, political, or economic deficits on the streets and in front of town halls, but researchers have found a need for "effort to foster all those informational conditions that facilitate participation, dialogue, negotiation and consensus-building practices among people, across cultures and through generations" (Floridi 2007). Although IS have fostered and supported global activism, there are fears that "political campaigns on the Internet may increase the active

participation of the people, the moralist-solipsist[1] trend, fostered by the new medium, could lead to viewing political institutions as being ever more illegitimate and to lowering the quality of the democratic debate" (Sorj 2006).

## 10.4  Practical Examples—Digest of the Real World

### 10.4.1  The Chunked Structure of Owners of the Global Network

Various organisations and stakeholders are responsible for organising the Internet technically and organizationally. The W3-Consortium is an institution that maintains standards, private companies, Internet service providers, and research facilities that provide technical infrastructure, routers, and backbones, without which the Internet would not be possible. On the other hand, country-based splitting of subnets allows countries like China to maintain information walls that filter information and the myriad contributors that provide endless amounts of information. This divided structure offers great potential for creativity and balance as well as for disorder and vandalism (Capurro 2000); in any case, it definitely hinders a standardised approach to contributions to global decisions that is owned by one stakeholder.

### 10.4.2  How Social Media Changes Minds

Social media has ignited vast amounts of political and ethical influence. For example, a significant beneficial change that was gained through the usage of SN is the expression of opinion. Specific networks[2] are used to influence others and even to create news (The Economist 2011). Furthermore, networks are now being used as a significant factor in freedom. Starting in the middle of 2010 Facebook became a dominant information source in almost all democratically developed countries (The Economist 2010), and the Arab Spring revolutionary wave was initially started through SN. The level of SN participation in this social movement was so great that the US State Department even asked Twitter to delay its scheduled network upgrade because it could limit Iranians' ability to express their concerns about elections results (Pleming 2009). As opposing arguments it could be stated that critics state the opinion expression and creativity is a myth in its basis when it comes to the freedom and opinion expression (Flanagan 2011).

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[1]  Moralism–solipsism is a theory that holds that the self can know nothing but its own modifications and that it is all that exists (Merriam-Webster).

[2]  http://Storify.com is an example of this specific SN resource.

The next section introduces several platforms that provide a step toward achieving the goal of routinely incorporating ethical issues in global decision-making.

### 10.4.3  Ushahidi—Platform for Instant Collaboration

An example of how individuals can participate in global decisions is the African crowdsourcing platform Ushahidi, which emerged after the 2007 presidential election and the following riots in Kenya. According to David Kobia, founder of the platform and open source software, Ushahidi is an interactive mapping tool that enables individuals to record events on a map. Ushahidi takes those elements of location and time and puts them into a functional and usable platform (Vericat 2010). Anyone can contribute information via SMS, MMS, e-mail, and other channels. This information is published in real time on the webpage and presented graphically in a map of the region for everyone to use and respond to. The resulting platform enables the "crowd" to collaborate instantly; it is an incubator for the creation of a "hive mind" among the participating crowd.

The benefit of a platform like Ushahidi rises with the number of participating individuals, so there must be a reason that mobilises lots of people, such as natural disasters or political turmoil, two major areas where Ushahidi is used. Such platforms add to the traditional information flow of singular contributors like the Red Cross or the parties that are involved in a conflict by creating a platform for everyone.

Various problems arise in applying this platform to ethical considerations. Ethical positions tend to be the result of a long-lasting process that involves continuous participation. Its uneven level of participation also impedes a process that incorporates ethical considerations in a routine way. However, when ethical questions arise whose effect must be managed instantly, Ushahidi might provide a place where individuals can raise their voices and participate in global decisions. Still, the direct link to the process of global decision-making is missing and difficult to establish.

### 10.4.4  Edge.org—Experts' Collaboration

The belief behind the idea of http://edge.org, stated by John Brockman, owner of the website http://edge.org is that "a finite number of people throughout history have invented, rather than discovered, the world. The words of the world are the life of the world, and a certain number of people have uttered those words" (Zaleski 2000). One question is published on the http://edge.org page each year, and experts from all over the world post their answers, thus contributing to human knowledge. The published questions touch specific areas that affect various fields of knowledge and are relevant and express a current trend. The question asked in

2010 was "How is the internet changing the way you think?" The results were responses—usually essays—from more than 170 experts and various articles in newspapers.

Edge.org shows a way for a complex, broadly defined question to be answered by experts from a variety of perspectives. Every expert tries to look "beyond the edge" and to contribute from his or her field's perspective. This approach might also be feasible in creating ethical viewpoints that can be incorporated into global decisions. As the result is the common conclusion of all participating experts, it may be more likely to be accepted in global decision-making than are ethical considerations from other, perhaps more biased sources. Edge.org also presents its results in various media, increasing its effect on public opinion and global decision-making. For groups with no relationship to global decision-makers, Edge.org offers a way to create publicity in the media in support of their ethical points of view.

Through the contributions of experts to solving current questions of interest and the resulting interest in the media, http://edge.org shows how ethical considerations can find their way into global decisions. Attention in the media raises the importance of an ethical issue that facilitates its incorporation into global decisions. Similar to Ushahidi, http://edge.com has no direct link to any global decision process because its intention is to accumulate viewpoints and contribute to knowledge.

### 10.4.5 Avaaz.org—Political Campaign Incubator

In the same way Ushahidi provides a crowd-sourcing platform for instant collaboration and information interchange among peers, the international non-governmental organization Avaaz brings people together to influence global problems. The website http://avaaz.org is a platform that provides each visitor the ability to participate online on campaigns for or petitions against various issues. The large number of participants at http://avaaz.org is increasing its effect, as it has increased media attention. With this approach http://avaaz.org influenced a new anti-corruption law in Brazil, a move by Britain to create a marine-conservation zone in the Indian Ocean, and a proposal to allow more hunting of whales (The Economist 2010). In short, Avaaz reduces the effort involved in activism from that of attending demonstrations to that of a simple click. [An often-mentioned criticism of such platforms, is "clicktivism" (A town crier in the global village 2010)]. However, Avaaz does not only provide the web-based platform but also organises demonstrations, such as when Ricken Patel, the co-founder of Avaaz, called on Avaaz' members to put pressure on Brazilian and Turkish politicians to intercede with Iran.

This reduction in the complexity of participation is one of Avaaz' strengths: its potential to collect peers from all over the world to participate collectively in a common goal. As for Ushahidi, an increase in participants also increases the awareness of public media and global decision-makers.

Avaaz' structure as a campaigning platform is not designed for consensus-finding in controversial ethical questions but, rather, allowing ethical viewpoints to be expressed as a campaign or petition. While the decision process concerning what campaigns are created is not fully transparent or influenceable by everyone, the platform uses campaigns and the related media support to influence global decision-making directly, an aspect of the site that is missing in Ushahidi and http://Edge.org.

## 10.5  Discussion

There is a reciprocity between global ethics and culture on the one side and IS in their current shape on the other. IS are grounded in ethical and cultural values but they also influence these values [see Brey (2007) and Capurro et al. (2007)]. However, a literature review that analysed papers primarily from information science, management, decision science, economics, sociology, philosophy, and political science revealed no firm stance on or definitions of such interrelation.

When this research occurred, the academic community had no clear interest in expanding the Millennium Project's Global Challenges with additional disciplines. The majority of academic endeavours within the sphere of the Global Challenges was being conducted from the stances of political science or sociology. Ethics and similar themes were tied with the philosophical corpus of the papers, while global decision mechanism and IS co-existed in the cross-sections of information systems, economics, management, and decision theory.

In that context IS is a dimension that both involves and is affected by parts of each of the existing dimensions. For example, the mass communication theory, "Spiral of Silence" (Noelle-Neumann 1991), describes how the majority affects individuals' expressions of opinion because they fear punishment if they express unpopular views. Mass communication in IS today heavily affects and is affected by this Spiral of Silence, as the Internet is the platform on which to express unpopular opinions but is also a place for radical agitation and heavy manipulation efforts.

## 10.6  Research Agenda

Several questions emerged from the literature review and discussion of IS and ethics:

### 10.6.1  How to Implement? Routines for Highly Volatile Issues Like Ethics

The introduction and the literature review showed that the term "ethics" has numerous attributes that prevent standardised processes from being implemented in order to incorporate ethics in global decision-making. The issue of ethics is

highly volatile and variable, especially in global decisions. As the example of the crowd-sourcing platform Ushahidi (see Sect. 10.4.3) shows, ethical issues can mobilise large numbers of people in a short time, and in the same way people lose interest at the same speed. Moreover, ethics are intangible, they differ regionally, and parties involved in decision-making are often unable to reach consensus about them.

One way to meet the challenge of incorporating ethical considerations routinely into global decisions is to provide a modelling notation that provides the flexibility to support ethics' intangibility and regional differences. No institution has implemented such a process, and the literature review revealed no literature that has dealt with this issue. Future research could explore this in subject an academic way in an attempt to establish a way to incorporate ethical considerations routinely in global decision-making.

While various modeling techniques exist, to represent uncertainty or creativity in processes (Seidel et al. 2010) it might be of interest to consider the volatility and instability of ethics.

What is the trigger that will start the process of incorporating ethical considerations into global decision-making? What are the relevant steps? How can participation be maintained during decision-making? These and other questions arise when traditional approaches to process modelling are applied. Similar to existing process management approaches, various roles must be defined, which have political implications. For instance, the roles of business leader, process owner, and operational manager must be defined when implementing this kind of process.

### 10.6.2  How to Measure? Effects of Routine Involvement

There are various ways to create and maintain systems that measure process outcomes, such as measuring qualitative indicators and aligning process goals with the overall strategy (Harmon 2010). Such measurement is a key component of continuous process improvement methods like Six Sigma and the Balanced Scorecard. Recent contributions have shown how to incorporate fuzzy criteria like "value" into business process management (e.g., vom Brocke et al. 2009). The term "ethics" has a fuzzy component that interferes with a functioning measurement system in several ways, but it is more difficult to measure the quality of the single contributions or the overall output because ethical considerations come into play and blur the measurement. It might be difficult to determine valid criteria with which to evaluate the quality of the result—a kind of "seal of ethical quality" that is recognised globally.

A second challenge is the effect of global decisions that affect third parties that are not involved in the decision process. For example the discussion concerning whether to outsource factories in other countries might consider the stakeholders in these countries and the deciding company, but effects of the outsourcing might also occur in neighbouring countries, among suppliers, or to logistics. It is often

difficult to foresee the whole bandwidth of external effects when making a decision, so it might be challenging to incorporate those externalities into the process evaluation.

The ambiguity of the term "ethics" impedes the design of a typical performance measurement system and the traditional approaches of business process implementation (e.g., as-is models and to-be models). The main challenge is to incorporate ethical considerations into a functioning measurement system in order to make them meaningful for global purposes.

### 10.6.3  How to Manage? Long-Term Management for Short-Term Problems

Finally, the question of using IS to manage processes within the domains of routine global decision-making remains a good starting point for future research. For example, it could be possible to implement concepts from workflow management to streamline and optimise processes that see significant deviations. Will flexible modelling techniques help the entire process to become more manageable and easier to model? Is it possible to make routine decisions by means of IS flexible and adherent to rapidly changing environments and optional unbalancing externalities? Will the diversified instrumentarium of flexibility techniques help to solve the particular problems of: handling exceptions and unpredictable circumstances—such as the Arab Spring phenomenon, which could significantly change the ethical background of the decision-making process—by means of exception handling, late modelling, or case handling techniques. These are patterns in modelling workflow management systems that provide the required flexibility. Whether these patterns are applicable to ethical activities could be an interesting research question. Applying existing business process management strategies like Six Sigma to these modelled processes could also enable continuous process improvement.

## 10.7  Conclusion

The polyvalent planes between which this research is conducted and the modestly researched interconnections make drawing conclusions a daunting task. It is difficult to conclude whether there is potential for routine decision-making through IS without the mediation of the Internet, yet that medium could prove completely adequate to the task. The literature review conducted here does not provide a complete study of research in this field, although it does provide an overview of currently discussed topics in the frame of ethics.

Approaches to incorporating uncertainty in the design of business processes, such as in modelling, already exist, yet considerable research remains to be done in this area that could lead to frameworks that make it possible for corporations

and institutions to include ethical considerations in local processes and at the same time align ethical issues on a global level using a globally accepted framework of ethical modelling of business processes. The literature has not discussed using the techniques of business process management to incorporate ethical considerations into decision-making, so the proposals stated in this paper have a somewhat fragile grounding.

Should the solutions or further research try to fit within the domains of already defined scientific disciplines, integrate existing disciplines through creation of common ground, or evolve into completely new scientific disciplines or approaches? One might think about overarching SN that could interact with all existing SN and provide global bodies (e.g., a UN organizational unit) with a tacit overview and understanding of how global ethics are developing, evolving, and being perceived.

As there is no such global body that might be used for ethical purposes, various platforms have emerged that people use for ethical considerations. Websites like Ushahidi.com and the campaigning platform Avaaz.org meet the rising demand to leverage the power of the Internet to collect the energy of the masses in pursuit of social, economic, ecological, and political goals. It is expected that the importance of these platforms will increase and that some of them will grow into globally relevant institutions that attend to ethical issues in global decision-making.

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