An Ethical Framework for the Outcomes of Web-based Collective Intelligence

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Abstract— This study aims to develop an ethical framework for the outcomes of Web-based Collective Intelligence (CI) in business organizations. The framework acts as a governance structure to organize and support the efforts of strategic planners, decision makers, systems analysts and developers in developing ethical collaborative Web-based systems and applications for harvesting an ethical CI in order to achieve the strategic business objectives. It considered five expected ethical outcomes that have to be evaluated and monitored. These outcomes include justice, satisfaction, trust, commitment, and pleasure. The framework suggests that these outcomes act as strategic leverage points to protect organization survival, serving the social acceptance of its existence, improving its public image, and achieving competitive advantage.

Keywords-web-based collective intelligence; ethical theories; moral intelligence theories.

I. INTRODUCTION

Business organizations have to constantly 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 [1][2]. 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, organizations must grow far more intelligence to deal with the diverse and simultaneous challenges. An organization is intelligent only if it is able to nurture a high level of CI [2].

The new Information and Communication Technologies (ICTs) are organizing groups and collaboration efforts in new ways that have never been possible before in the history of humanity [3]. Lykourentzou et al. [4] described Collective Intelligence (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.

Studying the synergy between IT and CI is still in its early stages and many important issues are still unexplored. Kapetanios [5] 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 [4][5] by virtue of the advances in collaborative Internet applications. 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 an ethical framework for measuring the outcomes of 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 efforts to develop collaborative Web applications for harvesting CI in order to achieve the strategic business objectives.

The reminder of this paper is organized as follows: The second section will provide an overview of Web-based CI. The literature review section provides an overview of traditional ethical theories, moral intelligence, and ethical frameworks of IT-based collaborative business environments. The fourth section discusses the outcomes of ethical Web-based CI. The fifth section includes the success story of MarkaVIP, a leading online store in the Arab World, and the paper is finalized with a conclusion section.

II. AN OVERVIEW OF WEB-BASED CI

There are many definitions of CI that has been built around the idea of intelligence and collaboration. For example, Lévy [7] defined CI as the capacity of human communities to co-operate intellectually in creation, innovation and invention. Lykourentzou et al. [4] asserted that CI 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 [7] 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 [3][4]. 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 [3]. 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 [7].

III. LITERATURE REVIEW

A. 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 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 no one know every things [1]. 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 [1][7].

The two axioms represent convergence points that enable to accommodate many of conflicting ethical theories. Actually, from an ethical point of view, CI is closed to the Utilitarian Moral Principle that considers the benefits of society rather than the benefits of an individual [8]. 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 [8]. 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 [9].

CI environment permits overcoming the individualism dilemma in some ethical theories, such as the Right Theory, the Categorical Imperative, and Egoism. 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 [10]. It is not inconsistent with the mind and rationality of individual’s action of Immanuel Kant’s Categorical Imperative [9][11] when the collective collaboration environment transforms the mindfulness to orgmindfulness, elevating the CI of the organization [2]. 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” [12], 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, collective mind, and collective cognition.

B. Moral Intelligence

Theorists and promoters of the multiple intelligences theory (e.g., [13][14][15]) posit that individuals possess a number of autonomous intelligences. Gardner [15] 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 and to make sound decisions that benefit not only yourself, but others around you [13].

Moral intelligence has different dimensions and mechanisms. According to Lennick and Keil [14], 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. Lennick and Kiel [14] identified four integrity competencies of moral intelligence, including acting consistently with values and beliefs, telling the truth, standing up for what is right, and keeping promises. Sama and Shoaf [15] suggested that moral intelligence is epitomized in interactive social behaviors through shared values, respect the well-being of others, cooperation, reciprocity, and transparency.

C. Ethical Frameworks of IT-based Collaborative Business Environments

Business ethics can be described as a set of rules, standards, codes, principles, and philosophy to be followed for ethical decision making in business. Ethical decision-making in today’s organization is not only the right thing to do, but is vital to its survival [17]. 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 [9].

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. For example, Roman [18] discussed the ethics of online retailing from the consumers’ perspective. Yang et al. [19] and Limbu et al. [20] examined the effect of perceived ethical performance of shopping Websites on consumer trust, satisfaction, and loyalty. Mingers and Walsham [6] analyzed the potential of discourse ethics of Web 2.0 applications. The authors provided seven principles of ethical discourse governed by different considerations, such as involving all social groups, negotiating fair compromises between competing interests, 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 [21][22]. 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. One moral argument associated with this
theory is that if individuals pursue profits, they will also be promoting the interests of society.

**Stakeholder Theory**

According to this theory, managers are responsible for taking care of the interests of all the stakeholders, such as employees, suppliers, customers. It claims that managers have a fiduciary duty to give equal consideration to the legitimate interests of all such stakeholders. Under this theory, managers must recognize that all stakeholders are entitled to participate in decisions.

**Social Contract Theory (SCT)**

SCT proposes that all enterprises are ethically responsible and obliged to promote the welfare of society. SCT 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.

Based on the previous literature review on ethical theories and ethical frameworks of IT-based collaborative business environment, the framework of the present study consists of three main constructs. As shown in Table 1, these constructs include the rights and obligations of all members of organization’s society, the expected outcomes of ethical Web-based CI, and the strategic business objectives that can be achieved by these ethical outcomes.

### Table 1. The Constructs of Framework.

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<tr>
<th>Constructs</th>
<th>Dimensions</th>
<th>References</th>
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<tbody>
<tr>
<td>Dimensions of Ethical Web-based CI</td>
<td>Society's Needs, Rights, and Obligations</td>
<td>[9] [21][22]</td>
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<td></td>
<td>Stockholders’ Rights and Obligations</td>
<td>[9] [21][22]</td>
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<td>External Stakeholders’ Rights and Obligations</td>
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<td>Internal Stakeholders’ Rights and Obligations</td>
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<tr>
<td>The Outcomes of Web-based CI</td>
<td>Justice</td>
<td>[8][10][12][23][24]</td>
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<td></td>
<td>Satisfaction</td>
<td>[8][11][25][26][27][28]</td>
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<td>Trust</td>
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<td>Commitment</td>
<td>[16][18][20][31]</td>
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<td>Pleasure</td>
<td>[9][11][12][32][33]</td>
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<td>The Strategic Business Objectives</td>
<td>Organization survival</td>
<td>[17][34]</td>
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<td>Social acceptance of organization existence</td>
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<td>Public image</td>
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<td>Competitive advantage</td>
<td>[20][23][34][35]</td>
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IV. THE OUTCOMES OF ETHICAL WEB-BASED CI

The 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.

As shown in Figure 1, the framework involves all members of organization’s society who can affect or be affected by the actions of the organization [9][22]. 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 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 the following ethical principles:

- Provide a democratic environment in terms of freedom of self-expression, generate and explore ideas, 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, 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.
- Support the investigation of decisions truthfulness that complies with facts and 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. 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, serving the social acceptance of its existence, improving its public image, and achieving competitive advantage [9] [17][22][35][25][31].

A. Justice

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 [8][12]. Rawls argued that social cooperation appears to be both a necessary and a sufficient condition for social justice that has meaning only within the framework of a cooperative society. In the context of business ethics, Hoffman and Moore [23] demonstrated that business ethics deal with comprehensive questions about the justice issues raised by the relationship of business to government, consumer, employees, and society at large. Murphy et al. [29] considered fairness as a principal ethical dimension of continuum relationship marketing. Hattwick [24] suggested that competitive market situations encourage the reasonably high standard of business ethics called the ethic of justice. Aryee et al. [30] investigated the relationship between organizational justice and work outcomes.

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 [1][36][37]. On the other hand, the previous studies (e.g., [36][37]) 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.

B. 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 [11]. Egoism theory considered the needs satisfaction in terms of self-interest that motivates the human actions [26]. Utilitarianism also investigated the benefits of society in terms of the action consequences that achieve the greatest satisfaction [8][12]. From this perspective, decision makers should estimate and select the solution that maximizes the satisfaction of the greatest number of society’s members.

Berrone et al. [27] 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. [28] also concluded that the ethics institutionalization has a positive impact on the job satisfaction as one of employee job-related outcomes. Amine et al. [25] investigated the effect of ethics on job satisfaction as a mediating variable between ethics and corporate performance. Many of previous researches (e.g., [18][20]) examined the impact of business ethics on customer satisfaction. The issues of satisfaction also have been examined widely in the previous research (e.g., [36], [38]) to measure the success of Web-based collaborative systems adoption.

C. 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 [39]. The previous studies (e.g., [28]) emphasized that the advancement of organizational trust depend, to a large extent, on organizational practices of business ethical principles. Murphy et al. [29] deemed trust as fundamental ethical virtue in relationship marketing. Aryee et al. [30] and Amine et al. [25] investigated the organizational trust as a mediating variable between ethics and performance. Koonmee et al. [28] 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., [18][19]) discussed the relationship between business ethics and customer trust. Also a major stream of research (e.g., [31][25]) 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., [19][20]) on Web-based collaboration considered trust as an indicator to the quality of relationships.

Many researchers (e.g., [2][40]) considered sustaining trust as one of the pillars of CI. Ng and Liang [2] revealed that collaboration in the intelligent organizations can only be achieved through mutual trust. Numerous studies (e.g., [37][40]) 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.

D. 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 [20]. Murphy et al. [29] believed that commitment is a fundamental ethical virtue in business relationship. The survey of Aspen Institute [16] concluded that the company’s commitment to its social responsibility has definite business benefits, including a good reputation, loyal customers, and long-term viability in the marketplace.

The review of literature showed a positive relationship between the ethics institutionalization and employees’ organizational commitment [28][31]. It also revealed a positive impact of business ethics on the customers’ commitment and loyalty [18][20]. Commitment is used as a central variable to determine the success and quality of Web-based collaborative relationship [20]. In the context of CI, research (e.g., [2][3][4]) 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.

E. 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 [12]. Bose [9] 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. 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 [24].

The technology acceptance models have frequently used the hedonic motivations to predict the intention and usage of IT. For example, Davis et al. [32] 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. Venkatesh et al. [33] added hedonic motivations to UTAUT2 describing the fun or pleasure derived from using a technology.

A considerable attention has been paid to the important role of hedonic and intrinsic motivations in harvesting CI. For example, Bothos et al. [37] 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.

V. MarkaVIP: A SUCCESS STORY

MarkaVIP [41] is an online shopping store, which was founded in 2010, selling gifts and accessories. The company chose to work in the Arab world environment, where people do not sufficiently trust paperless or faceless transactions, and buying from unknown sellers. In such a culture there are many barriers that can create customer resistance to changing from shopping at brick-and-mortar stores to virtual stores. The company started with an estimated $10,000 capital and a few suppliers who had accepted to provide MarkaVIP with commodities on credit and getting paid after receiving money from customers. Today, MarkaVIP is a leading online retailer in the Arab world and a strong competitor of the offline deep-rooted traditional stores, offering a wide variety of products ranging from goods and services for men, women, and children; electronics; and home decor. The company follows the following philosophy:

"We are a company that's all about people whether they are our employees, our customers or partners. We believe that having exceptional talents is fundamental to the success of our company."

The Web-based collaboration of MarkaVIP with its online society's members has created "win to win" relationships, which represent a main feature of collective intelligence. One major strategic pillar of the company's success is based on a set of ethical rules, standards, codes, principles, and philosophy that enabled it to acquire the trust, satisfaction, commitment, and many other achievements of its society's members.

VI. CONCLUSION AND FUTURE WORK

The present study aims to develop an ethical framework for the outcomes of Web-based CI. 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. Although the ethical outcomes have been measured in previous research, the present study does not provide a methodology to follow for achieving the ethical principles of Web-based CI.
REFERENCES


