Ethics Inf Technol (2009) 11:113–122
DOI 10.1007/s10676-009-9190-1

ORIGINAL PAPER

Corporate dynamic transparency: the new ICT-driven ethics?

Antonino Vaccaro · Peter Madsen

Published online: 3 April 2009

Abstract The term "corporate transparency" is frequently used in scholarly discussions of business ethics and corporate social responsibility (CSR); however, it remains a volatile and imprecise term, often defined incompletely as "information disclosure" accomplished through standardized reporting. Based on the results of empirical studies of organizational behaviors, this paper identifies a new set of managerial practices based on the use of information and communication technologies (ICT) and particularly Internet-based tools. These practices are resulting in what can be termed "dynamic transparency." ICT allows for an informational environment characterized by two-way exchange between corporations and their stakeholders, which fosters a more collaborative marketplace. It is proposed that such dynamic information sharing, conducted by means of ICT, drives organizations to display greater openness and accountability, and more transparent operations, which benefit both the corporations and their constituents. One of the most important outcomes that will accrue to consumers and other individuals is the "right to know," especially about corporate strategies and activities that might directly affect their quality of life. This paper demonstrates that dynamic transparency is more desirable and more effective than the more common "static transparency" where firms' information disclosure is one-way, usually in response to government regulation. We present three ethical arguments to justify the implementation by business firms of dynamic transparency and demonstrate that their doing so is related to CSR and to augment and complement stakeholder engagement and dialogue. The paper concludes with a summary of the possible limits to and the problems involved in the implementation of dynamic transparency for corporations, and suggests some strategies to counter them.

Keywords Transparency · Information and communication technologies · Corporate social responsibility

A. Vaccaro (✉)
Department of Engineering and Public Policy, Carnegie Mellon University, Baker Hall 131, Pittsburgh, PA 15213, USA
e-mail: vaccaro@lisboa.ucp.pt; vaccaro@andrew.cmu.edu

A. Vaccaro
Center for Ethics Business and Economics, Catholic University of Portugal, Lisbon, Portugal

P. Madsen
Carnegie Mellon University, Baker Hall 161F, Pittsburgh, PA 15213, USA
e-mail: pm2n@andrew.cmu.edu

Introduction

Both practitioners and scholars are beginning to adopt the concept of corporate transparency in discussions of business, information ethics and corporate social responsibility (CSR). For example, Kaptein (2004) finds that multinational companies' (MNC) codes of conduct encompass transparency, honesty and fairness at frequencies of 55, 50, and 45%, respectively. Similarly, Capurro (2005) maintains that transparency, as opposed to privacy, is the new ethical issue of the twenty-first century.

Several articles in popular magazines and newspapers, testify to the existence of increasing societal attention to the issue of transparency. For example, the article by Thompson (2007) in *Wired* magazine, uses the term "radical transparency". Radical transparency refers to the capability of a

firm's top management to employ Internet-based technologies, such as blogs and collaborative websites, in order to create a direct and continuous dialogue with customers and other stakeholders. Also, Schwartz (2007) writing in *The New York Times* maintains that "transparent is the word of our time, and it pops up in the context of anything from financial statements to government policies".

In this context, numerous scholarly articles in applied ethics journals have referred to and partially analyzed issues associated with the idea of transparency, such as the ethical and socio-economic forces affecting information disclosure (Vaccaro 2006; Vaccaro and Madsen 2007), social reporting as an informative tool to advance corporate accountability (Hess 2007), and the relationships between transparency and trust in organizations (Williams 2005).

The term "corporate transparency" as currently used in scholarly research is volatile and imprecise and is often understood merely as a form of information disclosure by means of standardized reporting (e.g., Mathews 1995; Owen et al. 2000; Gray 2001; Henriques 2001; Owen and Swift 2001; Dando and Swift 2003; Kaptein 2004; Waddock 2004; Lennerfors 2007; Quaak et al. 2007). Moreover, contrary to current understanding in public opinion (e.g., Thompson 2007; Schwartz 2007) and the business practitioner community (e.g., Tapscott and Ticoll 2003), where transparency is associated with the idea of continuous pro-active interactions between firms and their stakeholders, in scholarly research corporate transparency is often used to indicate the unidirectional flow of information from the firm to its stakeholders (e.g., Owen et al. 2000; Gray 2001; Henriques 2001; Owen and Swift 2001; Dando and Swift 2003).

Based on empirical analyses of the impact of Information and communication technologies (ICTs) on information management practices (e.g., Cramer 2003; Tapscott and Ticoll 2003; Fung et al. 2003, 2007; Vaccaro and Madsen 2006, 2007; Vaccaro et al. 2008), this paper argues that the definition of corporate transparency should take into account the social modifications and transformations to stakeholder relationships afforded by ICTs. It has been argued that transparency is more than just a form of social reporting, as suggested in several studies (e.g., Owen et al. 2000; Gray 2001; Henriques 2001; Owen and Swift 2001; Dando and Swift 2003), or a mere disclosure policy "targeting" specific kinds of organizational information (Fung 2004a, b). In other words, the definition of corporate transparency needs to be realigned to the realities of the workplace. To this end, this paper introduces and proposes the definition and operational practice of "dynamic transparency" in which corporate organizations and stakeholders interact intensively using Internet-enabled media to exchange vital information.

In particular, Internet-based technologies can be used by corporations to leverage three processes that characterize dynamic transparency. First, companies can develop a set of virtual infomediaries[1] (Sison 2001) that provide useful information in the format, level of detail and through the electronic *medium* (e.g., blogs, mailing lists, corporate website) that enable acquisition and understanding by stakeholders. It should be noted that virtual infomediaries can support effective information exchange between the company and its stakeholders and among stakeholders. Second, Internet-based tools can be used to develop a marketplace in which two-way information sharing—from firm to stakeholders and vice versa—leads to collaborations between firms and their constituents. Third, the information and experience acquired from these two processes can be used by companies to modify their business practice in order to become more transparent, accountable and socially responsible organizations.

This paper shows that dynamic transparency includes key features of, and also extends, previous CSR practices, such as 'Internet-stakeholder dialogue' defined by Unerman and Bennett (2004), and 'stakeholder engagement' (van Buren III 2001). It also introduces three ethical arguments for the implementation by corporations of dynamic transparency and describes some problems associated with its execution.

This paper is organized as follows. The next section begins with a brief etymological note on transparency, followed by its definition and static practice in social science research. The third section provides a review of recent studies of initial indications of dynamic transparency in public policy, computer ethics and CSR. The fourth section describes dynamic transparency in more detail, and is followed by a section describing three motivations and reasons for its adoption by businesses. The sixth section highlights some limitations associated with the adoption of dynamic transparency and the final section draws some conclusions and offers some perspectives for further research.

Transparency: origin of the term and static definitions

Before reviewing the etymological origins of the term transparency and the literature on static transparency in social research, we provide a brief methodological discussion about the procedure that was employed for identifying the literature used in this paper. A three-step approach was adopted. First, we used the Thompson Reuters ISI Web of Knowledge database to search for papers that have their subject/topic containing the terms "corporate transparency," "organizational transparency" or "firm transparency." This provided a general overview of the different research streams that

[1] By virtual infomediaries we mean internet-based tools such as e-mail, corporate websites, blogs and on-line communities that allow information exchange between a firm and its stakeholders.

address, or at least mention, the concept. This first step allowed us to identify the three main areas where the debate on corporate transparency was the most interesting and appropriate to address the research objectives of this study, namely, business ethics, computer ethics and public policy.

In a second step we refined our research in nine journals focused on business ethics, computer ethics and public policy: *Ethics and Information Technology*, *International Journal of Information Ethics*, *Journal of Business Ethics*, *Business Ethics Quarterly*, *Business Ethics*: *A European Review*, *Business and Society*, *Business and Society Review*, *Accounting*, *Organization & Society* and the *Journal of Policy Analysis and Management*. We also reviewed books (e.g., Tapscott and Ticoll 2003; Fung et al. 2007) and edited collections (e.g., Vaccaro et al. 2008) from scholars and practitioners directly interested in the issue of corporate transparency. This step allowed us to identify the most frequently used definitions of corporate transparency in the domains of business ethics, computer ethics and public policy. The third step involved reviewing practitioner journals, newspapers and magazines to find examples of business firms attempting to develop what we began calling "corporate transparency initiatives." Our reference to the examples in journals is indicative only of a social interest in corporate transparency and the existence of managerial attempts to implement it. Our theoretical analysis, on the other hand, is based on empirically-grounded scholarly studies (e.g., Fung et al. 2007; Weil et al. 2006; Vaccaro and Madsen 2009) and theoretical research (e.g., Hess 2007; Turilli and Floridi 2008).

The term transparency derives from the Medieval Latin word "*transparentem*", which can be traced back originally to 1413, or to 1592 when it acquired its figurative meaning. The original meaning was to "show light through", which in figurative use became "easily seen through" (Online Etymological Dictionary 2007). The word continued to be used throughout succeeding centuries and was taken up in many Latin derived languages such as the Italian, Spanish, Portuguese, French and English.

Although a comprehensive review of the concept of transparency in social research is beyond the scope of this work, we briefly discuss the use of the term in various fields, e. g., finance and accounting, human resource management, computing and information, and business ethics. These research areas were chosen either because they are part of or are related to applied ethics studies or because the insights derived promote a better understanding of corporate transparency.

Since the publication of "the market for lemons" study (Akerlof 1970), which discusses the problem and market impact of asymmetric information in that the buyer knows less about the product than the seller, several branches of economics have directly or indirectly analyzed transparency. Transparency has been associated with the quality and features of products and services, market conditions, price, availability of products, etc. Not surprisingly, in this literature transparency is analyzed from a utilitarian perspective. It is conceptualized as the necessary *quid pro quo* in which the costs and risks borne by the information provider, associated with sharing information, afford tangible benefits to the buying public and in the long term to the information provider. Higher levels of transparency are expected to positively affect customer trust, which, in turn, drives higher levels of purchases. There are two main sub-disciplines of economics in which transparency is often advocated and analyzed, namely, finance, and the literature on accountability.

Financial studies analyze the impact of price transparency on the efficiency and liquidity of financial markets (e.g., Gemmill 1996) or on price movements in electronic marketplaces (e.g., Soh et al. 2006). This literature defines transparency as the ability of market participants to have access to information on trading processes.[2]

The literature dealing with business accountability, with a few exceptions which are described in the next section, points to the importance of transparency for supporting corporate governance structures, which, in turn, serve to ensure that shareholders receive reliable information about the value and the activities of firms, and motivate managers to maximize firm values rather than pursuing personal objectives (Bushman et al. 2004). In this context, corporate transparency is defined as the widespread availability of relevant and reliable information about such aspects as short- and long-term performance, financial position, investment opportunities, governance, value and risk (Bushman and Smith 2003; Bushman et al. 2004).[3] Other areas of research in economics that have adopted the concept of transparency include marketing (e.g., Eggert and Helm 2003), human resource management (e.g., Jonker and Ziekemeyer 2005) and leadership studies (e.g., Pagano 2004).

Although the definitions of transparency and the perspectives provided by these research areas differ, the idea of transparency is always related to unidirectional information disclosure. Thus, one way to define static transparency is to

[2] Information is standardized in the sense that market participants can obtain only specific typologies of information (e.g., stock exchange prices, volumes, etc.), which are decided ex-ante by market regulators. This research stream has empirically demonstrated that transparency matters in the functioning of financial markets; indeed, higher degrees of price transparency lead to more efficient market activities.

[3] As in the literature on finance, transparency here is associated with standardized and rigid processes of information disclosure required by national laws and regulations and, in some instances, international conventions and agreements. Consequently, the information flow is unidirectional from the company to its stakeholders, and eventual modifications (i.e., integrations with additional information) are expected to be made through legislative initiatives or through the formation of new international conventions and agreements.

say that it involves information dissemination that is unidirectional from the information provider directly to the information user.

Since the 1990s, the computer and ethics literatures have analyzed issues associated with the transparency and opacity of models and simulation tools (e.g., Leet and Wallace 1994; Johnson and Mulvey 1995; Fleischmann and Wallace 2005). Transparency in this context is defined as the access granted to the users of these tools to knowledge about how the models adopted in commercial software work and accurately model reality (Fleischmann and Wallace 2005). These studies analyze the ethical concerns raised when users do not have access to information concerning the algorithms, hypotheses and logic criteria adopted by a simulation tool, which remain hidden. For example, Fleischmann and Wallace (2005) point to the example of Rosemary M., an expert pension fund investment manager, whose forecasts do not match the results of a simulation system adopted in her office. Since Rosemary is unable to access and know the hypotheses and algorithms used by the simulation tool, she is unable to make a decision about which forecast to follow. Transparency is consequently considered essential for *preserving the autonomy* of users and lessening their dependence on model (software) developers. It is also regarded as a necessary input for making *conscious and responsible choices* when forecasting software is used for important predictions.

Although our literature review shows that the terms "corporate transparency" and "firm transparency" are frequently used in the literature, there are only rare instances of, or references to a definition of corporate transparency. So, the concept can be seen as volatile and imprecise (Williams 2005). It is associated in the above literature with widely differing issues such as disclosure of accounting information to shareholders (e.g., Espinosa-Pike 1999), principles governing firm-stakeholder relationships (e.g., Kaptein 2004), determinants of trust in business practices (e.g., Audi 2008) and the completeness of corporate social reporting documents (e.g., Quaak et al. 2007, Tanimoto and Suzuki 2005). Reference to organizational transparency is often accompanied by reference to "accountability" and "responsibility," but readers are almost always, left unenlightened as to any conceptual distinction between these terms. The exception here is the paper by Dando and Swift (2003), which tries to characterize the relationship between transparency and accountability. Dando and Swift (2003, p. 199) maintain that "responsiveness, learning, innovation and performance improvement are critical links between transparency and accountability," but they also do not provide a precise definition of transparency.

Hess (2007, p. 455) refers to organizational transparency as the "right to know." In his view, stakeholder engagement and organizational transparency are the goals of social reporting when it is intended as a governance mechanism. But our review of the business ethics literature shows that the idea of transparency is almost always associated with information disclosure related to the firm's business activities through standardized documents in the form of social, sustainability and financial reports (e.g., Mathews 1995; Owen et al. 2000; Gray 2001; Henriques 2001; Owen and Swift 2001; Dando and Swift 2003; Kaptein 2004; Waddock 2004; Lennerfors 2007; Quaak et al. 2007).

Transparency as ICT-driven ethics: a new perspective in business and computer ethics

A number of works (e.g., DiPiazza and Eccles 2002; Cramer 2003; Tapscott and Ticoll 2003; Vaccaro 2006; Vaccaro et al. 2008; Fung et al. 2007) point to the role of ICT as an important force driving organizations to higher degrees of transparency. For example, Cramer (2003, p. 10) points out that the emergence of electronic networks is increasing the opportunities for firm transparency. In *The Naked Corporation* Tapscott and Ticoll (2003) point out that ICTs have the potential to transform firms from opaque into *naked* organizations. In their view, transparency—which is defined as the "accessibility of information to stakeholders of institutions, regarding matters that affect their interests" (Tapscott and Ticoll 2003, p. 22)—is a new ethical virtue of organizations which will shape and revolutionize business practice.[4] Tapscott and Ticoll (2003) predict that transparency will become the required premise for gaining and maintaining customer trust and collaborative relationships with all stakeholders, and that the role of ICT will progressively increase in achieving corporate transparency.

Following publication of *The Naked Corporation*, three main research areas on the impact of ICT on corporate transparency emerged. The first is public policy, which focuses on transparency as a policy measure, and the related contribution of ICT (e.g., Fung et al. 2003, 2004a, b, 2007). The second comes from the computer ethics community (e.g., Turilli and Floridi 2008; Vaccaro 2006, Vaccaro and Madsen 2006, 2007; Vaccaro et al. 2008), and the third is represented by a single paper that is part of the social accounting and CSR field (i.e., Unerman and Bennett 2004).

The public policy field analyzes transparency as a policy instrument for social regulation. Transparency policies have proven to be effective for resolving controversial issues, by minimizing health and safety risks, fighting corruption,

[4] This definition is consistent with previous and subsequent academic studies. For example, DiPiazza and Eccles (2002) define transparency as the "obligation to willingly provide to shareholders the information needed to make decisions", Vaccaro and Madsen (2006) refer to it as the "degree of completeness of information, provided by each company to the market, concerning its business activities".

promoting civil rights, sustaining improvements to public services, etc. (Fung et al. 2003, 2004a, 2007). It is worth noting that empirical research by this group shows that transparency policies also assist in spurring corporate *self-regulation*.[5] ICT, and in particular Internet-based technologies, play an important role in this context (Fung et al. 2004a, b, 2007; Weil et al. 2006). Indeed, they are supporting the emergence of a new kind of disclosure initiative, referred to as a "collaborative transparency policy," which is replacing "targeted" policies. A transparency policy is "targeted" when government imposes public disclosure of a specific kind of information with the aim of resolving a specific (targeted) problem. The TRI program is an example of a targeted transparency initiative. A transparency policy is "collaborative" when *any* citizen can participate in the transparency action by actively providing information or contributing his or her own personal judgment. When members of the public contribute to the formation of a public policy by reporting the problems they encounter with products or services, they can be said to be collaborating in making information available to the general public. An example of a collaborative transparency initiative is the web site www.scorecard.org which gathers and provides information on pollution levels in the US (Fung et al. 2007) and allows visitors to submit their comments to plant managers about toxic emissions in their communities.

Fung et al. (2007) point to two main ways in which ICT are progressively modifying how transparency is (and will be) designed and implemented by national and intergovernmental organizations. First, ICT are empowering citizens themselves to provide and pool much of the data necessary to guarantee adequate levels of transparency. Second, data and information are being spread and exchanged through *interactive* stakeholder collaboration.

Similar insights, but from an organizational perspective, are contained in the computer and information ethics literature (Vaccaro 2006; Vaccaro and Madsen 2006, 2007; Vaccaro et al. 2008). The contribution of this group can be summarized in three main points. First, provision of a detailed micro-level analysis of the impact and potential novel contribution of ICTs to the design and implementation of transparency in various organizations, such as firms (Vaccaro and Madsen 2006) and non-governmental organizations (NGOs) (Vaccaro and Madsen 2007). Second, analysis of the ethical (e.g., privacy and security) and socio-economic forces (e.g., competitors, customers, partners) affecting the transparency-related decisions of organizations (Vaccaro 2006; Vaccaro and Madsen 2006, 2007). Third, a proposed taxonomy that distinguishes between external and internal transparency (Vaccaro 2006; Vaccaro and Madsen 2007). The first is defined as the degree of completeness of information regarding its business activities, provided by each company to the market. The second is defined as the completeness of information provided by each business unit or group to colleagues in the same organization.

As in the policy research literature, computer ethics research highlights that ICT are progressively changing transparency from a static to a dynamic and interactive process. ICT are providing a new *locus* where corporations can interact with their stakeholders. For example, Vaccaro and Madsen (2006) provide a case study of a MNC that uses online forums and e-mails to inform customers about current managerial practices and policies related to issues such as child labor exploitation and customer privacy. Vaccaro and Madsen (2007) provide an example of "quasi crystalline transparency", i.e., an organization that spontaneously provides society with very detailed information, such as details of as top managers' salaries, audio-recordings of main board meetings, etc.

A study by Unerman and Bennett (2004) analyzed the new opportunities afforded by Internet-based tools to corporations to enable stakeholder engagement and dialogue. The authors suggest that, in particular, the Internet can increase stakeholder dialogue, which, according to them, translates to stakeholder engagement. This study, which has its foundations in Habermasian theory of ideal speech, proposes an instrumental view of stakeholder dialogue/engagement aimed at "determining a consensus set of stakeholder expectation[s]" (Unerman and Bennett 2004, p. 685) on the responsibilities of individual firms. The study predicts an ever increasing and significant role for Internet-based technologies in support of stakeholder-firm information exchange.

All these studies see the main contribution of ICT as being related to the possibility of *customizing* stakeholders' informational requests, to provide stakeholders with a unique locus for the exchange and comparison of information, to create a medium of continuous interaction and dialogue between organizations and their stakeholders and to organize societal mobilization against opaque organizations.

Transparency as an interactive process: justifications and perspectives

Our review of the literature shows that even within different contexts, the idea of transparency is always associated with

[5] For example, the toxic release inventory (TRI) program—established under the emergency planning and community right-to-know act (EPCRA) of 1986 as a response to the Bhopal disaster—produced an unexpected reduction in toxic chemicals released into the environment by firms (Fung et al. 2003). In other words, according to Fung et al. (2003, 2007), informational reporting of toxic chemicals emissions required by the US Congress, drove US firms to increase their self-regulation, i.e., to reduce their toxic emissions below existing legal requirements. According to the EPA, US firms reduced their total releases of listed chemicals by 45.5%, from 3.2 to 1.5 billion lbs, between 1988 and 1999 (Fung et al. 2003, 2007).

the disclosure and sharing of information. Two main perspectives in particular emerge from social science research. The first is associated with a static idea of transparency, where information disclosure is standardized and reported in official documents—such as the financial statements required by various government agencies, e.g., The US Securities and Exchange Commission Form 10-K. This type of disclosure is "telling" rather than "sharing", and the flow of information is *mainly* unidirectional—from the business organization to government regulators or their stakeholders, and any dissemination of additional information to the public requires formal, time- and energy-consuming negotiation between information seekers and the organization. Indeed, since this form of information sharing is based on formal and standardized processes, those stakeholders interested in receiving more detail have to contend with the inertia of corporate bureaucratic administrations and officers, deputed to manage the formal processes of disclosure of information on firms' activities to the public.

In contrast, several empirical studies in information ethics and public policy describe a dynamic transparency, in which ICT are deployed to maintain continuous interaction between organizations and their stakeholders. In this case, ICT, and especially Internet-based technologies (e.g., websites, online communities and forums, e-mail messaging and blogs) drive a new, effective form of stakeholder engagement by creating a (virtual) locus of information where the organization and its stakeholders can exchange, share and compare information and adapt its online behavior and electronic requests and queries to the answers and reactions of respective counterparts. These studies demonstrate that Internet-based tools can be exploited by corporations to leverage three main processes addressing three related objectives.

First, firms can create a *dynamic* set of virtual infomediaries (Sison 2001) that provide information customized to individual stakeholders, in order to guarantee they understand the information received. The description dynamic refers to the fact that these tools can be continuously modified in order to address stakeholders' informational requests and needs. Modifications may relate both to the content and to how the virtual infomediaries are designed to work. For example, customers may express a preference to receive information from the company through an online forum rather than via the traditional mailing list. In such cases the company would modify its information disclosure processes by privileging the online forum to address stakeholders' requests. It should be noted that virtual infomediaries can support effective information exchange between the company and its stakeholders and among stakeholders themselves (e.g., online customer communities).

Second, infomediaries can be used to create a marketplace where two-way information sharing leads to collaborations between the firm and its constituents. The term collaboration refers to the possibility to conduct not only information sharing, but also other kinds of initiatives such as the pro-environmental actions undertaken by electricity utilities in cooperation with their domestic customers (see, e.g., Guy and Simon 1996). These initiatives address stakeholders' expectations and concerns and support their direct involvement, thereby developing a collaborative marketplace.

Third, information and experience acquired in the development of the first and second processes can be used by companies to modify their business practices in order to become more transparent, accountable and socially responsible organizations. In other words, the information acquired enables them to be more ethical in their operations, human resource management, etc., by taking account of the CSR issues raised by stakeholders and by improving their transparency and social accountability.

These three means enable companies to be effective in guaranteeing stakeholders information liberty (see next section) and in assuming CSR. It can be argued that any kind of effective stakeholder engagement initiative requires that stakeholders receive all the information to which they have a right. The first process, characterizing dynamic transparency, provides the most extensive scheme of informational liberty for stakeholders through exploitation of the potentialities of Internet-based tools.

Our definition of dynamic transparency extends the scope of CSR[6] practices that focus on collaborative firm-stakeholder initiatives, e.g., Internet stakeholder dialogue (Unerman and Bennett 2004), whose objective is finding "a consensus set of social, environmental, economic and ethical responsibilities to be addressed" (Unerman and Bennett 2004), and stakeholder engagement (van Buren III 2001; Owen et al. 2001; Kaptein and van Tulder 2003), which is designed to use the information acquired from stakeholders in order to understand their social expectations (Owen et al. 2001; Kaptein and van Tulder 2003) and, in some cases, change firms' business practices according to stakeholders' requests (e.g., van Buren III 2001).

[6] Although the understanding of CSR varies across countries (Matten and Moon 2008), sectors, and over the time (Frederick 2006), consistent with recent literature (e.g., Crane et al. 2008; Crane and Matten 2008; Quaak et al. 2007), here we intend CSR as a set of clearly articulated policies and practices, implemented by a corporation, which reflect business responsibility for some of the wider social good (Matten and Moon 2008). In other words, we identify as a CSR action any policy and practice pursued by a company in order to address a social responsibility which is not imposed by the law and which is focused to support social well being. For example, if a firm decides to publicly disclose important information about its business activities, which is not required by the law, it is pursuing a CSR action. Indeed it is voluntarily addressing stakeholders' informational rights, which are important constituents of social goodness (Fung et al. 2007), and which are not imposed by the legislation.

The intention of dynamic transparency is primarily to guarantee the stakeholder's right to know by providing *customized* information and a locus for information exchange among stakeholders, and between the firm and its stakeholders. Moreover, it prescribes modification both of the information and *how* it is disclosed through the virtual infomediaries.

Ethical justifications for corporate dynamic transparency

There are several ethics-based arguments that would urge the implementation and practice of dynamic transparency by corporations. This section focuses on three of them. The first is based on John Rawls's (1971) thought experiment, which uses the idea of a "veil of ignorance" in social contract theory and attempts to define such principles as justice, liberty and equality. In Rawlsian fashion, it can be argued that behind the veil of ignorance or "original position" there are certain basic liberties to which all should have equal right (Rawls 1971, p. 136). It would be consistent with Rawls's theory that both sets of responsible economic actors, both individuals and firms, would respond to the impact of their activities on *all* other stakeholders. Indeed, anyone should have the right to know whether and how the activities of a firm will have consequences that affect his/her life. Such right to know is an example of a basic liberty in Rawlsian terms. For example, if a company's activities are causing emissions of toxic pollutants, justice would dictate the establishment of an individual's right to seek and request information on the potential harmful consequences of those emissions for his/her health. But, since standardized data cannot adequately address the requests of all stakeholders because it is impossible to accurately forecast the information requests of an individual stakeholder in our multi-religious and multi-cultural society, all economic agents, either individuals or firms, as part of their social contract obligations, have a duty to adopt dynamic transparency practices as a means to insure that all stakeholders will receive the information requested, which they justly deserve. Moreover, dynamic transparency allows any stakeholder to receive the information he/she needs without penalizing any other stakeholder. Thus, dynamic transparency addresses the requirements of Rawls's first principle of justice because it represents the most extensive scheme of equal basic *informational* liberty, which is compatible with a similar scheme of *informational* liberty for others.

The second argument that can be formulated to justify the corporate practice of dynamic transparency is utilitarian. Previous studies have shown that the higher the degree of transparency and possibility of open dialogue with the public, the higher is the stakeholder's conviction of the firm's ethicality (e.g., Williams 2005; Vaccaro and Madsen 2007, 2009; Cramer 2003). Such practices deepen the trust between a business and its stakeholders. It has been demonstrated that individuals generally report that they receive incomplete information about products and services (e.g., Markard and Holt 2003; Tapscott and Ticoll 2003) and, also, customers almost unanimously point to the need to have more information and more detail about effects on health, pricing and services, production processes and related impact on the market, etc. as a prerequisite for trustworthy firm-customer relationships (Markard and Holt 2003; Tapscott and Ticoll 2003). This demand for more information, which is deemed necessary for building trust, also has a positive impact on firms' sales. It has been demonstrated empirically that customer trust is an important driver of the individual's propensity to buy a firm's products or services (Eggert and Helm 2003) and enhances customer loyalty (Hartmann and Ibáñez 2007). Therefore, since dynamic transparency leads to the receipt of more complete information by customers, *ceteris paribus*, it should also operate to maintain the current customer base and add to it through the acquisition of new consumers unsatisfied by the comparatively inadequate information offered by competitors.

The third argument is based on the observation that dynamic transparency can spark off a succession of events that improve market ethicality. Indeed, the implementation and practice by a firm of dynamic transparency can be expected to stimulate greater dynamic transparency across the industry (Tapscott and Ticoll 2003; Vaccaro and Madsen 2006, 2007). The more that ethical firms disclose information and are appreciated by their customers for their good ethical standards, the more that badly behaving companies that fail to disclose information (or that take the risk of supplying inaccurate or misleading information) will lose the trust of their customers (DiPiazza and Eccles 2002; Tapscott and Ticoll 2003; Vaccaro and Madsen 2006, 2007). It can be hypothesized, therefore, that if one company implements dynamic transparency, competing companies will be pressed also to do so, or to make their businesses more ethical in order to eventually adopt the practice of dynamic transparency (Tapscott and Ticoll 2003; Vaccaro and Madsen 2006, 2007). While this hypothesis has not been empirically confirmed, there are some examples of the positive business benefits of dynamic transparency. For instance, Redfin, an online real estate brokerage company in the US, has adopted dynamic transparency to demonstrate to its customers that its business is not only more convenient, but also more ethical. It claims that its use of Internet-based tools differentiates it from traditional real estate brokerages. On its website it claims that:

> We use technology to empower consumers: traditional brokerages maintain high commissions by limiting consumers' access to information, ensuring their dependence on the agent. Redfin will always encourage you to consult our agents for advice, but we will also freely publish as much information to our website as we can. (Redfin 2008).

Glenn Kelman, CEO of Redfin, has established a blog in order to denounce the generally unethical behavior of the US real estate market—and especially the unjustifiably high commission percentages requested by many real estate agents—and to explain how his company is acting much more ethically (Darlin 2006; Thompson 2007). Moreover, Redfin allows its customers to share information by creating online communities and forums for discussion, and answers all requests for information on its business practices (Thompson 2007). Dynamic transparency has not only supported a dramatic increase in Redfin's success, but also is heralding changes in the real estate industry in the US, witnessed by the establishment of companies, such as ZipRealty and BuySideInc., that have successfully implemented Redfin's lower-than-industry agent commissions and its transparent attitudes and policies (Darlin 2006). Hence, dynamic transparency can be very beneficial to corporations when raised to the level of best business practice as at Redfin.

Limitations to dynamic transparency

There are at least four shortcomings associated with the implementation of dynamic transparency. First, using ICT as the only medium for its implementation raises the ethical issue of the "digital divide." If information disclosure and dialogue are conducted through ICT, and in particular through Internet-based technologies, those without a computer and an Internet connection, who are challenged by the complexity of technological change, or who have little time in their lives to learn about ICT tools, will not be able to interact with these firms, or with other (connected) stakeholders. The use of toll-free phone numbers is a partial solution to this problem, allowing "disconnected" stakeholders to call and ask for the information they require. This solution is partial because it still does not enable participation in any dialogue between connected stakeholders and the company, which is enabled through the corporate website, online communities and forums, and other Internet-based tools.

In parallel, there is a problem related to the electronic distribution of false information. The history of the Internet shows that some individuals—both intentionally and unintentionally—post erroneous information online and exploit the anonymity of the Internet to intentionally manipulate members of the public or public opinion (Dellarocas 2006). One such case is that of Whole Food's CEO, John Mackey, who has apologized for using an e-mail nickname and concealing his real identity in order to boast about Whole Foods' products while attacking its rival, Wild Oats Markets, on several websites (New York Times 2007). The widespread diffusion of false information can have a negative impact on a firm's reputation in the very short run. Indeed, if someone (e.g., a customer) fabricates information concerning a company's supposed immoral activities, the business of that company would be threatened because customers might react to the information by choosing to purchase the products or services of another firm. On the other hand, the experience of Wikipedia and other collaborative portals suggests that control mechanisms supporting information reliability are quickly discovered and implemented by users. In other words, when individuals collaborate to exchange information through the Internet, they also develop and implement procedures to guarantee the reliability of the information shared (Fung et al. 2007). For example, Wikipedia has developed a very detailed policy concerning the control of the reliability of information (e.g., http://en.wikipedia.org/wiki/Wikipedia:Verifiability): a user, who finds a document that seems to him/her to contain false information, can use the portal to ask other users to check the reliability of the document and eventually to have it deleted from Wikipedia. Such procedures have proven to be very effective. A study by Giles (2005) shows that the reliability of information available in the Wikipedia portal is statistically comparable with that of the *Encyclopedia Britannica*.

Therefore, there are two measures that companies can take to control the dissemination of inaccurate information about them. First, they can reply to false accusations by providing detailed information that more accurately portrays their activities. Second, companies can support their stakeholders in the development and implementation of control mechanisms, such as those activated at Wikipedia (e.g., triangulation with other sources of information or the creation of online forums to check the accuracy of new suspicious data) to actively verify the reliability of the information disclosed. This has the added impact of strengthening stakeholder relationships online.

Another important issue is related to the costs associated with the implementation of dynamic transparency. It could be argued that addressing continuous requests for information from stakeholders might lead to an explosion in the budgets of communications departments. Indeed, previous studies have revealed that direct involvement in transparency initiatives has dramatically raised information transaction costs for

government institutions. The studies cited here demonstrate that certain communication strategies can prevent the dramatic rise in communication costs, at least at firm level. For example, web pages with "Frequently Asked Questions" can reduce the amount of information directly requested by stakeholders from firms. By the same token, search engines in firms' website can allow stakeholders to find the information they need, and ensure that general website pages do not become overloaded with detailed information, which, in turn, might lead to stakeholders' experiencing what could be called "data asphyxia" (Vaccaro and Madsen 2007), rather than greater transparency.

A final problem related to the implementation of dynamic transparency concerns intellectual property rights (IPRs). Indeed, information disclosure decisions made by a firm should respect the IPRs of its employees, suppliers and other collaborators. This issue is particularly important when patents and other IPRs (e.g., copyright, trade secrets) can partially protect inventors due to the difficulty in obtaining intellectual property protection or due to the long lead times associated with these legal processes (see, e.g., Maskus 2000). For example, particular attention and precautions should be taken in the disclosure of information concerning any recent discoveries which are not already protected by patents. At the same time, companies should be extremely careful about protecting important bodies of knowledge developed in house that could be used by competitors. Recent empirical evidence shows that an important problem associated with ICT-driven transparency initiatives is competitors' imitation: Information disclosure can be beneficial for some stakeholders, but can be exploited by competitors to improve their competitive capabilities and reduce any competitive advantage of the disclosing firm. A policy solution to resolving this important issue is information and data aggregation (Vaccaro and Madsen 2009).

Conclusion

Based on recent research conducted within the public policy and the information and computer ethics literature, this paper has proposed a new conceptualization of corporate transparency as an ICT-driven, dynamic process of dialogue and co-evolution between a firm and its socio-economic environment. Three ethics-based arguments have been proposed to justify the implementation of dynamic transparency by business firms and to recommend this as part of their CSR and to augment and complement their efforts at successful stakeholder engagement and stakeholder dialogue. Future work is needed to demonstrate how far-reaching is this practice of dynamic transparency with respect to its transformative powers on business and society, and the ethical issues faced by organizations in the implementation of this new informational practice.

References

Akerlof, G. A. (1970). The market for 'Lemons': Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics, 84*(3), 488–500.

Audi, R. (2008). Some dimensions of trust in business practices: From financial and product representation to licensure and voting. *Journal of Business Ethics, 80*(1), 97–102.

Bushman, R., Piotroski, J., & Smith, A. J. (2004). What determines corporate transparency? *Journal of Accounting Research, 42*(2), 207–252.

Bushman, R., & Smith, A. J. (2003). Transparency, financial accounting information, and corporate governance. *Economic Policy Review, 9*(1), 65–87.

Capurro, R. (2005). Privacy. An intercultural perspective. *Ethics and Information Technology, 7*(1), 37–47.

Cramer, J. (2003). *Learning about corporate social responsibility: The Dutch experience, national initiative for sustainable development (NIDO)*. Amsterdam: IOS Press.

Crane, A., & Matten, D. (2008). *Business ethics*. USA: Oxford University Press.

Crane, A., McWilliams, A., Matten, D., Moon, J., & Siegel, D. (2008). *The Oxford handbook of corporate social responsibility*. USA: Oxford University Press.

Dando, N., & Swift, T. (2003). Transparency and assurance: Minding the credibility gap. *Journal of Business Ethics, 44*(2–3), 195–200.

Darlin, D. (2006) The last stand of the "6-percenters?", *The New York Times*, September 3, p. 15.

Dellarocas, C. (2006). Strategic manipulation of internet opinion forums: Implications for consumers and firms. *Management Science, 52*(10), 1577–1593.

DiPiazza, S. A., & Eccles, R. G. (2002). *Building public trust: The future of corporate reporting*. New York: Wiley.

Eggert, A., & Helm, S. (2003). Exploring the impact of relationship transparency on business relationship- a cross sectional study among purchasing managers in Germany. *Industrial Marketing Management, 32*(2), 101–108.

Espinosa-Pizke, M. (1999). Business ethics and accounting information. An analysis of the Spanish code of best practice. *Journal of Business Ethics, 22*(3), 249–259.

Fleischmann, K. R., & Wallace, W. A. (2005). A covenant with transparency: Opening the black box of models. *Communications of the ACM, 48*(5), 93–97.

Frederick, W. (2006). *Corporation, be good! the story of corporate social responsibility*. Dog Ear Publishing, Inc: Indianapolis.

Fung, A., Graham, M., Weil, D. (2003). *The political economy of transparency: What makes disclosure policies sustainable.* Ash Institute for democratic governance and innovation, Kennedy School of Government, Harvard University, OPS-02-03.

Fung, A., Graham, M., & Weil, D. (2007). *Full disclosure: The perils and promise of transparency*. Cambridge: Cambridge University Press.

Fung, A., Graham, M., Weil, D., Fagotto E. (2004a). *Transparency policies: Two possible futures*. Alfred Taubman center for state and local government, Kennedy School of Government, Harvard University. Taubman Policy Brief PB-2007-1.

Fung, A., Graham, M., Weil, D., Fagotto, E. (2004b). *The political economy of transparency: What makes disclosure policies effective?*. Ash Institute for democratic governance and innovation, Kennedy School of Government, Harvard University, OPS-03-04.

Gemmill, G. (1996). Transparency and liquidity: A study of block trades on the london stock exchange under different publication rules. *Journal of Finance, 51*(5), 1765–1790.

Giles, J. (2005). Special report: Internet encyclopedias go head to head. *Nature, 438*, 900–901.

Gray, R. (2001). Thirty years of social accounting, reporting and auditing: What (if anything) have we learnt? *Business Ethics: A European Review, 10*(1), 9–15.

Guy, S., & Simon, M. (1996). Transforming urban infrastructure provision—The emerging logic of demand side management. *Policy Studies, 17*(2), 137–147.

Hartmann, P., & Ibáñez, V. A. (2007). Managing customer loyalty in liberalized residential energy markets: The impact of energy branding". *Energy Policy, 35*, 2661–2672.

Henriques, A. (2001). Civil society and social auditing. *Business Ethics: A European Review, 10*, 40–44.

Hess, D. (2007). Social reporting and new governance regulation: The prospects of achieving corporate accountability through transparency. *Business Ethics Quarterly, 17*(3), 453–476.

Johnson, D., & Mulvey, J. M. (1995). Accountability and computer decision systems. *Communications of the ACM, 38*(12), 58–64.

Jonker, B., & Ziekemeyer, M. (2005). Wake up call—human resource management (HRM): An orientation on company models anticipating ageing. *International Congress Series, 1280*, 371–376.

Kaptein, M. (2004). Business codes of multinational firms: What do they say? *Journal of Business Ethics, 50*(1), 13–31.

Kaptein, M., & Van Tulder, R. (2003). Toward effective stakeholder dialogue. *Business and Society Review, 108*(2), 203–224.

Leet, E. H., & Wallace, W. A. (1994). Society's role in the ethics of modeling". In W. A. Wallace (Ed.), *Ethics in modeling*. Tarrytown, NY: Elsevier.

Lennerfors, T. T. (2007). The transformation of transparency–on the act on public procurement and the right to appeal in the context of the war on corruption. *Journal of Business Ethics, 73*(4), 381–390.

Markard, J., & Holt, E. (2003). Disclosure of electricity products—lessons from consumer research as guidance for energy policy. *Energy Policy, 31*(14), 1459–1474.

Maskus, K. E. (2000). *Intellectual property rights in the global economy*. Washington: Institute for International Economics.

Mathews, M. R. (1995). Social and environmental accounting: A practical demonstration of ethical concern? *Journal of Business Ethics, 14*(8), 663–671.

Matten, D., & Moon, J. (2008). "Implicit" and "Explicit" CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review, 33*(2), 404–424.

New York Times (2007). *Whole Foods Chief Apologizes for Posts*. Last access, October 11, 2007, from http://www.nytimes.com/2007/07/18/business/18whole.html?partner=rssnyt&emc=rss.

Online Etymological Dictionary (2007). Last access December 18, 2007, from http://www.etymonline.com/index.php?search=transparent&searchmode=none.

Owen, D. L., & Swift, T. (2001). Introduction: Social accounting, reporting and auditing: Beyond the rhetoric. *Business Ethics: A European Review, 10*, 4–8.

Owen, D. L., Swift, T., Humphrey, T. C., & Bowerman, M. (2000). The new social audits: Accountability, managerial capture or the agenda of social champions? *European Accounting Review, 9*(1), 81–99.

Owen, D. L., Swift, T., & Hunt, K. (2001). Questioning the role of stakeholder engagement in social and ethical accounting, auditing and reporting. *Accounting Forum, 25*(3), 264–282.

Pagano, B. (2004). *The transparency edge*. New York: Mc Graw-Hill.

Quaak, L., Theo, A., & John, G. (2007). Transparency of corporate social responsibility in Dutch breweries. *Journal of Business Ethics, 76*(3), 293–308.

Rawls, J. (1971). *A Theory of Justice*. Cambridge, MA: The Belknap press of Harvard university press.

Redfin (2008). *How We're Different*. Last access on January 6, 2008, from http://www.redfin.com/stingray/do/how_different.

Schwartz, J. (2007). *Transparency lost in the fog, The New York Times*. Last access July 27, 2007, available at the http://www.nytimes.com/2007/04/08/business/yourmoney/08fog.html?ex=1333684800&en=4bb6b8922af61b02&ei=5088&partner=rssnyt&emc=rss.

Sison, A. J. G. (2001). Infomediarios: Campo de acción y valor (Infomediaries: Field of Action and Value) Iniciativa emprendedora y empresa familiar (Barcelona: Ediciones Deusto, S.A.), 27 (March-April), 24–28.

Soh, C., Markus, M. L., & Huat Goh, K. (2006). Electronic marketplaces and price transparency: Strategy, information technology, and success. *MIS quarterly, 30*(2), 705–723.

Tanimoto, K., & Suzuki, K. (2005). *Corporate social responsibility in Japan: Analysing the participating companies in global reporting initiative*. Working Paper No. 208 Stockholm School of Economics, Sweden.

Tapscott, D., & Ticoll, D. (2003). *The naked corporation*. New York: Free Press.

Thompson, C. (2007). *The see through CEO. Wired, 15(04)*. Last visit July 28, 2007, available at the http://www.wired.com/wired/archive/15.04/wired40_ceo.html.

Turilli, M., & Floridi, L. (2008). The ethics of information transparency. In A. Vaccaro, P. Madsen, & H. Horta (Eds.), *Transparency and information and communication technologies: Social responsibility and accountability in business and education*. Charlottesville, VA: Philosophical Documentation Center.

Unerman, J., & Bennett, M. (2004). Increased stakeholder dialogue and the internet: Towards greater corporate accountability or reinforcing capitalist hegemony? *Accounting, Organizations and Society, 29*(7), 685–707.

Vaccaro, A. (2006). Privacy, security and transparency: ICT-related ethical perspectives and contrasts in contemporary firms. In D. Howcroft, E. Trauth, & J. DeGross (Eds.), *Social inclusion: Societal and organizational implications for information systems*. New York: Springer.

Vaccaro, A., & Madsen, P. (2006). Firms' information transparency: Ethical questions in the information age. In J. Berleur (Ed.), *Social informatics: An information society for all?*. New York: Springer.

Vaccaro, A., & Madsen, P. (2007). ICT. Non governmental organizations and transparency: Ethical concerns and perspectives. *Proceedings of CEPE, 2007*, 410–417.

Vaccaro, A. & Madsen, P. (2009). *ICT and an NGO: Difficulties in attempting to be extremely transparent*. Forthcoming in Ethics and Information Technology. doi 10.1007/s10676-009-9180-3 (online first).

Vaccaro, A., Madsen, P., & Horta, H. (2008). *Transparency and information and communication technologies: Social responsibility and accountability in business and education*. Charlottesville, VA: Philosophy Documentation Center.

Van Buren III, H. J. (2001). If fairness is the problem, is consent the solution? integrating ISCT and stakeholder theory. *Business Ethics Quarterly, 11*(3), 481–499.

Waddock, S. (2004). Creating corporate accountability: Foundational principles to make corporate citizenship real. *Journal of Business Ethics, 50*(4), 313–327.

Weil, D., Fung, A., Graham, M., & Fagotto, E. (2006). The effectiveness of regulatory disclosure policies. *Journal of Policy Analysis and Management, 25*(1), 155–181.

Williams, C. C. (2005). Trust diffusion: The effect of interpersonal trust on structure, function, and organizational transparency. *Business & Society, 44*(3), 357–368.