

Toward a Universal Framework for Ethical Web-based Collective Intelligence

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Abstract

Collective intelligence deserves and intends to become a full discipline with its formal frameworks, tools, measuring instruments, practical applications, and ethical field. The increasing capabilities of collaborative IT and Web-based applications are playing a vital role in providing the support and facilities to harvest, use, and share collective intelligence. This study aims to develop a universal ethical framework for the Web-based collective intelligence in business organizations. The framework is derived from a combination of traditional ethical theories, moral intelligence theories, and ethical frameworks of collaboration and decision-making in the context of IT. Seven ethical principles were identified, including democratic environment, morality of collaboration, compliance with laws and regulations, rights and interests of members of organization's society, the collective truthfulness, the collective transparency and responsibility, and the greatest benefits for the greatest number of members of organization's society. Furthermore, the framework considered five expected ethical outcomes that have to be evaluated and monitored. These outcomes include justice, satisfaction, trust, commitment, and pleasure.

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1. Introduction

The constantly changing in the business environment of today's organizations is coming at an ever-increasing pace and more rapidly than ever before with a range of highly complex, dynamic, and multi-faced challenges. These controversial changes and challenges have a critical impact on the businesses' ability to remain competitive and even to survive. Business organizations constantly have to innovate in new areas, make complex decisions, originate creative solutions, adapt and behave as human beings to serve its survival, prosperity, and superiority. In this context, business organizations have to be recognized as complex adaptive systems (Heylighen, 1999; Ng and Liang, 2010). More specifically, they can be recognized as human systems formed with the basic objective of pooling different human abilities and expertise together to create certain synergetic effects in finding emergent and sustainable solutions to complex problems and challenges (Sheremetov and Rocha-Mier, 2008). They must learn, self-organize, adapt, compete, and evolve, getting rid of its mechanical and procedural life to behave and think as human beings. From this perspective, intelligence is the prized asset of an organization (Sheremetov and Rocha-Mier, 2008; Ng and Liang, 2010), where organizations must grow far more intelligence to deal with the diverse and simultaneous challenges encountered on daily basis (Staškevičiūtė et al., 2006).

The new ICTs are now organizes groups and collaboration efforts in new ways that have never been possible before in the history of humanity (Malone et al., 2010; Rutkauskiene, 2012). Lykourantzou et al. (2011) described CI as an emerging field that seeks to merge human and machine intelligence, with an aim to achieve results unattainable by either one of these entities alone. According to Gruber (2008), CI has been the goal of visionaries throughout the history of the Internet. Malone et al. (2010) purported that the widespread adoption of the Internet has effectively changed the way intelligence is collectively developed.

Studying the synergy between IT and CI is still in its early stages and many important issues are still unexplored or under discussion. Kapetanios (2010) clarified that the transition from personalized data, knowledge, and contents towards CI forms are at its infancy and raises many questions. CI deserves to become a full discipline, with its formal framework, tools, measuring instruments, practical applications, and ethical field (Gruber, 2008; Kapetanios, 2010; Lykourantzou et al., 2011) by virtue of the advances in collaborative Internet applications. Ethical issues and social responsibility are becoming an increasingly important area of concern in the contemporary Internet and digital technologies (Davidrajuh, 2008; Mingers and Walsham, 2010). While IT revolution and its role in harvesting the CI is growing continuously, a little attention has been paid to study the ethical dimension of Web-based CI. Given that, this study contributes to the ongoing stream of research through developing a universal ethical framework for the Web-based CI in business organizations.

The present study provides a starting point to meet the need for developing a business ethical framework that addresses the synergy between the collective humans' intelligence and collaborative ICTs. It also provides strategic planners, decision makers, systems analysts and developers with a comprehensive ethical view, guiding their collaborative efforts to exploit the

advances of collaborative Web applications for harvesting CI in orders to achieve the strategic business objectives.

2. An Overview of Web-based Collective Intelligence

There are many definitions of CI that has been built around the idea of intelligence and collaboration. For example, Hiltz et al. (1991) and Heylighen (1999) defined CI as the ability of a group to arrive at a solution that is better than any of the members achieved individually.

According to Gan and Zhu (2007), CI is the ability of a group, a team, an organization, a community, and the whole society to learn, solve problems, plan the future, understand and adapt to the internal environment and the external world, with the convergence of individual or distributed intelligence. Lévy (2010) defined CI as the capacity of human communities to cooperate intellectually in creation, innovation and invention. Lykourantzou et al. (2011) asserted that it is based on the concept that large groups of cooperating individuals can produce higher-order intelligence, solutions and innovation, and come to function as a single entity.

Lévy (2010) revealed that one axiom of CI is the coordination in real time through cyberspace. Collaborative Web-based systems are the most recent paths discovered for opening up the possibilities of harvesting and improving the CI. These systems leverage combined efforts of very large groups of people to solve complex problems, and often referred to as CI systems (Malone et al., 2010; Lykourantzou et al., 2011). As a collaborative platform, the Web-based systems provide a single point for integrating all the company's information, applications and services that are used by employees, business partners, and customers (Malone et al., 2010). It enables people from remote locations to meet each other and to share information to achieve

common goals. It also facilitates knowledge delivery and creation in an open and distributed intelligent environment via networks (Lévy, 2010).

2. The Ethical Dimension of Web-based Collective Intelligence: An Overview

2.1 An Overview of Traditional Ethical Theories

The review of literature confirms that the basic notion of CI stands on two complementary axioms, which together constitute the concept of CI bridged by the collective collaboration among a group of individuals. The first axiom is related to the limited capabilities of individuals including individual's bounded rationality, cognitive limits, cognitive bias, and limited knowledge (Heylighen, 1999; Atlee, 2008; Sheremetov and Rocha-Mier, 2008). The second represents the power of collective collaboration through the ability of a group to find better solutions to the same problems, evolve toward higher order complexity thought, and engage in intellectual collaboration in order to create, innovate, and invent (Heylighen, 1999; Lévy, 2010).

The two axioms represent convergence points that enable the ethical framework to accommodate many of conflicting ethical theories. Actually, from an ethical point of view, the CI is closed to the Utilitarian Moral Principle that considers the benefits of society rather than the benefits of an individual (Oliver, 1997; Weiss, 2006; Bose, 2012). In other words, one's actions are morally justified if the actions are in the greatest interest for the largest number of people, emphasizing the well-being of society at large (Oliver, 1997; Weiss, 2006). The theme of CI also support the ethical Golden Rule that call for putting yourself into the place of others, and thinking of yourself as the object of the decision, to help thinking about fairness in decision making (Bose, 2012).

CI environment permits overcoming the individualism dilemma in some ethical theories, such as the Right Theory, the Categorical Imperative, and Egoism. Actually, this view is consistent with the argument of John Rawls, the author of theory of justice, that when social cooperation is lacking, the concept of justice is meaningless (Elkins, 2007). It is not inconsistent with the mind and rationality of individual's action of Immanuel Kant's Categorical Imperative (Hughes, 2004; Jones, 2007; Bose, 2012) when the collective collaboration environment transforms the mindfulness to orgmindfulness, elevating the CI of the organization (Nga and Liang, 2010). This view takes into consideration the Kant's argument that morality is a reflection of rationality and is larger than the narrow framework of "the ends justify the means" (Mallor et al., 2004), where the collective collaboration can transform the individuals' bounded rationality into collective rationality. In this regard, it is important to mention that researchers of CI coined this transformation using different descriptions and terms, such as shared extended mind (e.g. Gan and Zhu, 2007), collective mind (e.g. Lykourantzou et al., 2011), and collective cognition (e.g. Bettencourt, 2009).

2.2 Moral Intelligent

Theorists and promoters of the multiple intelligences theory (e.g. Borba, 2001; Lennick and Kiel, 2005; Gardner, 2006) posit that individuals possess a number of autonomous intelligences. Gardner (2006) explains that individuals draw on these intelligences, individually and corporately, to create products and solve problems that are relevant to their societies. From this perspective, the moral intelligence is an important component of human society, where intelligence can be put to either moral or immoral uses. In the context of CI, moral intelligence emphasizes the ethical responsibilities of individual participants toward the other members of

organization's society. It represents the ability to distinguish between the right and wrong, and to make sound decisions that benefit not only yourself, but others around you (Borba, 2001).

Moral intelligence has different dimensions and mechanisms. According to Lennick and Keil (2005), it represents the mental capacity to determine how universal human principles among diverse cultures should be applied to our personal values, goals, and actions. These principles include commitment to something greater than oneself, self-respect and acceptance of personal responsibility, respect and caring for others, caring for other living things and the environment. Lennick and Kiel (2005) also identified four integrity competencies of moral intelligence, including acting consistently with principles, values, and beliefs; telling the truth; standing up for what is right; and keeping promises. Borba (2001) celebrated seven essential virtues of moral intelligence, comprising of empathy, consistence, self-control, respect, kindness, tolerance, and fairness. Sama and Shoaf (2008) suggested that moral intelligence epitomized in interactive social behaviors and practices through shared values, respect the well-being and the interests of others, cooperation, reciprocity, transparency, mutual aid, and consistent adherence to principles.

2.3 Ethical Frameworks of IT-based Decision-making Collaborative Business Environments

Organizations are increasingly facing unprecedented ethical issues with high expectations of society's members in terms of their social responsibilities. Aspen Institute (2003) conducted a survey to examine the primary responsibilities of business. The survey revealed that satisfying customer's needs, maximizing value of shareholders, investing in the growth and well-being of the employees, complying with all laws and regulation, and creating value for the local community are primary responsibilities of a company. These evolving challenges raise more

business ethical obligations on decision makers than ever before. Business ethics can be described as a set of rules, standards, codes, principles, and philosophy to be followed for ethical decision making in business (Sinha and Mishra, 2011). Ethical decision-making in today's organization is not only the right thing to do, but is vital to its survival (Ncube and Washburn, 2006). It is becoming apparent that the ethical dimension of ICT related business decisions cannot be safely ignored, especially with the development in Internet applications and its widespread use among the members of organization's society (Davidrajuh, 2008; Bose, 2012).

There is a growing stream of research examining the ethical dimension of Web-based business relationships and interactions among the members of organization's society, focusing on different issues. For example, Roman (2007) discussed the ethics of online retailing from the consumers' perspective, focusing on the privacy, security, reliability, and non-deception. Furthermore, Yang et al. (2009) and Limbu et al. (2011) examined the effect of perceived ethical performance of shopping Websites on consumer trust, satisfaction, and loyalty. Pagallo (2010) investigated ethics among peers (P2P) on the Internet. Mingers and Walsham (2010) analyzed the potential of discourse ethics for IS focusing on Internet and Web 2.0 applications. The authors provided seven principles of ethical discourse, including discourse, moral, the democracy, the pragmatic, the ethical, universalization, and application principles. These principles are governed by different considerations, such as involving all social groups, negotiating fair compromises between competing interests, expressing authentic self-understanding, giving equal consideration to the interests of all, and involving a great number of stakeholders in decisions and system designs.

In the context of IT-based collaborative business environments, the Normative Theories of Business Ethics (NTBEs) were adopted to develop different ethical frameworks for decision making and collaboration (Davidrajuh, 2008; Bose, 2012). Based on a combination of the ethical

principles and theories, ethicists have developed NTBEs to determine ethical aspects in business environments (Hasnas, 1998), focusing exclusively on the collaboration and interactions that involve business relationships (Smith and Hasnas, 1999; Bose, 2012). The three leading NTBEs are the stockholder, stakeholder, and social contract theories (Hasnas 1998). These theories and their explanations are given below:

Stockholder Theory

According to the Stockholder Theory, the social responsibility of business and hence the managers, is the use of resources to increase returns on investment for the stockholders by open and free competition without deception. Under this view, managers are agents of the stockholders. They are required to spend corporate funds only in ways that have been authorized by the stockholders. One moral argument associated with this theory is that if individuals pursue profits, they will also be promoting the interests of society.

Stakeholder Theory

Stakeholders include any individual who can affect or is affected by the survival, success, and accomplishment of the organization's objectives. According to this theory, managers are responsible for taking care of the interests of all the stakeholders, such as employees, suppliers, distributors, customers, and those whose interests are vitally affected by the corporation. It claims that managers have a fiduciary duty to give equal consideration to the legitimate interests of all such stakeholders and to adopt corporate policies which produce the optimal balance among them without violating the rights of any stakeholder. Under this theory, managers may not treat their corporation's stakeholders merely as means to corporate ends but must recognize that all stakeholders are entitled to participate in its decisions.

Social Contract Theory (SCT)

SCT proposes that all enterprises are ethically responsible and obliged to promote the welfare of society by satisfying the needs of the society's members in their capacity as consumers and employees beyond the complex business organization arrangements. According to *SCT*, society grants corporations the right to exist. Organizations would be required to exert its efforts to add more values to the society. This theory focuses on two aspects. The first is the social welfare term that stands on the obligation of the organization to improve the well-being of the society. The second is the justice term that includes the willingness of society's members to authorize corporate existence only if corporations agree to remain within the bounds of the general principles of justice. Justice also means that organization operates in a way to avoid fraud and deception, showing respect for society's members, and avoiding any practice that systematically worsens the situation of a given group in society.

3. The Universal Ethical framework of Web-based Collective Intelligence

The power and awareness of members of organizations' society are growing with the widespread access and use of the Internet and advanced communication technologies. All information about everything is known instantly in a transparent marketplace, forcing the business and its competitor to consider the ethical choice as a lifeline that guarantees its survival, prosperity, and superiority. Despite the increasing importance of ethical issues and social responsibilities, there is disagreement about a unified approach to the theory and practice of ethical conduct in business organizations (Davidrajuh, 2008). Therefore, the modeling approach of the present study is based on a combination of traditional ethical theories, moral intelligence theory, and ethical frameworks of collaboration and decisions making in the context of IT. The universal dimension of this framework comes from three postulates. First, it stands on universal ethical human

principles among diverse nations, cultures, and religions. Second, business organizations all over the world need to gain the trust, satisfaction, and commitment of their society's members to serve their survival, prosperity, and superiority. Third, CI, ethics, and collaborative Web-based systems represent common and urgent needs of business organizations around the world.

Figure (1) represents the universal ethical framework of Web-based CI. The framework involves the ethical principles and expected outcomes of Web-based CI as two interrelated components.

>>>> *Figure. 1. The Universal Ethical Framework of Web-based Collective Intelligence* <<<<

3.1 The Ethical Principles of Web-based Collective Intelligence

The proposed framework posits that needs, rights, and obligations of all members of organization's society should be taken into consideration to develop an ethical Web-based CI. The framework involves all members of organization's society who can affect or be affected by the actions of the organization (Smith and Hasnas, 1999; Bose, 2012). Based on NTBEs and the dimensions of interests, rights, roles, and obligations; the present study classified members of organization's society into four categories. These include stockholders, internal stakeholders, external stakeholders, and society as a whole. Internal stakeholders are those who are members of the organization, such as employees, boards of directors, and managers. External stakeholders are those who are not internal members but have direct interests in the organization and its activities, such as suppliers, logistics companies, wholesalers, retailers, and regulators. According to NTBEs, customers are affiliated to society category.

Based on the overall review of ethical theories, moral intelligence theory, and ethical frameworks of IT-based decision making and collaboration; the development efforts of Web-

based CI systems, management and organizational environment will work under seven ethical principles. These are:

- Provide a democratic environment in terms of freedom of self-expression, participation, generate and explore ideas, plurality, discussion, and consensus in which all participants are considered and treated equally.
- Provide mechanisms to support the morality of collaboration, including mutual respect, caring for collective well-being, coordination, standing up for what is right avoiding partial judgments, knowledge and ideas exchange, and consistent adherence to principles.
- Support the compliance with laws, regulations, and standards imposed, or agreed to, by the government, industry associations, stakeholders, or/and stockholders.
- Support acceptable decisions that take into account the rights, benefits, and interests of members of organization's society.
- Support the investigation of decisions truthfulness that complies with facts and have the appearance of reality.
- Provide mechanisms to support the transparency and responsibility for the consequences of decisions.
- Support the decisions that do the greatest benefit for the greatest number of members of organization's society.

These principles work as mechanisms to achieve five outcomes of the ethical Web-based CI, including justice, satisfaction, trust, commitment, and pleasure. These outcomes are expected to contribute to achieving the strategic business objectives of the organization.

3.2 The Outcomes of Ethical Web-based CI

In general, outcome measurements have an important communications role by making organization aware of what is important to success and the areas of evaluation. Based on the literature review, the research framework proposes five expected outcomes that have to be considered, evaluated, and monitored. These outcomes include trust, commitment, justice, satisfaction, and pleasure. It is suggested that these outcomes act as important strategic leverage points to protect organization survival (Ncube et al., 2006; Sinha and Mishra, 2011), serving the social accept of its existence (Smith and Hasnas, 1999; Bose, 2012), improving its public image (Lindfelt and Tornroos, 2006; Amine et al., 2012), and achieving competitive advantage (Ferrell, 2004; York, 2008).

3.2.1 Justice

Justice has inspired many ethical theories and models of business ethics. In his distributive theory of justice, Rawls (1971) described justice as the first virtue of social institutions that protect the rights and freedoms of individuals, and support a reasonable distribution of benefits among members (Mallor et al., 2004; Weiss, 2006; Jones, 2007). Rawls argued that social cooperation appears to be both a necessary and a sufficient condition for social justice, where it has meaning only within the framework of a cooperative society (Elkins, 2007).

In the context of business ethics, Hoffman and Moore (1982) demonstrated that business ethics deal with comprehensive questions about the justice issues raised by the relationship of business to government, the consumer, its employees, and society at large. Murphy et al. (2007) considered fairness as a principal ethical dimension of continuum relationship marketing. Hattwick (2000-2001) suggested that competitive market situations encourage the reasonably high standard of business ethics called the ethic of justice. Aryee et al. (2002) investigated the

relationship between organizational justice and work outcomes. Bose (2012) suggested that managers should strive to increase social welfare without violating the basic principles of justice.

Collaborative Web-based applications advocate an equal freedom to individuals to express themselves freely, posit their views and experiences, and exchange of ideas and preferences (Heylighen, 1999; Lancieri, 2008; Bothos et al., 2012). On the other hand, the previous studies (e.g. Zara, 2004; Lancieri, 2008; Bothos et al., 2012) confirmed that the effective management of CI is constituted by a democratic environment in terms of liberty, freedom, participation, plurality, discussion, and consensus in which all participants are considered and treated equally.

3.2.2 Satisfaction

The ethical theories have developed to provide solutions satisfying the human needs and desires. For example, Kant discussed the complete well-being and satisfaction of all one's needs and inclinations with one's condition (Hughes, 2004). Egoism theory considered the needs satisfaction in terms of self-interest that motivates the human actions (Maitland, 2002). Utilitarianism also investigated the benefits of society in terms of the action consequences that achieve the greatest satisfaction (Mallor et al., 2004; Weiss, 2006). From this perspective, decision makers should estimate the effect of each solution alternative and select the one that maximizes the satisfaction of the greatest number of society's members (Bose, 2012).

Berrone et al. (2007) found that companies with strong ethical identity can obtain a greater degree of stakeholders' satisfaction, which in turn affects positively the financial performance of companies. Koonmee et al. (2010) also concluded that the ethics institutionalization has a positive impact on the job satisfaction as one of employee job-related outcomes. Amine et al. (2012) investigated the effect of ethics on job satisfaction as a mediating variable between ethics

and corporate performance. Many of previous researches (e.g. Ferrell, 2004; Roman, 2007; Limbu et al., 2011) examined the impact of business ethics on customer satisfaction.

The issues of satisfaction has been examined widely in the previous research (e.g. Lancieri, 2008; Antunes et al., 2012) to measure the success of Web-based collaborative systems adoption. In the context of CI, previous researches (e.g. Hiltz et al., 1999; Staškevičiūtė, et al., 2006) concluded that enhancing participants' satisfaction is important condition of achieving the CI.

3.2.3 Trust

Trust is defined as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party (Mayer et al., 2007). The previous studies (e.g. Pučėtaitė and Lāmsā, 2008; Koonmee et al., 2010) emphasized that the advancement of organizational trust depend, to a large extent, on organizational practices of business ethical principles. Murphy et al. (2007) deemed trust as fundamental ethical virtue in relationship marketing. Aryee et al. (2002) and Amine et al. (2012) investigated the organizational trust as a mediating variable between ethics and performance. Koonmee et al. (2010) also declared that ethical cultures create trust within and outside corporations encouraging appropriate risk taking, which leads to innovation, propels progress, and ultimately profitability.

Different studies (e.g. Roman, 2007; Yang et al., 2009) discussed the relationship between business ethics and customer trust. Also a major stream of research (e.g. Mulki et al., 2006; Ponnu and Tennakoon, 2009; Amine et al., 2012) investigated the impact of organizational ethics on employees trust. In the age of Internet, trust among members of organization's society has taken a special status. The previous research (e.g. Yang et al., 2009; Limbu et al., 2011; Sivaraks

et al., 2011) on Web-based collaborative applications considered trust as a critical indicator to examine the quality of relationships.

Many researchers (e.g. Zara, 2004; Gouardères et al., 2005; Mosia and Ngulube, 2005; Dumas, 2010) considered sustaining trust as one of the pillars of CI. Ng and Liang, (2010) revealed that collaboration in the intelligent organizations can only be achieved through mutual trust. Dumas (2010) declared that the leader's primary responsibility is to build a collaborative environment of mutual trust and authentic conversations to access the CI of organization's members. Numerous studies (e.g. Mosia and Ngulube, 2005; Gouardères et al., 2005) asserted that the role of collaborative IT and digital interaction in harvesting CI is not likely to succeed if openness and mutual trust is not promoted first.

3.2.4 Commitment

Commitment refers to partners' desire to continue a valued relationship and a willingness to make short-term sacrifices to preserve the longevity of long-term relationships (Yaqub, 2010). Meyer and Allen (1991) describe the organizational normative commitment as a moral component referring to the sense of obligation and responsibility. Murphy et al. (2007) believed that commitment is a fundamental ethical virtue in relationship marketing. The survey of Aspen Institute (2003) concluded that the company's commitment to its social responsibility has definite business benefits, including a good reputation, loyal customers, a more satisfied workforce, fewer regulatory and legal problems, and long-term viability in the marketplace.

The review of literature indicates a positive relationship between the ethics institutionalization and employees' organizational commitment (Mulki et al., 2006; Ponnu and Tennakoon, 2009; Koonmee et al., 2010). It also revealed a positive impact of business ethics on the customers'

commitment and loyalty (Roman, 2007; Limbu et al., 2011). Furthermore, commitment is used as a central variable to determine the success and quality of Web-based collaborative relationship (Limbu et al., 2011; Sivaraks et al., 2011). In the context of CI, research (e.g. Zara, 2004; Staškevičiūtė et al., 2006; Atlee, 2008; Ng and Liang, 2010) indicated that the purpose of collective management is to promote the collective commitment in terms of common objectives, building long-term relationship, a sense of togetherness, and partnership.

3.2.5 Pleasure

Many ancient philosophers believed that the purpose of all human actions was attainment of pleasure. The utilitarianism considers that the rightness or wrongness of an action is determined by its contribution to hedonistic consequential benefit and the overall utility in terms of maximizing pleasure (Mallor et al., 2004). Bose (2012) explained that the goal of greater happiness in utilitarian principle can be achieved by nurturing the decency of individuals, so that all can benefit from the honor of others rather than focusing on just one individual's happiness. According to Kant, happiness is not the pleasure that include the joyful feeling associated with living a moral life, it is simply getting what you want (Hughes, 2004). Much works by economists have tied the ethical behavior to the pleasure principle, which can be gotten from the consumption of so much honesty, friendliness, or other ethical duty (Hattwick, 2000-2001).

The technology acceptance models have frequently used the hedonic motivations to predict the intention and usage of IT. For example, Davis et al. (1992) considered perceived hedonic value as the extent to which the action of using the technology is perceived to be enjoyable in its own right for no apparent reinforcement, apart from any performance consequences that may be

anticipated. Venkatesh et al. (2012) added hedonic motivations to UTAUT2 describing the fun or pleasure derived from using a technology as a predictor of behavioral intention.

A considerable attention has been paid to the important role of hedonic and intrinsic motivations in harvesting CI. According to Lykourantzou et al. (2011), although the financial incentive is expected to produce more prompt results, the incentives of intrinsic motivation seem to be more self-sustained. Explaining the reason why individuals contribute to CI systems, Malone et al. (2010) anticipated that while money is a traditional extrinsic motivator, love and glory represent more intrinsic motivators which reflect an individuals' enjoyment of doing an activity to boast about their achievements.

In the context of Web-based CI, Bothos et al. (2012) described the intrinsic motivations of participants in terms of feeling of having positively impact, finding feedback potentially valuable and supportive of creativity, becoming co-creators, participating in the risk of failure or the joy of success. Wise et al. (2011) showed that the intrinsic rewards of Internet-based collective public intelligence includes willingness of participants to see the system change for the better and being compelled to act on that.

5. Conclusions

The contemporary organizations must grow far more intelligence to deal with the diverse and simultaneous challenges. This new awareness establishes a beginning of a new approach to re-examine organizations as evolving intelligent beings. An organization is intelligent only if it is able to nurture a high level of CI. The new ICTs are now making it possible to organize groups in very new ways that have never been possible before in the history of humanity. Collaborative

Web-based systems are the most recent paths discovered for opening up the possibilities of improving the CI that were simply unconceivable even few years ago. It is playing a vital role in giving the support and facilities to harvest, use, and share CI. On the other hand, it is becoming apparent that the ethical dimension of ICT cannot be safely ignored, especially with the advances in Internet applications and widespread usage among the members of the organization's society. The ethical dimension is gaining more attention as a main characteristic of CI.

The present study aims to develop a universal ethical framework for the Web-based CI in business organizations. This work provides a starting point to meet the need for developing a universal business ethical framework that addresses the synergy between the collective humans' intelligence and collaborative ICTs. Based on a combination of traditional ethical theories, moral intelligence theory, and ethical frameworks of IT-based decision making and collaboration, seven ethical principles were identified. These include providing democratic environment, morality of collaboration, compliance with laws and regulations, the collective truthfulness, the rights and interests of members of organization's society, the collective transparency and responsibility, and the greatest benefits for the greatest number of members of organization's society. These principles work as mechanisms to achieve five outcomes of the ethical Web-based CI, including justice, satisfaction, trust, commitment, and pleasure. These outcomes are expected to contribute critically in achieving the strategic business objectives of the organization, such as survival, the social accept of its existence, improving its public image, and achieving competitive advantage.

There are some limitations which can serve as directions for future research. The research framework needs to be tested empirically in future research. Although the ethical outcomes have been measured in previous research, the present study was not very specific about what exactly

to do, and it does not provide a methodology to follow for achieving the ethical principles of Web-based CI. Furthermore, the present study focused on the role of business organizations, ignoring the ethical responsibilities of other society's members.

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