

2009

# Inquiring Decision Systems: A Churchmanian Approach to Ethical Decision Making

Kristen L. Brewer

*Louisiana Tech University, klb046@latech.edu*

James F. Courtney

*Louisiana Tech University, courtney@latech.edu*

Sandra M. Richardson

*University of Memphis, sandra.richardson@memphis.edu*

Tom L. Roberts

*Louisiana Tech University, troberts@LaTech.edu*

Follow this and additional works at: <http://aisel.aisnet.org/amcis2009>

## Recommended Citation

Brewer, Kristen L.; Courtney, James F.; Richardson, Sandra M.; and Roberts, Tom L., "Inquiring Decision Systems: A Churchmanian Approach to Ethical Decision Making" (2009). *AMCIS 2009 Proceedings*. 600.  
<http://aisel.aisnet.org/amcis2009/600>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2009 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# Inquiring Decision Systems: A Churchmanian Approach to Ethical Decision-Making

**Kristen L. Brewer**

Louisiana Tech University  
[klb046@latech.edu](mailto:klb046@latech.edu)

**James F. Courtney**

Louisiana Tech University  
[courtney@latech.edu](mailto:courtney@latech.edu)

**Sandra M. Richardson**

University of Memphis  
[sandra.richardson@memphis.edu](mailto:sandra.richardson@memphis.edu)

**Tom L. Roberts**

Louisiana Tech University  
[troberts@latech.edu](mailto:troberts@latech.edu)

## ABSTRACT

Many business organizations seem to be doing everything but making ethical organizational decisions these days. In stark contrast, social enterprises are organizations that operate as businesses but are altruistic, humanitarian, and seek the goal of creating social value in effective, efficient and ethical ways. This paper applies principles of social enterprises to develop a multi-perspective framework for ethical business decision-making within a philosophical context provided by C. West Churchman's inquiring systems in organizations.

## Keywords

Business ethics, Decision support systems, Inquiring decision systems, Multiple perspective decision-making, Social enterprises, Inquiring systems, Inquiring organizations.

## INTRODUCTION

Current business environments have been polluted with moral mishaps, ethical embarrassment, and an overall lack of integrity. Furthermore, recent years have given way to highly visible unethical business decisions with resounding consequences. Enron, WorldCom, and Bernie Madoff are now, among others, household names synonymous with scandal, but the daily routines of 'doing business' across all sizes of organizations are just as vulnerable. Organizations need to carefully consider the repercussions of the decisions they make, examine the ethicality based on social and stakeholder perspectives, and integrate or adapt decision support systems to be congruent with these aspects.

Social enterprises (SEs) are altruistic, humanitarian organizations that are motivated by the goal of creating social value, or impacting a social need, rather than working toward maximization of owner or shareholder wealth (Dees, 1998; Drayton, 2006; Mair and Marti, 2006). These organizations provide goods and services for areas of need such as healthcare, education, and environmental issues, which would not be adequately addressed if left to the actions of private markets and profit seeking firms (Dees, 1998). SEs operate as a business in the sense that they must obtain capital both through charitable donations, as well as through trading in goods and services; it is business trading with a social purpose (Harding, 2006). SEs differentiate themselves from the general pool of non-profit organizations in that they adopt business principles and practices from the world of commercial entrepreneurship in order to overcome problems related to transparency, efficiency, and effective use of resources that often plague non-profit organizations (Dees, 1998). Social enterprises seem to inherently exhibit ethical decision-making by incorporating the perspectives of many and varied stakeholders (Richardson, Kettinger, and Yuri, 2009).

This paper examines the design of inquiring systems as a basis for how business organizations can formulate ethical decisions while considering the multiple perspectives and values of potential stakeholders. Churchman's inquiring systems, specifically Singerian inquirers, and their components serve as the foundation for the development of such systems in this analysis. Further, two important underlying research questions emerge: Given that social enterprises generally operate ethically, what does it take to get business organizations to act ethically as well? How are the decisions one makes today going to affect those in the future? A framework for ethical business decision-making is developed.

## INQUIRING DECISION SYSTEMS

C. West Churchman regards design as fascinating because it enables one to create systems which will perform tasks better than a single person does alone (Churchman, 1971). This concept is the foundation for the design of “inquiring organizations” that ultimately identify, expand, and lead to the creation of new ethical organizational knowledge (Courtney, 2001; Richardson, Courtney, and Haynes, 2006; Linden and Courtney, 2007). An inquiring decision system (IDS) is defined here as a purposeful system that supports ethical managerial decision-making and provides links between knowledge, decisions, actions, and ethical principles in an organization.

### Conditions for a System

According to Churchman, an inquiring system, S, must meet nine conditions. First, the system must be teleological. In other words, the system must be *purposeful* and manage knowledge in order to aid in ethical decision-making. Second, system performance must be measurable as well as meaningful in regard to the quality and ethicality of decisions. Third, the system must fulfill the purpose of some client, who derives value from S, including all decision makers in the organization. Fourth, S must have teleological components, including, but not limited to, values, ethical principles, organizational norms, models, databases, documents, and intelligent processors linking organizational elements. Fifth, the system must have a specific environment, which includes all stakeholders and the organizational culture(s) surrounding them. Sixth, there must be a decision maker that manages S and guides processes. The decision makers can include managers, who control the resources, and stakeholders, who are affected by the actions of the managers. Seventh and eighth, S must have a designer responsible for system creation and the systems must be designed to maximize the client’s value. Ideally, the designer, decision maker, and client should work together to ensure congruence in ethical alignment regarding decision-making. Finally, S must have a “guarantor” responsible for its design and the validity of its output. This can include validation rules and generated alternatives that are built into the system.

### Singerian Inquiring Systems

Specifically, Churchman describes the Singerian inquiring system, which can be especially helpful when designing decision support systems and inquiring systems rooted in ethical behavior.

A Singerian inquiring system is comprised of a Lockean community based in metrology, or the study of measurements. Two decisions must be made regarding measurements as they relate to the design of inquiring systems – the unit and the standard. The key attribute of measuring systems lies in their ability to test and replicate information numerous times. When the system reaches a point of redundancy, the inquirer must shift to a higher level of refinement and possibly “sweep in” new exterior concepts that may change the way information is interpreted and used. With regard to ethical decision-making, it may require that expert knowledge be sought from creative, or even unconventional, sources.

According to Churchman, Singerian inquiring systems have several general characteristics. Initially, the purpose of the inquiring system is to create knowledge that is useful and performance that is measurable. The system also needs a collaborative environment to create inquiry and the system must be *optimistic and ethical*.

Singerian inquirers are also reflective of Churchman’s nine system requirements. First, the system creates independent knowledge in an ethical manner in order to aid organizations in decision-making and implementation. System performance is measured by the general level of moral alignment with the quality and ethicality of the decisions made by the organization. Third, the inquiring systems’ client includes the decision maker, the organizations, and all potential stakeholders; ultimately, it applies to all of humanity. Fourth, the components of the Singerian IDS include elements to aid in managing ethical decision processes, which incorporate values, ethical principles, databases and documents, and engage all organizational members. Fifth, the environment consists of the organization(s) in which the Singerian IDS resides, the stakeholders who make and are affected by decisions, and the other IDSs within the organization. The organizational culture must be cooperative between decision makers, stakeholders, and systems for an optimal decision to be reached. Sixth, the decision makers in an IDS environment must include managers who control the resources and the stakeholders who are affected by the decisions made. Seventh, the design of IDS involves a highly participative process and includes the technical design staff, the client(s), and the stakeholders that are potentially affected by the design or use of the system. Ideally, the designer, decision maker, and client who act as one to ensure decisions are reflective of all stakeholders’ values. Eighth, the designers’ intentions should be to serve the needs of the organization and its stakeholders while being reflective of the values and ethical foundations of all involved. Finally, the guarantor exists within validation rules that are built into the databases and knowledge bases of the IDS. Submitted decisions and generated alternatives are checked against system components to ensure that they are in accordance with organizational values and ethical principles. This important element creates organizational optimism and encourages ethical decisions.

## Ethical Dilemmas

In most instances, situations do not have explicit solutions, particularly concerning complex social problems. These types of problems have been deemed “wicked”, and are considerably harder to solve than more traditional, structured or ill-structured problems. The art of solving wicked problems does not aim to find truth; rather, to improve some element of our world or society. Ethical decision-making should certainly be considered as a wicked problem, as there is no one “right way” to potentially solve a moral dilemma.

Rittel and Webber identify ten distinguishing properties of wicked problems, and many of these apply directly to value-based, ethical decision-making (Rittel and Webber, 1973). First, there is no best way to solve a wicked problem—the information needed to understand how to solve the problem precedes the actual plan of attack. Similarly, there may not be a “best” way to approach ethical decision-making and one solution may be more preferential to a particular stakeholder. Second, immediate evaluations of potential solutions to wicked problems do not exist—consequences of the solution can echo and extend over an unbounded period of time. Therefore, individuals and organizations must be especially cautious when making decisions that directly affect others and their set(s) of values. Finally, problem solvers have no right to be wrong—rather, planners are held responsible for the consequences of the actions they generate. Organizations and individuals must not only be willing to take responsibility for the ethical (or unethical) decisions they make, but also consider the potential stakeholders that are affected. Inquiring systems should be designed to tackle these tricky, “wicked” problems, considering multiple perspectives in order to fully understand the issues and expand beyond traditional problem-solving boundaries.

## MULTIPLE PERSPECTIVE DECISION-MAKING

According to Linstone’s Multiple Perspective Theory, three perspectives should be considered when making decisions in order to avoid focusing on a compressed view of narrowly-minded assumptions—Technical (T), Organizational or Social (O), and Personal (P) (Linstone, 1984). These perspectives can also be helpful when considering ethical decision-making processes in regard to the Singerian inquiring system.

### Technical Perspective

The T voice should be logical and rooted in science and theory, clearly describing the problem as a cause-effect situation, if possible. This view has dominated in decision support systems to date. The ethical basis for the Technical perspective should be *rational* and aimed at optimally solving a problem through inquiry of data and analysis. Technical modes of inquiry also include construct modeling and decision analysis techniques. The T voice represents a more traditional approach; and the information may be limited in breadth.

### Organizational Perspective

The Organizational perspective should echo a particular social entity and should be reflective of that group’s values and norms and its view of the problem at hand. The ethical basis for the O perspective is founded in the achievement of perceived *justice or fairness*. Organizational inquiry is conceptualized through dialectics and negotiations between opposing parties, characterized by fear of failure, slow change, and compromise. The O voice may be limited by loyalty, limited access because of many organizations’ hierarchical nature, problem avoidance, value incongruence, and political sensitivity.

### Personal Perspective

P voices should encompass the personality of the individual and reflect that individual’s view of the problem. The ethical basis for the Personal perspective is *morality vis-à-vis* values while maintaining individual social status, authority, and prestige. Modes of inquiry surrounding the P voice include learning through experience, unique individual perceptions, and past experiences.

### Unbounded Systems Thinking

Multiple Perspective Theory provides an adequate foundation for examining multiple perspectives; however, it may be beneficial to consider multi-disciplinary viewpoints. Mitroff and Linstone’s Unbounded Systems Thinking (UST) is a theory surrounding inquiring systems that says every model used to understand a problem presupposes other previous or concurrent models (Mitroff and Linstone, 1993). UST also encourages the inclusion of other perspectives outside the T, O, and P voices, and allows for multiple contributions, i.e., more than one individual, within each group. The breadth of the perspectives’ contributions can be especially useful when considering several subsets of values in regard to ethical decision-making.

### Sweeping-In Ethical Perspectives

Building upon UST, Churchman's Singerian inquiring systems also posit that system gains can be achieved by "sweeping-in" new knowledge and perspectives which can potentially aid in innovative decision-making (Courtney, 2001). In addition to the Technical, Organization, and Personal perspectives, an Ethical (E) element could be included to develop a new dimension of perspectives.

#### *Ethical Perspective*

The Ethical perspective, similar to the P voice, views decisions as implications of personal values and morals by evaluating what *should* be done. The E voice integrates and incorporates the *values* of individuals and stakeholders within an organization, and aims to find solutions that are both effective and morally just. Decisions should reflect upon and integrate the foundational values of the organization while supporting the overall business strategy—integrity should be considered vital to overall success.

### Considering Unique Perspectives in Regard to Ethical Decision-Making

In addition to current stakeholders, Churchman's Study of Future Values suggests that perspectives spanning generations (past, present and future system users) should also be considered (Churchman, 1984). This lends further patronage to the consideration of past actions on current situations and current decisions on future outcomes, especially with regard to ethical decision-making. Organizational, cultural, and stakeholder values may vary between the past, present, and future, but organizations are still charged with making ethically-sound decisions as reasonably as possible. This implies that organizations and their systems should very carefully consider the values and ethical principles of stakeholders in order to morally and, in some cases, legally support their decisions.

Furthermore, similar research proposes that stakeholder *values* should be integrated in decision-making models (Hall and Davis, 2007). This new grouping of multiple perspectives can be applied to consider stakeholders' perceptions and underlying values regarding ethical decision-making.

Of particular interest is the consideration of future users. American culture, for example, seems to be very much centered around 'instant gratification', and often long-term effects are not considered in business decisions or otherwise. However, moral intensity, stakeholder values, and oftentimes law dictate a more careful consideration. Would organizations be more compelled to act ethically if honestly considering the future impacts of decisions today, and would it be beneficial to include this aspect in systems design?

### A MULTIPLE PERSPECTIVE FRAMEWORK FOR ETHICAL BUSINESS DECISIONS

Stakeholders are dependent on organizations to make the right decisions, and organizations are reliant more and more upon the information and decision systems that are designed to support those efforts. It is *critically* important that these systems be designed to harmoniously reflect stakeholders' values and ultimately, to solve the right problem. Type III errors, as described by Mitroff, occur when organizations inadvertently solve the wrong problem, and potentially introduce many new problems in the interim (Mitroff, 1997). Organizations must critically evaluate situations and generate solutions that solve the problem in an ethical manner, which can be exceptionally difficult.

#### Solving the Right Problem: Avoiding Type III Error

Mitroff suggested five strategies to avoid Type III error which recent research has adapted to reflect the Singerian inquirer (Chae, Paradise, Courtney, and Cagle, 2005). First, organizations should pick the right stakeholders—those who are directly or indirectly affected—and incorporate their perceptions into decision-making. Second, alternatives and options should be expanded to express multiple stakeholder perceptions of the problem. Third, the problem should be phrased correctly and in such a way that it is universally understandable to all parties involved. Fourth, the problem's boundaries should be appropriately expanded to include unique stakeholder perceptions that may 'rock the boat.' Finally, organization should be prepared to manage inconsistencies and conflict between solutions, system components, and stakeholders' perceptions. Correct formulation of the problem allows organizations to accurately generate solutions and alternatives, which increase the potential for thoughtful, ethical business decisions. Examples of these possible perspectives are highlighted in Table 1, which provides a multi-perspective framework for ethical decision-making in business organizations based on factors found to be important in social enterprises (Richardson et al., 2009).

Certainly the broad, multi-perspective framework that we suggest may not be feasible in all cases, as it may unduly lengthen the duration of the decision-making process if time is of the essence. Nevertheless, we believe that at least some consideration should be given to many and varied perspectives in order to produce more ethically sound solutions.

**CONCLUSION**

Overall, organizations, both businesses and social enterprises, are charged with making decisions that reflect stakeholders’ interests, including their values. Outside influences, such as the current economic situation, for example, can sometimes blind an organization to the importance of this issue. Inquiring decision systems, particularly Singerian inquirers, incorporate these varying perspectives and assist organizations in their quest to make ethically sound decisions. Also, the formulation of the problem should be considered—organizations should carefully consider alternatives to make sure the *right problem* is being addressed.

	Technical (T)	Organization/Social (O)	Personal (P)	Ethical (E)
Shareholders	<i>How will this decision affect the ‘bottom line’?</i>	<i>Will this decision fairly affect shareholder returns/dividends?</i>	<i>How specifically does this decision increase shareholder wealth?</i>	<i>Is this decision congruent with the board members’ values?</i>
Employees	<i>Will this decision affect how I do work?</i>	<i>Is this decision congruent with the organizational and employee culture?</i>	<i>Does this decision affect my personal life in any way?</i>	<i>Does this decision reflect the ethical principles of the workforce or union?</i>
Government	<i>What economic impacts, if any, will this decision influence?</i>	<i>Does this decision reflect the persona of the country involved?</i>	<i>Does this decision follow all local and federal laws?</i>	<i>Is this decision congruent with local and federal laws?</i>
Customers	<i>How will this decision affect my purchasing experience?</i>	<i>Is this decision congruent with society’s norms and expectations?</i>	<i>Does this decision have my best interests at heart?</i>	<i>Does this decision benefit/discriminate against certain consumers?</i>
Creditors	<i>How will this decision affect the financial stability of the company?</i>	<i>Does this decision reflect our organizational norms and values?</i>	<i>Does this decision affect whether we will receive payment?</i>	<i>Does this decision put anyone in financial parity? jeopardy?</i>
Community	<i>How does this decision affect financial and technical factors in the community?</i>	<i>Does the organization’s decision fit well within our community?</i>	<i>What does this decision give back to the community?</i>	<i>Does this decision reflect the values of the organizations’ community?</i>
Past Users	<i>How do past users affect the decision?</i>	<i>Should past preferences be taken into consideration?</i>	<i>How does this decision reflect voices of the past?</i>	<i>Is this decision ethically congruent with what we used to do?</i>
Future Users	<i>How should future users affect the decision?</i>	<i>Should possible future preferences be taken into consideration?</i>	<i>How does this decision reflect voices of the future?</i>	<i>Is this decision reflective of where the organization sees itself in the future?</i>
<b>Table 1. Examples of Stakeholders’ Perspectives</b>				

**REFERENCES**

1. Chae, B., Paradise, D., Courtney, J.F., and Cagle, C.J. (2005) Incorporating an ethical perspective into problem formulation: implications for decision support systems design, *Decision Support Systems*, 40, 2, 197-212.
2. Churchman, C.W. (1971) *The Design of Inquiring Systems: Basic Concepts of Systems and Organizations*, Basic Book Inc., New York, NY.

3. Churchman, C.W. (1984) "Willing to Pay and Morality: A Study of Future Values," in: *Natural Resource Management: Introducing a New Methodology for Management Development*, C.W. Churchman, A.H. Rosenthal and S.H. Smith (eds.), Boulder and London.
4. Courtney, J.F. (2001) Decision making and knowledge management in inquiring organizations: Toward a new decision-making paradigm for DSS, *Decision Support Systems*, 31, 1, 17-38.
5. Dees, J.G. (1998) The meaning of social entrepreneurship. <http://www.fntc.info/files/documents/The%20meaning%20of%20Social%20Entreneurship.pdf>. Last accessed January 31, 2009.
6. Drayton, W. (2006) Everyone a change maker: social entrepreneurship's ultimate goal. *Innovations*, winter.
7. Hall, D.J., and Davis, R.A. (2007) Engaging multiple perspectives: A value-based decision-making model, *Decision Support Systems*, 43, 4, 1588-1604.
8. Linden, L.P. and Courtney, J.F. (2009) Creative Generation of Multiple Perspectives: Application to the Problem of Burmese Pythons in the Everglades, in *Proceedings of the 42nd International Conference on System Sciences*.
9. Linstone, H.A. (1984) *Multiple Perspectives for Decision Making: Bridging the Gap Between Analysis and Action*, North-Holland, New York.
10. Mair, J., and Marti, I. (2006) Social entrepreneurship research: A source of delight, explanation, prediction, and delight, *Journal of World Business*, 41, 36-44.
11. Mitroff, I.I. (1997) *Smart Thinking for Crazy Times: The Art of Solving the Right Problems*, Barrett-Koehler Publishers, San Francisco.
12. Mitroff, I.I., and Linstone, H.A. (1993) *The Unbound Mind: Breaking the Chains of Traditional Business Thinking*, Oxford University Press, New York.
13. Richardson, S.M., Courtney, J.F., and Haynes, J.D. (2006) Theoretical Principles for Knowledge Management System Design: Applications to Pediatric Bipolar Disorder, *Decision Support Systems*, 42, 3, 1321-1337.
14. Richardson, S.M., Kettinger, W.J., and Yuri, Q (2009) *Healthcare Social Enterprises: Information Technology and Agility in the Social Sector*, unpublished working paper, University of Memphis.
15. Rittel, H.W.J., and Webber, M.W. (1973) Dilemmas in a General Theory of Planning, *Policy Sciences*, 4, 2, 155-169.