A photograph of the Flinders Street Station in Melbourne, Australia, featuring its iconic clock tower and arched entrance. The building is a grand, ornate structure with a large central dome and multiple smaller domes. The entrance is a large archway with the words 'FLINDERS STREET STATION' above it. People are seen walking on the sidewalk in front of the station. The sky is clear and blue.

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Editorial

This is the first issue of Volume 6 of the *Journal of Business Systems, Governance and Ethics*.

The first article in this issue: *The Governance of Open Source Software Communities: An Exploratory Analysis* by Ivan De Noni, Andrea Ganzaroli and Luigi Orsi from Italy investigates the nature of the relationships between dimensions of governance in Open Source (OS) communities, which a recent review has highlighted as critical. The results are based on a comparative analysis of 40 OS projects contained in the Freshmeat dataset and the findings show that OS governance is configurational. Those configurations are defined along two dimensions: leadership and decision-making distribution, and reciprocity of the appropriability regime.

The next article: *Control of Shareholders' Wealth Maximization in Nigeria* is by Oladipupo, A.O. and okafor, C.O. from Nigeria. The research described in this article focuses on who controls shareholder's wealth maximization and how does this affect firm's performance in publicly quoted non-financial companies in Nigeria. The data used for this study were obtained from the Nigerian Stock Exchange fact book and the annual reports of the six sampled companies from Food/ Beverages and tobacco sub-sector for twenty years (1986-2005) to constitute pooled data of 120 observations. The results show that turnover and retained earnings are of more significance in the control of shareholders wealth than the dividend payment.

Next comes an article by Terence J. Centner from the USA entitled: *Have US Legislatures Fully Considered Causal Factors in Assigning Liability for Inherent Risk Accidents?* The author notes that the public's dissatisfaction with American tort rules has led US state legislatures to enact more than 120 statutes for assigning liability for accident losses, many of these addressing liability of accidents involving inherent risks of activities where neither the activity provider nor injured participant was negligent. Factors causing incorrect liability results may be compared to offer a recommendation for a liability regime for inherent risk accidents.

The final article: *Corporate Governance Reforms in Nigeria: Challenges and Suggested Solutions*, is by Ayodele Adelaja Adekoya from Yanbu Industrial College, Saudi Arabia. This article sets out to examine the challenges to corporate governance reforms in Nigeria from the promulgation of the Corporate and Allied Matters Act of 1990, the introduction of the 2003 Security and Exchange Commission (SEC) code of best practices in corporate governance to the 2006 Central Bank of Nigeria(CBN) code of corporate governance for banks in Nigeria. The article notes that some of the challenges to corporate governance reforms in Nigeria stem from the country's culture of institutionalised corruption and political patronage which is characterised by weak regulatory frameworks and refusal of government agencies to enforce and monitor compliance.

Arthur Tatnall
Editor

The Governance of Open Source Software Communities: An Exploratory Analysis

Ivan De Noni and Andrea Ganzaroli

University of Milan, Italy

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University of Padua, Italy

Abstract

In this paper, we investigate the nature of the relationships between dimensions of governance in Open Source (OS) communities. A recent review highlighted this issue as critical. Furthermore, this issue has been recognized as strategic for managing the trade-off between innovation and standardization, the capacity of firms to profit from their investment in open source, and the sustainability of OS projects. Our results are based on a comparative analysis of 40 OS projects contained in the Freshmeat dataset. For each project, we collected data on the governance solutions implemented. Governance mechanisms have been ranked for their degree of openness. Our findings show that OS governance is configurational. Those configurations are defined along two dimensions: leadership and decision-making distribution, and reciprocity of the appropriability regime. Four configurations are indeed defined: open source, sponsored, reciprocity-based, and tolerant dictatorship. Those configurations have been defined based on an exploratory factor analysis.

Keywords

OSS Governance, Open Source Software, Community Management, Design of Participation Architecture

Introduction

Scholars have become increasingly aware of the need to specify the type of governance in an Open Source Software (OSS) project (O'Mahony 2007). Governance, according to Williamson (1999), is “a means by which to infuse *order* in a relation where potential *conflict* threatens to undo or upset opportunities to realize *mutual gains*.”

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Governance structure is defined as the implicit or explicit contractual framework within which a transaction is located. In OS communities, the licensing agreement is the contractual framework. Its main characteristic is to bound the efficiency of private appropriation as a means of incentive, coordination, and control (e.g., Damil and Lecocq 2006). OS governance

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can be defined as the means of achieving the direction, control, and coordination of wholly or partially autonomous individuals and organizations on behalf of the OSS development project to which they jointly contribute (Markus 2007). In this perspective, in a recent review of the literature, Markus (2007) argued the need for deepening our understanding of the relationships between governance dimensions. Are those dimensions independent, or is OS governance reducible to a small number of configurations? If OS governance is reducible to a limited set of configurations, do those have an impact on the efficiency and/or effectiveness of these communities? Those are the main questions to which this paper attempts to provide an answer.

Following Markus (2007), in the existing literature three main perspectives are identifiable. The first, monolithic, suggests that OS governance is an integrated and self-coherent system of coordination and control. Furthermore, this model of governance is an alternative to the market, hierarchy, and networks (Demil & Lecocq 2006). In the second, multidimensional, governance is the result of multiple equilibriums. Therefore, almost an infinite number of governance solutions can be implemented. Finally, in the third OS, governance is defined as configurational (e.g., West & O'Mahony 2008; West 2003; O'Mahony & West 2005; von Hippel & von Krogh 2003). There is a strong correlation between governance dimensions. Therefore, only a limited number of solutions can be set up. Furthermore, according to this perspective, in those configurations elements of the market and of the hierarchy are mixed together.

Among those who see governance as configurational, a distinction is made between community managed and sponsored (O'Mahony 2003; O'Mahony 2007; West & O'Mahony 2008). The first term characterizes projects whose governance is independent from the influence of a single company or a coalition of companies (West & O'Mahony 2008; West 2003; O'Mahony & West 2005; von Hippel & von Krogh 2003; Shah 2006). The second, differently, defines communities where governance is largely controlled by a single firm or a coalition of firms. Those two configurations are often defined as the opposite ends of a single continuum (O'Mahony 2003; O'Mahony 2007; O'Mahony & Ferraro 2007; West & O'Mahony 2008; Shah 2006a). Thus, governance dimensions are considered to form a single bundle, and governance is the trade-off between two contradictory objectives (West & O'Mahony 2008; O'Mahony & West 2005; Shah 2006a). The first is to stimulate participation and innovation through openness and appropriability. The second is to secure profitability and/or compatibility by retaining some degree of control over the source code development.

Our analysis is based on a sample of 40 case studies of OS projects. These cases have been extracted from the Freshmeat dataset. The cases have been sampled randomly from the dataset, taking into account the type of project, the vitality score, and the number of registered users. For each project in the sample, data about the governance have been collected according to the dimensions of governance proposed by West and O'Mahony (2008). However, this model provides us only a term of reference to conduct a comparison of those projects. Data have been collected by visiting the website of the project and, if not sufficient, by sending an e-mail to the project leader. We conducted a correlation analysis to verify whether those dimensions were correlated. This analysis confirms that OS governance is configurational. Therefore, an exploratory factor analysis with only one factor has been developed to test whether these dimensions could be reduced to a single continuum. The resulting model is structurally sound. However, a group of three variables is not explained by the model. Therefore, we conducted a second exploratory factor analysis with two factors. The second model is also robust. Therefore, OS governance is reducible to two latent factors: leadership and decision-making distribution, and reciprocity of the appropriation regime. The intersection between these two dimensions defines four OS governance configurations: open source, sponsored, reciprocity-based, and tolerant dictatorship. Furthermore, to explore whether those configurations might have some implications in terms of a community's performance, we conducted an ANOVA¹ with respect to the vitality score and the vitality score calculated on the major releases. In both cases, the configuration results are statistically significant.

¹ Analysis of Variance: in its simplest form, ANOVA provides a statistical test of whether the means of several groups are all equal.

The structure of the paper is the following. In the next section, we address the concept of OS governance. We focus on two major aspects. The first is the purpose of OS governance. We argue that the main purpose of OS governance is to leverage participation and contribution. The second is whether and how the objective of governance changes over time. From this second point of view, we argue that the set of resources required for an OS project to succeed changes over time. Therefore, the objective of OS governance is expected to change compatibly. In section 4, we analyze the specific dimensions of OS governance. Sections 5 and 6 are devoted to methodology and data analysis, respectively. Results are discussed in section 7. Finally, section 8 is devoted to concluding remarks and further research.

The Purpose of OS Governance

Although OS governance is a rather recent issue in the literature, identifying some differences in the way this category is conceptualized is already possible (Markus 2007).

The first difference is in the purpose assigned to OS governance. Contributions, from this perspective, can be divided into three categories. The first category refers to those who believe that the main purpose of OS governance is to solve collective action dilemmas (e.g., Demil & Lecocq 2006; Franck & Jungwirth 2003; Bonaccorsi & Rossi 2003; Rossi & Bonaccorsi 2005; Osterloh & Rota 2007). Those who subscribe to this view tend to focus more on the lack of private incentives and on the way this lack is overcome in those communities. Differently, those who believe that the main purpose of OS governance is to sustain coordination and control highlight the lack of hierarchical power due to the voluntary nature of participation and, in contrast, the specific coordination mechanisms set up by these communities to secure the quality of the collective good produced (Lee & Cole 2003; Kogut & Metiu 2001; Crowston 1997; Scacchi 2004). Finally, a third perspective refers to those who believe that OS governance serves to create a better climate for contributors (Shah 2006a; West & O'Mahony 2008; Baldwin & Clark 2003). Those who subscribe to this latest perspective argue that governance does not have only a passive role. Governance is not only a solution to an existing problem but is also strategic for the type or resources attracted and the quality of the social relationships prevailing in a community.

In this paper, we subscribe to the third perspective. Therefore, we assume that the purpose of OS governance is not only to support collective action or to secure the quality of the collective good produced but also to secure a sufficient supply of people to sustain development and innovation. The basic idea behind this view is that the capacity of a community to attract and retain people willing to collaborate on development depends on the quality of the social atmosphere and indeed of the social relationships prevailing in the community. The hypothesis is that people, if they can choose, prefer to work in a workplace that corresponds to their interests, attitudes, and competencies. In the case of OS, this hypothesis is even more justified because most people are not obliged to participate in an OS project but choose to participate² (e.g., Raymond 1999; Bonaccorsi & Rossi 2003). However, their question is not so much whether they want to participate in an OS project but in which one they want to participate (Markus 2007). Furthermore, people are not even obliged to remain on a project. The costs of switching from one community to another are low. Therefore, if people are dissatisfied with their experience of being part of a given community, they will choose another community or, at worst, definitively leave the OS movement.

If we assume that OS governance is strategic for the quality of the people attracted and retained in a community, the focus is no longer on OS governance per se and how this is different from other forms of governance, but also on the differences existing among alternative solutions/configurations of OS governance and how those differences impact the decision to participate in an OS community.

Extensive literature addresses participants' motivations for participating in an OS community (Bonaccorsi & Rossi 2003; Rossi & Bonaccorsi 2005; Lerner & Tirole 2000; Franck & Jungwirth

² Someone could argue that a number of employees are obliged to work for an OS project. This is true. However, the labor market in the software industry is very competitive. Therefore, someone who is not willing to work for an OS company can relatively easily change jobs. Furthermore, empirical analysis shows that most people participate in OS projects to enhance their career opportunities.

2003; Shah 2006a; Lakhani & von Hippel 2003; Feller & Fitzgerald 2002). It is not an objective of this paper to discuss this topic in-depth. Otherwise, we simply summarize those arguments useful to our scope. First, there is a distinction among three categories of motivations: economic, social, and technological (Feller & Fitzgerald 2002). Economic reasons are traced back to a classical cost-benefit framework. Social motivations are often tied to the hacker culture that originally inspired the free/open source software development. Finally, technological motivations are tied to the opportunity to learn from others' contributions and feedback. These categories are applicable to individuals and firms. However, the content changes accordingly to the type of actor considered (Feller & Fitzgerald 2002; Rossi & Bonaccorsi 2005; Bonaccorsi & Rossi 2003; Dahlander & Magnusson 2005). Economically speaking, individuals are motivated by monetary rewards, low opportunity costs, and gaining a reputation among peers for future career benefits. Differently, firms are motivated by being independent of the price and license policies of the large software companies, making money on complementary services or products, and hiring good IT specialists. Individuals' social motivations are the fun of programming, altruism and gift economy, sense of belonging, and fighting against proprietary software. Firms, from this perspective, tend to conform to the values of the hacker culture either to reciprocate or not dislike the other members of the community. However, a number of firms behave parasitically. Finally, from a technological point of view, individuals are motivated by the opportunity to learn, to contribute and receive feedback, to work with leading-edge technology, and to follow a personal compulsion. Firms, differently, are more motivated by exploiting feedback in terms of cost reduction and innovation, diffusion and win adoption, and promotion of standardization.

However, to design a governance architecture capable of enhancing the capacity of a community to attract and retain qualified people, knowing that people and individuals participate for multiple and different reasons is not sufficient. It is also necessary to know how those attitudes translate into preferences in terms of community environment and to what extent these preferences are compatible with each other.

From this perspective, Franck and Jungwirth (2003) proposed to distinguish participants in two groups: rent-seeker and donators. Rent-seekers are mainly motivated by economic reasons. Donators, on the contrary, are more driven by social/idealistic motivations, such as contributing for free to the production of a collective good. Therefore, donators do not expect to receive anything in exchange for their contributions. According to those authors, the basic institutional innovation in OS has been the crafting of a governance structure, which enables rent-seeking without crowding out donations. The core of the authors' argument lies in the peculiar nature of free/open source software licenses. These licenses safeguard the value of the software's reputation and, therefore, the investments made by rent-seekers in the community. In addition, these licenses secure donators such that nobody can turn donations into private profit before they have contributed to the production of the public good. The objective of these licenses is not to prevent rent-seekers from making money out of donatives' resources, but to buy this right by contributing to the development of the public good.

This scenario, according to our perspective, is oversimplified. It assumes that those who are motivated by technological reasons do not display any preferences in terms of work environment (Feller & Fitzgerald 2002; Bonaccorsi & Rossi 2003; Rossi & Bonaccorsi 2005; Dahlander & Magnusson 2005). However, this is not the case. Their motivation to participate is tied to the opportunity to learn and experience leading-edge technologies. Therefore, it is unlikely that these people are going to be attracted by communities that are more oriented toward efficiency, standardization, and diffusion. Furthermore, these people value their freedom to create more (Florida 2002). Therefore, they prefer to work in contexts that are open and where they do not have to ask for permission. Finally, they tend to be ego-centric. Therefore, they prefer a workplace where their cleverness can be displayed and appreciated. Thus, their profile is not equal to that of rent-seekers, who are more concerned with their profit opportunities, and that of donators, who are more concerned with the public nature of the source code. However, those who are driven by technological reasons are often critical for overcoming the initial phases in the development of a collective good.

Nonetheless, this perspective does not consider that firms can also be motivated by different reasons to participate depending on the firm's specific business model. From this, Dahlander and Magnusson (2005) distinguish among three approaches: symbiotic, commensalistic, and parasitic. Parasitic firms

exploit collective resources while avoiding, as far as possible, conflict with the community. Commensalistic firms also exploit collective resources. However, these firms try to gain acceptance from the community for using its resources in commercial applications. Symbiotic firms build up a win-win relationship with the community. These firms not only respect the rule of the communities but also are involved in their development. Therefore, these firms share their code and infrastructures with the community. However, these firms' behavioral attitude toward the communities will depend on the firms' business model. From this perspective, West and Gallagher (2006) distinguish between four OS business models: pooled R&D/product development, spinouts, selling complements, and donating complements. Only when the business model is based on the selling of complements might there be tension between firms and communities. Furthermore, the degree of this tension depends on the kind of complements the firms sell. If the business model is service-oriented, then this tension will be lower than when the source code is integrated into a commercial software application.

Managing the Trade-Off between Incentives

In the previous section, we argued that the main purpose of OS governance is to attract and retain an adequate combination of people, firms, and resources. Furthermore, we also suggest that people respond differently to different types of incentives and work environments. Therefore, someone might be more concerned about the risk that his or her contribution is exploited for economic purposes. Others are more concerned with the type of technology they are using and their freedom to create. Finally, others participate because the company they are working for asks them to do it. The main problem is that the success of an OS community depends on the contributions of all these people and the appropriate combination of these people changes with time. Therefore, the setup of a governance structure should take into account all these needs at the same time and how those evolve with time.

Managing the trade-off between incentives: static analysis

Bonaccorsi and Rossi (2003), from this perspective, have highlighted participants' heterogeneity as strategic for the success of an OS community. This enables a more efficient allocation of tasks and the initial phases of the supply of a collective good to be overcome. In OS communities, due to the lack of hierarchical power, tasks are not centrally allocated but self-selected by each participant according to his or her interests and competencies. Therefore, a wider range of interests and competencies secures that a larger number of tasks will be selected and accomplished. This is particularly relevant in the case of what Bonaccorsi and Rossi define as "non-sexy" activities. Those activities are not attractive to skilled developers. However, these activities, whose development does not require advanced skill, are critical for the functionality, usability, and diffusion of a technology. Therefore, they may be attractive either to skilled users or developers employed by firms to contribute to OS development. Therefore, OS governance should secure an appropriate degree of heterogeneity to optimize the efficiency of the development process.

Managing the trade-off between incentives: a life cycle perspective

Second, the quality of this trade-off should change over time. From this second perspective, Bonaccorsi and Rossi highlight how the evolution of an OS project can be characterized in three phases: invention, innovation, and diffusion. In the invention phase, the main problem to overcome is that of bringing together a small group of strongly motivated and resourceful developers capable of producing a collective good without the cooperation of others. In this phase, therefore, governance should provide participants with the opportunity to learn and share knowledge in the leading-edge context of technological development. In the innovation phase, the work of this initial group has to be complemented by the work of a second and larger group that focuses more on enhancing technological efficiency and usability. In this phase, therefore, governance should extend its portfolio of incentives in order to attract leading users and firms. In this phase, the bifurcation of the release process in stable and unstable, and the two-tier structures, highlighted by Lee and Cole (2003), enables the community to stimulate the cooperation between the two groups, keeping, at the same time, separated the sets of incentives in place. Finally, in the diffusion phase, a great role is played by firms that can leverage their distribution networks to enhance distribution. Therefore, governance, in this third phase, should

be more oriented toward supplying incentives to firms. This may lead part of the participants to the first group to leave the community because of their commitment to free information accessibility. However, this may happen in any case because the project is no longer technologically challenging. An evolutionary perspective of OS governance is compatible with more recent contributions explaining how OS governance emerged in OS communities (O'Mahony & Ferraro 2007; de Laat 2007).

Dimensions of OSS Governance

So far, we have argued that OS governance is ever more critical in shaping the capacity of a community to attract the appropriate combination of resources required over time, securing development efficiency, effectiveness, and innovation. However, we have not yet addressed the portfolio of mechanisms available and how those impact the attractiveness of those communities with respect to the different targeted resources. We will develop a comparative analysis of a panel of OS communities in order to understand if there is a correlation between the governance mechanisms adopted and whether those mechanisms are combined together according to a specific configuration. Therefore, our focus is not on the factors affecting the decision to participate in an OS project but on which OS projects participate. Only a few contributions have addressed this specific question. However, most have focused on the mechanisms either open source communities have used to safeguard their community-model or sponsors have implemented to open up their business model and retain some degree of control of the development process. In so doing, however, these authors take a specific stance, either that of the community or that of the sponsor. Our objective is different. We do not want to take ex-ante a specific stance, but to understand, ex-post, whether there are differences in the way those mechanisms are configured. Therefore, in this section we limit ourselves to developing a list of those mechanisms and ranking them according to their degree of openness.

In the literature, two models can be applied to develop such a comparative analysis. The first is Markus's (2007) model. This is the result of an extensive literature review. The model defines the main dimensions of OS governance discussed in the literature. The second is West and O'Mahony's (2008) model. This is the result of a long series of works empirically exploring the differences between sponsored and community managed projects. The two models, in our research, are not so different. Markus considers two additional dimensions: communication media and conflict resolution. However, we decided not to consider these two dimensions. The first because the communication media used in those communities are similar. This argument would not apply to communication processes and conventions. However, mapping those differences in a comparative model is difficult and incompatible with the attempt to consider a large sample of projects. The second because communities use many methods to settle conflict. Therefore, ranking those processes in terms of openness and transparency is not always possible. Part of this aspect is contained in the way decisions are made in the community. However, we do not apply West and O'Mahony's model. In their model, in fact, governance dimensions are already bundled together as a way to characterize the distinction between community versus sponsored managed OS projects.

The most important instrument in the governance structure of open source projects is the licensing agreement (e.g., Demil & Lecocq 2006; Franck & Jungwirth 2003). Many different licenses are defined OS. However, to be recognized as such, those agreements should satisfy the ten requirements of the OSI (Open Source Initiative) definition. For the matter of governance, licensing agreements are often categorized in two broad categories: viral/free and permissive/open (e.g., Bonaccorsi & Rossi 2003). Viral code is defined as such because it "infects" the source code with which it comes in contact. This means that if a piece of private code is integrated with a piece of free code, the first has to be made freely available. Free licenses are designed to achieve two major objectives. The first is to prevent somebody from conditioning, ex-post, development by claiming property rights on the part of the source code. The second is to extend the knowledge-sharing base. Free licenses, however, are largely incompatible with the participation of firms, which may want to maintain some degree of control of their internal development and source code. Therefore, open source licenses, which do not oblige users to share their own source code, propose a more pragmatic approach. However, the value of collective contributions and individual reputations is often safeguarded by forcing users to quote

original developers and preventing, if not agreed otherwise, the use of any trademark or brand associated with the original community for marketing purposes (O'Mahony 2003). Therefore, these licenses enable firms to make commercial use of open source code in an exchange of credit and reputation. Furthermore, the licenses provide users with incentives to negotiate the users' participation in the community in terms of human, material, and financial resources to get access to the communities' brand names and reputation. A third licensing strategy is often used by companies to stimulate external collaboration. This is named dual licensing and consists of making a distinction between commercial and non-commercial users. Commercial users are required to pay a fee to get access to the source code. Conversely, the source code is freely available for non-commercial purposes. The variable licenses are treated as follows. We distinguish among four license categories: recursive/viral, partially recursive, permissive, or pragmatic, dual. Viral licenses have been defined as the most open and the dual licensing scheme as the most closed. A second governance arrangement that has received growing attention in the literature is the institutionalization of non-profit foundations (O'Mahony 2003). These foundations were originally institutionalized to strengthen the capacity of the OS community to secure future accessibility to the source code. Therefore, they have been entrusted mainly with a legal mission. Few, however, have evolved to the next stage, where they are deeply involved in the governance and management of the communities. For instance, part of the mission of the GNOME³ foundation is to set up common standards and guidelines for the development process and for selecting contributions, to manage the release process, and to negotiate commercial agreements with external parties. In these few cases, the institutionalization of a non-profit foundation responds not only to the need to secure property rights but also to institutionalize the original business model. However, non-profit foundations, such as Mozilla and Qt, have been prompted by sponsoring firms. But they were moved by a different purpose, that is, to strengthen their commitment to supply open accessibility to the source code in the future. Therefore, source code ownership is often transferred to those foundations. However, this does not mean that neither management of the project nor control of the source code is shared with the community. This depends on how decision-making rights are distributed in the community (see below). Therefore, we distinguish among three states. The highest rank of openness has been attributed to a community governed by a foundation. The rationale is that those foundations reflect an attempt to make openness and accessibility institutional. The lowest rank, conversely, has been attributed to communities that are still governed by an informal leader.

Decision-making rights have been distributed in the community in different ways. Open source licenses grant owners with the exclusive right to decide on the authenticity of the source code. Therefore, legally speaking, they are the only ones who can decide which functionalities and lines of code should be included in each software release. However, to make sure that the community is going to collaborate in the future, owners are required to negotiate and share the content of this decision (West & O'Mahony 2008). Owners implement different strategies to structure and coordinate this negotiation, such as dealing directly with the community or institutionalizing roles that are entrusted with the power to decide. If the latter is the case, the question is to what extent those roles are collective, and who can be appointed to perform those roles and how. In our model, we focused on two roles: project leadership and release authority. The highest rank has been assigned to collective authorities democratically elected. The rationale is that the more those authorities are open and accessible, the more people trust the authorities and are willing to participate and collaborate. Related to decision making, there is the issue of membership. Members, in fact, are often entrusted with the power to directly make changes in the source code in the community repository. However, membership is often a precondition for being elected to an institutional role in the community. Therefore, the rules governing membership are critical for understanding to what extent leadership is accessible. The highest rank of openness has been attributed to communities where the rules for becoming a member are formalized and membership is individual. Formalization has been evaluated positively because it enables potential participants to evaluate and verify the respect of those rules.

³ (Abbreviation of GNU Network Object Model Environment) is a desktop environment—a graphical user interface that runs on top of a computer operating system—composed entirely of free and open source software.

The decision to allow firms to become members has been penalized in terms of openness because these companies could be granted with more power to control the development of the project. Furthermore, the companies may also discourage individuals' participation. Differently, we did not attribute any value to the content of those rules. There are mainly two reasons. First, most of these rules are merit oriented. Thus, membership is granted to those who provide major contributions in terms of quantity, quality, and continuity to the development of the community. Second, defining a common scale to evaluate the ranking of those rules is difficult. A third aspect that has been used to characterize decision making is membership.

The last dimension we consider is participation in the development process (Lee & Cole 2003). The extent users are involved in the development is relevant to shaping how users' motivation evolves (Shah 2006b). The more the production process is open to external contribution, the more participation is long-term and driven by technological and social reasons. Conversely, this is not the case in gated communities, where development control is much tighter. We characterize participation in the development in terms of source code availability, changes committed, and sub-project creation (West & O'Mahony 2008). Making source code available is a must in open source communities. However, this can be made more or less accessible by regulating the way people get access to the source code. For instance, accessibility may be constrained to the receipt of a formal request. Second, the process of committing changes in the source code repository may be centralized or distributed. In this second case, users are more stimulated to participate because they have more influence on development. However, commercial firms may prefer to maintain tight control over this process to prevent damage, and enhance compatibility and efficiency. Finally, users may be authorized to start up their own independent projects to address unmet needs. However, this may turn out to be a loss of opportunities for the source code owner. A fourth dimension is also relevant to shape participation in the development process. This is the degree of modularity. Baldwin and Clark (2003) show that a modular architecture enables work to be equitably distributed among developers and makes joining and staying in the collective development effort a strictly dominant strategy compared to coding in isolation. However, the main reasons we decided not to include this dimension is that technical modularity is only a condition sine qua non. It is not sufficient that the architecture of a code base is modular to stimulate participation. The political will is also required, and this is reflected in the other three dimensions included. In Table 1, we summarize the description of the eight OS governance variables we used to map governance dimensions.

Methodology

The objective of this contribution is to identify the main forms of governance in OS communities. To achieve these objectives, we conducted an exploratory analysis of 40 open source projects. The list of the projects to analyze was extracted randomly from a dataset of projects listed on Freshmeat.net. As Feller and Fitzgerald (2002) point out, Freshmeat is a gathering place for the "grassroots" OSS community; thus, we expected that most of the projects we observed there would be of a more "traditional" nature rather than those that are sponsored by large companies (e.g., Netscape) or that are already established and successful (e.g., Linux). We referred to this database because of the availability of additional data on project productivity, creativity, and perceived quality such as the vitality score. Vitality is calculated using the number of announcements about a project and the time since its last release. All the analyses in this paper were developed with R 2.9.0 software.⁴ FLOSSmole (Free/Libre/Open Source Software mole) does not collect data on project governance. Therefore, these data were collected by visiting projects' websites. The sample also takes into account project origin. West and O'Mahony argue that the distinction between sponsored and autonomous communities reflects a different project leadership purpose. Therefore, we expect that project origin, defined as community founded versus sponsor founded, has some impact on governance.

⁴ R is an open source software environment for statistical computing and graphics.

Table 1: Description of the Variables

Variable		Score	Description
Foundation	X1	0	No foundation
		1	The foundation provides legal protection against copyright abuses or is not yet fully established.
		2	The foundation is also involved in standardization issues and strategic management.
Type of license	X2	0	Dual
		1	Permissive
		2	Partially recursive (e.g., LGPL)
		3	Recursive
Membership	X3	0	Membership is not clearly defined and regulated.
		1	Membership is planned for enterprise.
		2	Membership is defined and open only to individuals.
Changes to source code	X4	0	Proposed changes should be submitted to project leaders, who are the only ones with the authority to decide.
		1	The proposed changes are evaluated and discussed in public forums and/or under the supervision of a project leader.
		2	Committed members are authorized to commit changes directly in the source code repository.
Sub-project	X5	0	Sub-projects may not be set up.
		1	Sub-projects may be set up, but project leaders retain control over copyright.
		2	Sub-projects may be set up, but they are not included in the main distribution.
		3	Sub-projects may be set up, which are downloadable as versions or accessories.
Release authority	X6	0	There is no formal release authority and/or the process has not been formalized.
		1	There is no release authority, but the process is open to members who have attained a certain status or indirectly through suggestion systems.
		2	There is a release authority, and the process through which members can contribute to it is formalized and accessible.
Leadership and decision making	X7	0	There is no formal board.
		1	There is a board, but members are appointed by the project owner.
		2	The decision-making power is delegated to a board of directors whose members are not elected but chosen by the sponsor or by the founders.
		3	There is a board, and members are elected by the community.
Access to the code and bug reporting	X8	0	Access to source code, although guaranteed, is limited to subscribers or to the previous release, or made arbitrarily complex. To protect the sponsor's benefits, obtaining access requires sending a formal request to get access to the repository.
		1	Access to the source code is granted and made simple in order to attract new participants in the development process.

Therefore, our sample is formed by 28 community-founded projects and 12 sponsor-founded projects. Finally, the sample is made up of projects with a vitality score greater than 0 and a number of registered developers greater than 30. The vitality score is an index that measures the vitality of a project. It is 0 when not a single line of code has been issued since the project has been registered on Freshmeat.net, and its value increases as the number of releases increases. Therefore, choosing only projects with a vitality score greater than 0 serves to make sure that a version of the software has been released. There are two reasons for taking into account only projects with a number of registered developers greater than 30. The first is to make sure that the project has been capable of attracting a sufficient number of developers. The second is that the number of contributors is large enough to require making governance explicit.

Data Analysis

In Table 2, the main descriptive statistics are summarized. The first step of our analysis was to verify correlations between OS governance dimensions. Correlation analysis confirms that OS governance dimensions are strongly correlated (see Table 3). Therefore, the results are compatible with the hypothesis that OS governance is reducible to a single continuum (latent factor) between autonomous and sponsored. To further explore this hypothesis, we conducted an exploratory factor analysis⁵ with a

⁵ Reducing data to a smaller set of summary variables or latent variables.

single factor (Table 4). The resulting model is structurally sound, as confirmed by the values of the chi-square statistic (a chi-square value significantly greater than 1 and a p-value close to zero). However, the factor identified does not explain all the variables in the same way. The factorial weight of the variables (loadings), as also confirmed by the uniqueness values, shows that the model explains in particular the variance of x1, x3, x4, x6, and x7. Actually, calculating Cronbach's alpha on only these variables, we obtain a value equal to 0.868, significantly higher than the value calculated with all the variables. The difficulties encountered in reducing the set of variables to a single factor led us to explore the possibility of referring to two latent factors (Table 5). The results show that the two factors better describe the variable set. In fact, the factors explain the variables x1, x3, x4, x6, and x7 and the variables x2 and x5, respectively, while only x8 is not explained by the model. The variable x2 (with residual variance close to zero) is the best explained, while, in contrast, x4 and x8 are the worst explained. Though the two latent factors models' chi-square statistical results are less than the factor model's one, the value and respective p-value value appear statistically acceptable.

In addition, the uniqueness of one latent factor model is over 90% (Table 4) for three variables x2, x5, x8; in the second model (Table 5) the highest residual variance variable x8 does not exceed 90%. Therefore, we could conclude that the two-latent-factor model makes the whole variable set clearer. If we consider that each factor represents only the variables with a factorial weight above 0.4 and we calculate the Cronbach alpha on these variables to verify if indeed the two factors significantly explain such variables, we obtain the following: Factor 1 interpolates significantly the variables "Foundation," "Membership," "Authority," and "Leadership," resulting in a Cronbach alpha equal to 0.869; Factor 2 interpolates significantly the variables "License" and "Subproject," resulting in a Cronbach alpha equal to 0.670. Finally, we conducted a factor analysis with three factors to verify whether we could reduce our model to West and O'Mahony's (2008). However, this hypothesis, with a p-value of 0.95 and a chi square of 2.17, is rejected.

Discussion

Our objective in this paper was to verify whether there is a correlation between OS dimensions and, if there is, which were the main configurations available. Our analysis confirms that those dimensions are correlated. However, differently from what is commonly suggested, there are four, rather than two, configurations of governance. Therefore, OS governance is not reducible to a single continuum between autonomous and sponsored. The factor analysis, in fact, has identified the existence of two latent factors along which the configurations of governance are defined. The first describes the leadership and decision-making structure, the second the intellectual property rights regime.

Definition of the Two Dimensions

The first dimension has been defined as the leadership and decision-making structure. The variables described by this latent factor are foundation, membership, code change, release authority, and leadership. Foundations have been institutionalized for two reasons. The first is to stimulate firms' participation. Firms are moved by the opportunity to make profit out of their participation in an OS community. Therefore, their participation is often constrained to rules that make room for some degree of proprietary appropriation. However, risks are also associated with stimulating companies' participation.

Table 2: Descriptive Statistics

	Variables	Sample Size	Mean	Median	Mode	S.D.	Min	Max
1	Foundation	40	0.55	0	0	0.84	0	2
2	Type of license	40	1.62	1	3	1.17	0	3
3	Membership	40	0.45	0	0	0.71	0	2
4	Code changes	40	1.05	1	1	0.71	0	2
5	Subproject	40	1.42	2	2	0.90	0	2
6	Authority	40	0.55	0	0	0.78	0	2
7	Leadership	40	1.12	1	1	1.16	0	3
8	Code access	40	0.90	1	1	0.30	0	1
9	Vitality score	40	39099.17	5157.22	-	81209	2	295210
10	Vitality score 2	40	1475919	20516.39	-	7270000	2.46	44300000
11	Major release	40	10.94	9	1	11.59	1	60

Table 3: Descriptive Statistics and Bivariate Correlations Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11
1 Foundation	1.00										
2 Type of license	0.03	1.00									
3 Membership	0.68	0.11	1.00								
4 Code changes	0.29	0.36	0.51	1.00							
5 Subproject	0.19	0.49	0.21	0.28	1.00						
6 Authority	0.65	0.29	0.69	0.41	0.24	1.00					
7 Leadership	0.63	0.15	0.70	0.61	0.19	0.66	1.00				
8 Code access	0.22	0.25	0.22	0.26	0.16	0.13	0.18	1.00			
9 Vitality score	-0.14	0.18	-0.20	0.15	0.20	-0.12	-0.10	0.14	1.00		
10 Vitality score 2	0.27	0.20	0.11	-0.01	0.12	0.10	-0.03	0.06	0.57	1.00	
11 Major release	0.15	0.30	0.10	0.10	0.23	0.07	-0.07	0.23	0.47	0.73	1.00

Table 4 (left) and Table 5 (right): Factor Analysis Results

<pre>R console Call: factanal(x = open1, factors = 1, scores = "regression") Uniquenesses: x1 x2 x3 x4 x5 x6 x7 x8 0.418 0.949 0.265 0.649 0.920 0.355 0.301 0.938 Loadings: Factor1 x1 0.763 x2 0.227 x3 0.857 x4 0.592 x5 0.283 x6 0.803 x7 0.836 x8 0.249 Factor1 SS loadings 3.205 Proportion Var 0.401 Test of the hypothesis that 1 factor is sufficient. The chi square statistic is 42.76 on 20 degrees of freedom. The p-value is 0.0115</pre>	<pre>R console Call: factanal(x = open1, factors = 2, scores = "regression") Uniquenesses: x1 x2 x3 x4 x5 x6 x7 x8 0.382 0.005 0.247 0.602 0.725 0.341 0.306 0.899 Loadings: Factor1 Factor2 x1 0.784 0.997 x2 0.857 0.137 x3 0.508 0.374 x4 0.158 0.500 x5 0.752 0.306 x6 0.816 0.170 x7 0.187 0.258 Factor1 Factor2 SS loadings 2.898 1.595 Proportion Var 0.362 0.199 Cumulative Var 0.362 0.562 Test of the hypothesis that 2 factors are sufficient. The chi square statistic is 22.55 on 13 degrees of freedom. The p-value is 0.0649</pre>
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For instance, firms may leverage their market power to exploit the value created by the community or to take control of project management. Therefore, the second reason for institutionalizing a foundation is to safeguard public accessibility and control of the project management, project development, and source code. However, institutionalizing a foundation is not sufficient to ensure public accessibility and control. The rules governing these foundations, such as membership and the right to perform changes directly in the source code repository, are also relevant.

The second dimension has been defined as the intellectual property right regime. It refers to two variables. The first has to do with the type of license adopted to distribute the software. The second has to do with the possibility of setting up sub-projects, and with the ownership of these sub-projects.

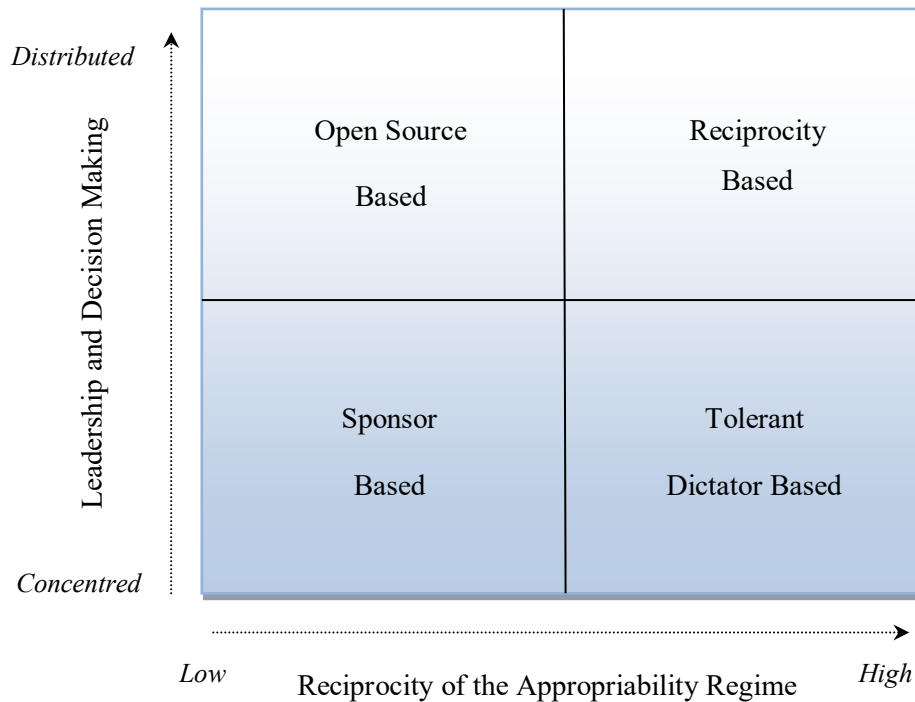
The Matrix of OS Governance Form

The combination of these two dimensions defines four models of OS governance (see Figure 1). *Sponsor Based*. These are communities sponsored and controlled by a company or a pool of companies. In these communities, founders/sponsors retain a large part of the control power per se with little community involvement. The intellectual property right regime is pragmatic. Therefore, it safeguards the sponsor's capacity to appropriate value by either selling accessibility to the source code for commercial purposes or to retain control of parallel or complementary project development. Furthermore, the opportunity to set up sub-projects is either bound or directly controlled by claiming property rights on these sub-projects.

An example of a sponsored community is the Sun Java platform SE (see Figure 2). This case has been studied by Yamauchi et al. (2000). The Java platform is an Internet-based programming environment originally developed by Sun. Java represented the opportunity for Sun to reposition itself as a leading player within the wider post-PC, Internet-based information technology (IT) field. However, to achieve this object, Sun had to cope with Microsoft, which had already announced its intention to release a comparable platform and could exploit its dominant position to impose its platform as the standard, and the risk that others could develop their own comparable technology. Sun chose an open system strategy to try to impose Java as the technological standard in the emerging field of Internet-based technologies. This strategy consists of making it easier for rivals and vendors of complementary products to get access to the sponsor's proprietary technology. For instance, the license scheme implemented by Sun required paying an up-front fee and royalties on unit sales of Java-based products but allowed licensees to modify the technology as long as they shared these modifications freely with Sun and other licensees. This strategy turned out to be successful as long as the technology did not achieve its stage of maturity. Most of Sun's partners, in fact, started to feel threatened by Java's control of the technology and Sun's introduction of Java products that competed with those offered by other members of the Java collective. Sun's decision to progressively open the source part of Java

technology reflects an attempt to manage the trade-off between the risk of losing the support of a large part of the community and securing control of the core technology to prevent fragmentation, forking, and indeed Sun's centrality in the Internet-based IT field.

Figure 1: OS Governance Matrix Model



Therefore, Sun's sponsor-based open source strategy reflects the trade-off between the need to build up credibility as an institutional third party and the need to defend its position as a commercial party. To achieve this objective, Sun leveraged the appropriability regime, by allowing, for instance, the Java collective to establish working groups to extend Java into new areas and determine when these new specifications would be released to the public, to enhance credibility, and in community management to control the direction of development.

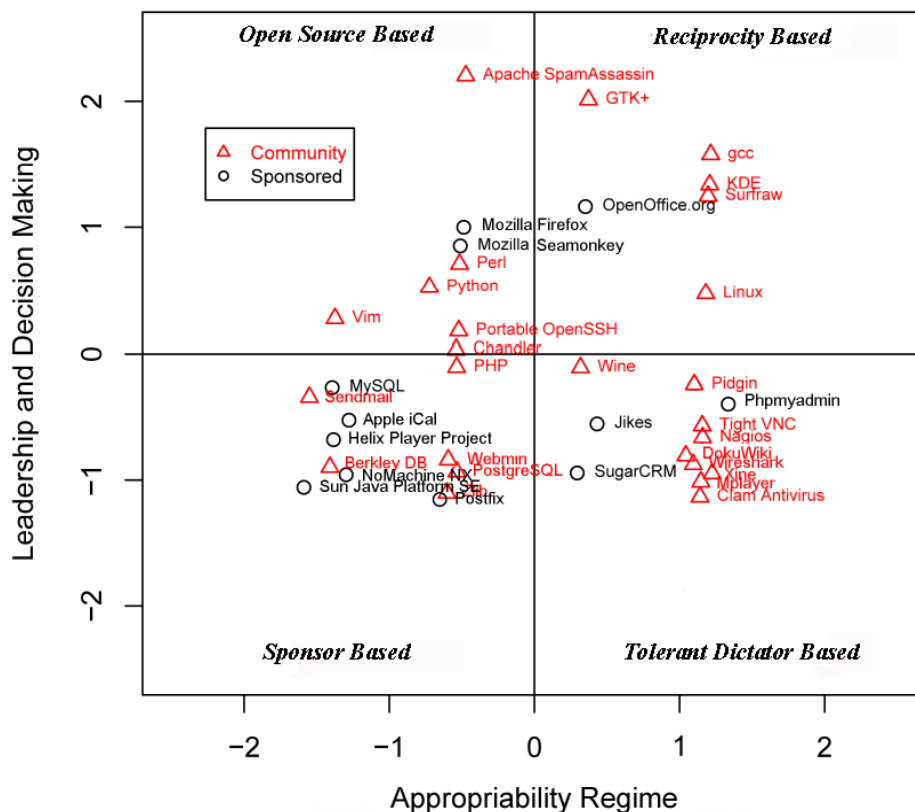
Open Source Based. These communities have developed a pragmatic attitude toward the contribution given by enterprises to OS development. Actually, these communities recognize the potential for diffusion and activation of an extended feedback network. At the same time, they are aware of the possible risks that may result from opening too much to enterprises. The communities handle this trade-off by ensuring companies have the opportunity to pursue autonomous development strategies and by ensuring public access to source code and decision making. An example of an open-source-based community is Mozilla. This case has been studied by Mockus et al. (2002). Mozilla was started in 1998 as a sponsor-based community by Netscape that, in the face of stiff competition, announced that the Communicator product and source code would be available free of charge. The group mozilla.org was meant to act as a benevolent dictator for the open source effort. Members of the group were mainly employees of Netscape Inc. entrusted with the mission to develop Mozilla for testing purposes and not for use by end users. This led to a fork meant to provide the documentation and support necessary for an end-user project. In 2003, when AOL (Netscape's parent) started to disinvest from Mozilla, a non-profit foundation was founded. AOL donated the property rights, the technological development infrastructure, and a grant of US\$2 million to the foundation to support its startup. Now, the members of the board are not elected but appointed. The source code is licensed out in MPL (Mozilla Public License). That is an open/free license. The project is coordinated by two wholly owned subsidiaries. Development coordination and control are delegated to a number of roles, such as module owners, peers, and super reviewers. Persons are appointed to those roles. However, the experience and competencies required for being appointed to those roles are codified. Furthermore, those roles' decision-making rights and responsibilities are also identified. Finally, users are also allowed to set up their own sub-project. Leadership and decision making in the Mozilla community

are not as open as in the Apache one. The board of directors and the main organizational roles are not elected but appointed. However, those roles have been defined in terms of the decision-making experience required to be appointed to the role.

Reciprocity Based. These communities are linked to the traditional model of free development. They have a radical attitude toward IPR, which discourages firms’ participation. They have a radical attitude also toward the institutionalization of foundations, membership, and decision-making, which are viewed as constraints to self-organization and emerging cooperation. Decision-making power is de facto shared between contributors who are commonly recognized as leaders within the community. An example of a reciprocity-based community is the GNU GCC. This project has its origin in the C compiler Stallman created to make free Unix. Now, the project maintains various compilers and libraries. GCC, according to Yamauchi et al. (2000), has experienced two discontinuities. The first was architectural. The second was tied to the governance of the community. The main enabler for this second change was the impossibility of incorporating the work of many programmers in the main trunk of the code because of the orientation of the project to stability. Therefore, according to our perspective, there is a risk of loss of attractiveness in terms of the quality and quantity of people attracted. Therefore, according to what Lee and Cole also suggested, an experimental development project was established (EGCS – Experimental GNU Compiler System) and appointed as the official maintainer of the GNU compiler, which was also renamed GCC. The decision-making structure was also revised in order to enlarge participation. A steering committee of 13 members, each representing a certain community of users (e.g., Fortran), has been set up. In addition, 134 programmers and 35 testers joined the development team.

Tolerant Dictator Based. This model differs from the previous ones only because of the concentration of decision-making power in the hands of a single tolerant dictator, as Linus Torvald used to be in the early stages of Linux development. The power of the dictator is de facto counterbalanced by his or her weak control of the source code. Therefore, dictators are always required to renegotiate their technical leadership within the community in order to canalize resources efforts and prevent versioning and forking.

Figure 2: OS Governance Matrix



Do those dimensions have an impact on community performances? An exploratory test was conducted on the vitality score. One of the reviewers suggested that typologies and classification are important only as stepping stones to develop meaningful theoretical statements on the relationship between the dimension identified and some variable of interest. Even if we recognize completely the merit of this argument, answering this question would basically require writing another paper. That is why we originally addressed this issue as part of future research directions. However, in an attempt to give even a partial response to this suggestion, we tried, with the available data, to test whether there were differences between the configurations identified and the variable of interest. The variable that we chose is the vitality score. This is the score Freshmeat uses to measure projects' vitality. The vitality of a project is calculated as:

$$VitalityScore = \sqrt{\frac{releases * age}{last\ release}}$$

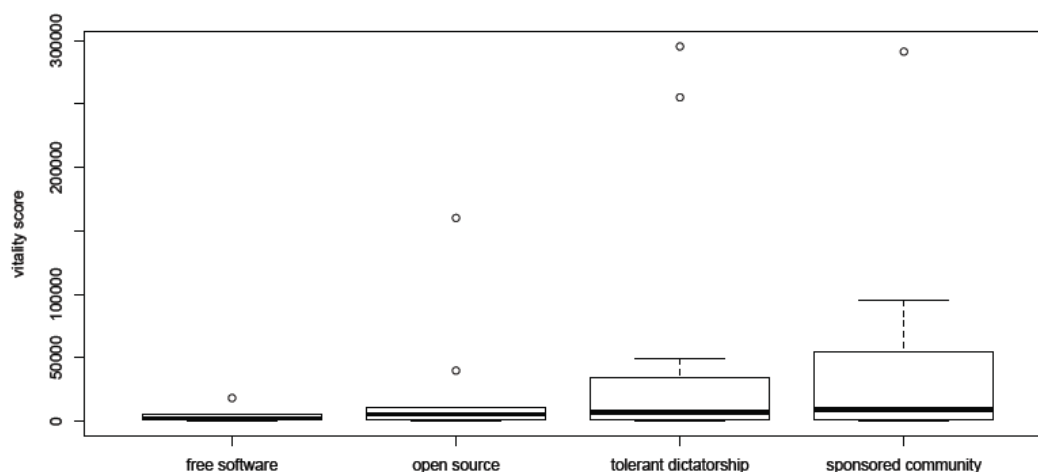
This way, projects with lots of announcements that have been around for a long time and have recently come out with a new release earn a high vitality score, and old projects that have been announced only once get a low vitality score. To test whether a configuration scores better in terms of vitality, we used one-way ANOVA. This is a general linear model (GLM) used to test for differences among two or more independent groups (in our case, configuration groups). This analysis shows that the four groups score significantly differently in terms of vitality (see Table 6). The ones that scored best are sponsored and tolerant dictatorship communities. Therefore, this result seems to suggest that communities with a more centralized model of leadership and decision making are more vital than the ones with a more distributed model of leadership.

Table 6: ANOVA of Groups with Respect to the Vitality Score

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Factor(x)	3	0.20373	0.067910	3.3324	0.02384 *
Residuals	36	1.54876	0.020378		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Figure 3: Boxplot with Respect to the Vitality Score



We found this result counterintuitive. The reason is that we expected open leadership and decision making to be positively associated with a better capacity to attract skilled and strongly self-motivated developers and users. Those latter aspects are usually positively associated with higher creativity and indeed innovativeness of the process of development. This data, conversely, seems to suggest that a more centralized model of leadership and decision making is positively associated with a more

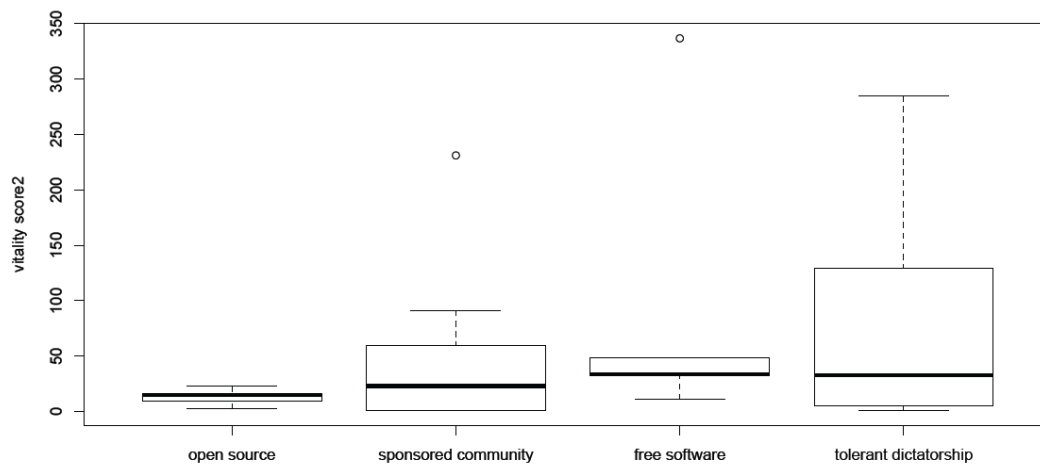
coordinated process of development and indeed a faster process of development. The main problem is that the vitality score is not a measure of communities' creativity. The vitality score, in fact, does not take into account the innovative content of a release. Therefore, in order to consider this aspect, we recalculated the vitality score of these projects for major releases (see Table 7). These data were collected from SourceForge.net. The basic idea behind this attempt is that the label major should be a better proxy of the development discontinuity contained in those releases. The ANOVA conducted on this index shows that reciprocity-based and tolerant dictatorship communities score significantly better than sponsored and open source communities. Therefore, in the case of a major release, the appropriability regime seems to be the discriminating variable. Therefore, if confirmed, this result seems to confirm Shah's findings that talented and self-motivated people prefer to work on projects where the source code is freely available.

Table 7: ANOVA of Groups with Respect to the Vitality Score 2

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Factor(x)	3	0.21352	0.113512	35.221	0.02175*
Residuals	33	134.222	0.018273		

*Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Figure 4: Boxplot with Respect to the Vitality Score 2



This is only a preliminary analysis. To develop a credible thesis about the relationship existing among governance, creativity, and innovation, a deeper understanding of these variables and their connections is required. The state of maturity of a project, for instance, will have great influence on the frequency of releases and the innovative content of those releases. However, these results provide some initial ground for claiming that those configurations might be relevant for understanding the existence of differences in productivity, creativity, and innovation in OS communities.

Conclusion

Our main contribution in this paper has been to show that the configuration of OS governance can be reduced to two main factors. The first is the structure of the leadership and of the decision-making process. The second is the appropriability regime. The intersection of these two dimensions defines four configurations of OS governance: open source, sponsor, reciprocity, and tolerant dictatorship based. Open source and sponsored-based differ mainly in their degree of accessibility to leadership and decision making. In an open source community, leadership and decision making are a highly distributed process. In a sponsored community, on the contrary, sponsors retain control. Both communities are characterized by a permissive regime of appropriability, even if a sponsored community attempts to maintain control over sub-project content and development. Reciprocity and

tolerant dictatorship communities, in contrast, are characterized by a radical regime of appropriation. Therefore, these communities are grounded on the principle of reciprocity in the access to and usage of the source code. Reciprocity and tolerant dictatorship differ in the distribution of power in the community. In a reciprocity-based community, community leadership and decision making are highly distributed, whereas in a tolerant dictatorship community, they are concentrated in the hands of the copyright holder.

The results of our work have some interesting implications. First, the work provides a set of strategic insights into the key dimensions that have to be considered to evaluate the returns of an OS investment compared to an IPR investment. Second, our work provides an empirically grounded model to support firms' decision makers either in configuring an OS model of governance or in evaluating the opportunity to enter a communitarian-based OS community. The same results can be used by community leaders to evaluate the quality of governance safeguards in place and the potential activated by entering a specific company.

Three major directions can be pursued to extend the implications of this work. The first is to extend the experiment to a larger sample. Therefore, the results may change when a larger number of cases are considered. Furthermore, we identified other dimensions that could be interesting to explore in order to identify other factors that influence OS governance. For instance, in this paper the origin of the project has been defined as either sponsored or communitarian. However, projects have been started either as university spin-offs or company spin-offs. Furthermore, the institutionalization of a foundation is not the only institutional arrangement that autonomous communities have used to safeguard openness. Communities have set up associations or firms that have community members elected to the board to represent the community or that are constrained to reinvest profits in community development. Therefore, there might be a correlation between these dimensions and the solution to implemented governance.

A second development direction is to study the relationship between OS governance configurations and creativity. In this paper, we made a very preliminary attempt to verify whether those configurations could be relevant in explaining differences in creativity between communities. The results are encouraging. However, much more work is required to arrive at a theory linking governance to creativity. Our hypothesis so far is that governance is expected to influence the quantity and quality of the people attracted, and the quality of the cooperation. Talent and entrepreneurs, according to our perspective, are attracted by the context of governance that entrusts users with the power of self-determination and the capacity to influence decision making. The quality of the cooperation depends on the distribution of incentives between individuals and firms over time. Therefore, we expect to find a strong correlation between an open governance configuration and creativity.

Finally, a third direction is to explore the relationship between governance and the community climate. We argue that governance influences collaboration sustainability and membership satisfaction. The community climate is expected to improve as a consequence of the decision-making involvement and equity between the efforts produced and the opportunities available. Therefore, a governance configuration that privileges the interests of firms at the expense of that of individuals should produce dissatisfaction and fewer individuals' participation.

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Control of Shareholders' Wealth Maximisation in Nigeria

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Abstract

This research focuses on who controls shareholder's wealth maximization and how does this affect firm's performance in publicly quoted non-financial companies in Nigeria. The shareholder fund was the dependent while explanatory variables were firm size (proxied by log of turnover), retained earning (representing management control) and dividend payment (representing measure of shareholders control). The data used for this study were obtained from the Nigerian Stock Exchange [NSE] fact book and the annual reports of the six sampled companies from Food/ Beverages and tobacco sub-sector for twenty years (1986-2005) to constitute pooled data of 120 observations. Using auto-regression technique for correcting serial auto-correlation in time series data, the results converge at ten iterations. Results showed that all the independent variables provide good explanation for the model. It was observed that firm size (log of turnover) and retained earnings had positive relationships and statistically significant impacts on the shareholders fund while dividend payment had negative relationship. The results show that turnover and retained earnings are of more significance in the control of shareholders wealth than the dividend payment. Thus, we can conclude that the management of the organizations under the present study is in major control of shareholders wealth maximization objective and impact on the firm performance. Implication is that selecting high quality management for the organizations would help in achieving shareholders wealth maximization objective in organizations.

Keywords

Shareholders wealth, shareholders fund, turnover, total earnings, dividend payment, and retained earnings

1. Introduction

The fundamental and traditional objective of business organizations is maximization of shareholders' wealth. All activities of the organizations are geared towards achieving this objective. One major attribute of public limited liability companies is the separation of ownership from control. Ownership of these companies is usually in the hands of shareholders while the control of the day to day activities is in the hand of management appointed by the Board of Directors. This separation of ownership from control is strength in the sense that it allows division of responsibilities based on specialization. This structure creates principal-agent relationships between the shareholders and managers where the

shareholders are the principals and managers are the agents.

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Basically, managers as agents of the shareholders are expected to act in the best interest of shareholders, which is to maximize their wealth (that is, the net-worth of the organisations). However, in practice, there is possibility of managers pursuing their own personal objectives (Pandey, 2005; Koutsoyannis, 1979; and

Okafor, 1988). Thus, agency relationship arising from separation of shareholding from control may become weakness where management is tempted to over invest or over-emphasized growth or market shares and would want to maximize its own wealth (which are in form of high salaries and perks) at the expense of maximising wealth of shareholders. Management may avoid taking investment and financial risks that may otherwise be needed to maximize wealth of shareholders. This, however, poses conflict of interest between the shareholders and management. This is what is usually termed as the agency problem.

The gains accrued to shareholders in form of dividends and capital appreciation in the values of the stocks held by them. The stock price appreciation and dividends received constitute the total returns to shareholders. Dividends are payable out of distributable profits and management is not under any obligation to pay dividend (Sections 379-382 of CAMA, 2004). Management is charged with the responsibility of deciding whether to distribute all its earnings (profits attributable to ordinary shareholders) to shareholders in form of dividends or retain part of the earnings to finance future growth. The objective of the study is to determine who controls the wealth that accrues to shareholders, whether it is the management or the shareholders and the effect of such control on the firm's performance.

2. Review of Literature

Historically, the decision-making power of a company lies in the assembly of the shareholders during the general meeting. However, it is only possible if the company is small with few shareholders who often function as the directors, but with big companies, it is impracticable and sometimes impossible for so many shareholders to operate and manage the various functions of companies. Therefore, the shareholders entrust decision making process of the company to a cream of professional and skilled managers. These two groups have divergent interests. The shareholders want to maximize their wealth while the management wants to maximize their gains in terms of salaries and other perquisites. This has led to conflicts of interests between shareholders and managers.

The agency conflict, which arises from the incongruence of the interests of equity owners and managers, has been examined by many researchers (Ahmadu, Aminu and Turkur. 2005; Loderer and Martin, 1997). There is lack of consensus how to deal with such agency conflicts. This has resulted to suggestions of a variety of mechanisms on how to promote the alignment of interests of shareholders and managers.

McConnel and Servaes (1990) found a significant curvilinear relationship between insider ownership and firm performance while Loderer and Martin (1997) found no significant curvilinear relationship. The composition of board members was also proposed to help reduce agency problem. Weisbach (1991) found a positive relationship between firm performance and the proportion of outside directors sitting on the board. Unlike inside directors, outside directors are better able to challenge the Chief Executive Officers. Board size is another mechanism that has been proposed to deal with agency problem.

Yermack (1996) argues in favour of small board size believing that large board rooms tends to be slow in making decisions and hence large size can be an obstacle to change. He examines the relationship between board size and firm performance and concludes that the smaller the board size the better the performance. He proposes an optimal board size of ten or fewer. Ownership concentration in term of the proportion of a firm's shares owned by a given number of the largest shareholders was one of the mechanisms examined. A high concentration of shares tends to create more pressure on managers to behave in ways that are value maximizing. At a low level of ownership concentration, an increase in concentration will be associated with an increase in firm's value but beyond a certain level of concentration the relationship might be negative. The fifth mechanism examined is debt owned; they argued that large creditors such as banks are also believed to be a useful tool for reducing the agency problem.

Jensen and Meckling (2001) argue that the existence of debt reduces the amount of equity and enables higher levels of insider ownership. They also argued that the existence of debt in the firm's capital structure acts as a bonding for company managers, by issuing debt rather than paying dividends,

managers contractually bind themselves to pay out future cash flows in a way unachievable through dividend. It can deter management from non-value adding diversification strategies.

Adenikinju and Ajinade (2001) examine the extent to which insider shareholding may be related to firm financial performance. They examine the relationship between internal governance mechanism and financial performance. The results show the need for a reasonable number of directors of corporate bodies with more than a typical share of equity of the firm as this will encourage them to undertake the monitoring process.

Gerald and Useam (2001) reviewed the agency theory and researched on the relations among top managers, company directors, investors and external contenders for corporate control. The study focuses on the major questions raised in most recent work such as who are the top managers and corporate directors? How is management organized? What does the board do? How do shareholders influence corporation? Etc.

Mcolgan (2003) attempts to provide an overview of the major literature which has been developed in the area of agency theory and corporate governance since Jensen and Mecklings (1996) ground breaking article on theory of the firm. It was observed that corporate financial policy structure of a company has strong implication on agency controls. Ahmadu, Aminu and Turkur (2005) observe that the use of insider shareholding has been proposed to resolve the agency conflict and this had produced varying conflicting results.

Jorg, Loderer, and Roth (2005) examine whether managers of corporations pursue shareholders value maximization. A three pronged experiment was conducted: managers' target were analyzed, they studied their valuation metrics and asked whether share-price performance was better when they pursue shareholders' value maximization and use appropriate metrics. The first part of the analyses focuses on whether the managers pursue shareholders' value maximization. It was discovered that greater percentage of the managers does not pursue that particular target. On shareholders value maximization, they first focused on the full sample of firm. A sizeable fraction (81%) wants to maximize shareholders value unconditionally. Another question was asked if managers pursue multiple targets. It was observed that 95% of the firms pursue at least two targets (see Cyert and March, 1992). It was discovered that unlisted firms' managers even profess to maximize both shareholders value and at the same time uncover evidence that the identification of shareholders increases when stock price fall. Accordingly, the reason why managers are willing to state that they do not maximize shareholders value is that the control mechanism to prevent them from the capital market behaves otherwise, particularly in the case of unlisted firms. The threat of takeover is the main mechanism outside the firm that keeps firms from diverging too much from a policy of shareholders value maximization.

In the course of the study the following hypotheses were tested.

1. Companies with high dividend payout ratio are controlled by shareholders while those with high retention ratio are controlled by the management.
2. Companies with high retention ratio experience higher profit and performance than those with high dividend payout ratio. There is understanding that shareholders would prefer income revenue to capital gains. They would prefer dividend payments to retained earnings.

3. Research Methodology

3.1 Method of Data Collection

The data used for this study were collected from the financial statements of companies in the Food/ Beverages and Tobacco sub-sector listed in the Nigeria Stock Exchange between 1986 and 2005. A total of 159 companies were all together quoted on the Nigeria Stock Exchange at that date. Of these, 13 companies were in the Food/ Beverages and Tobacco sub-sector. Out of these 13 companies 6 companies which had complete data on the variables needed for the study were selected using purposeful sampling technique. Some of the companies in this sub-sector were not in existence as at 1980 while some do not have complete data required. The problem of keeping adequate data by

Nigeria Stock Exchange is a major challenge as many companies listed on Nigeria Stock Exchange have no adequate information published on them. Access to individual companies to obtain their past financial statements was not encouraging as most often refer one to the Nigeria Stock Exchange. In all we have 120 data sets pooled from 6 companies over 20 –year period.

3.2. Method of Data Analysis

The data collected were initially analysed using the Ordinary Least Square (OLS) regression technique on the pooled data collected under the assumption of the homogeneity of data. Due to the incidence of a first order serial auto-correlation problem we decided to use auto-regression technique in order to eliminate this problem of first order serial auto-correlation.

3.3 Theoretical Framework

Specifically shareholders wealth control has a significant impact on the performance of a firm. This study suggests a model which seeks to establish the relationship between performance variables of a firm and the shareholders wealth control. The study however takes shareholder fund (sharefund) as the dependent variable while the explanatory variables include firm size (FS) measured as log of turnover, retained earnings (RE), dividend payment (DP), and total earnings (TE). Log of turnover is the natural log of the total amount realized from sales in a particular period of time. Retained earnings are undistributed profit of the firm in particular period of time representing management control. Dividend payment is the amount of a firm's profit paid to proprietors of the firm representing shareholders control. Total earnings refer to all revenues attributable to a business for a particular period of time after all related expenses have been properly taken care of.

3.4 Model Specification

The model for this study is specified as follows:

$$SHF = b_0 + b_1FS + b_2RE + b_3DP + b_4TE + e$$

where:

SHF = Shareholders Fund

Fs = Firm Size (measurable as log of Turnover)

RE = Retained Earnings

DP = Dividend payment

TE = Total Earnings (which is the Profit After Tax, earnings attributable to ordinary shareholders)

$b_0 - b_4$ = Coefficients of regression estimators.

e = Stochastic error-term.

4. Data Analysis and Interpretation of Results

The final results of the analysis using the Statistical Package for Social Sciences (SPSS) version 16 are represented below. The regression equation using auto-regression technique, which converges after 10 iterations, is presented as follows:

$$SHF = 42.036 + 0.179FS + 0.119TE - 0.695DP + 1090RE$$

t- values (0.175) (14.292) (0.949) (-3.414) (3.272)

Beta values (0.869) (0.62) (-0.234) (0.177)

$R^2 = 0.787$, Adjusted $R^2 = 0.777$, F-stat (4, 114) = 105.01, DW statistic = 1.996.

A close examination of the results presented in the equation above indicates that the R^2 value of 0.79 indicates that about 79% of the total systematic variations in the shareholder's fund (dependent variable) were due to the variations in firm size (log of turnover), total earnings, dividend payment and

retained earnings (independent variables). This means that only about 21% of the systematic variations in the shareholders fund are left unexplained hence captured by the stochastic error term in the estimate model. Also, the adjusted R-square of 0.777 shows that after adjusting for the degree of freedom the entire variables taken together could still explain about 78% of the systematic variations in shareholders fund. This implies that the regression line has a very good fit and thus a high forecasting power of the model.

The results showed that the overall model was statistically significant since the observed F-value of 2.45 is smaller than the computer F-value of 105.01. This means that firm size (log of turnover), total earnings, dividend payment and retained earnings (independent variables) taken together have significant impacts on shareholders fund at 5% level of significance. The DW-statistics of 1.996 (~ 2.0) means the absence of auto-correlation in the model. On the basis of the individual statistic, total earnings failed the test of statistics at 5% level of significance under the two-tailed test, since the observed t-value of 0.344 is less than the critical t-value of 1.96. This implies that total earnings are not a major determinant of shareholders fund. The other variables such as firm size (log of turnover), dividend payment and retained earnings passed the test of significance since their observed t-values of 14.292, -3.414 and 3.272 respectively are greater than the critical t-value of 1.96. This implies that firm size (log of turnover), dividend payment and retained earnings are major determinants of shareholders fund.

Furthermore, it was observed that firm size (log of turnover) had a co-efficient of 0.869, which means that an increase in the companies turnover by 10%, would lead to an increase in the shareholders fund by 86.9%. This indicates a strong significant positive relationship between firm size (log of turnover) and shareholders fund. Total earnings with co-efficient of 0.62 shows that increase in the total earnings of company by 10% would lead to an increase in shareholders' fund by 62%, which is not significant at 5% confidence level. Dividend payment with co-efficient of -0.234 shows that 10% increase in the payment of the dividends would lead to 23.4% decrease in shareholders fund. This implies that there is an inverse relationship between dividend payment and shareholders' fund. Retained earnings with a beta co-efficient of 0.177 shows that 10% increase in retained earnings would lead to about 18% increase in shareholders fund, which indicates a positive relationship between retained earnings and shareholders fund.

From the foregoing we can revisit our research question, which is who controls the shareholders wealth maximisation in Nigerian organizations? We observe that turnover has the largest contribution to shareholders fund (with the beta value of 0.8690). This is followed by retained earnings (with the beta value of 0.177) and the least is dividend payment (with the beta value of -0.234). Since, management is in control of generating turnover and would ordinary want to retain earnings for financing future growth while the shareholders are assumed would prefer dividend payment, we can conclude that management of the organizations in Nigeria have major control over the maximization of shareholders' funds.

5. Summary, Policy Implications and Conclusion

The objective of this study is to empirically establish who controls shareholders' wealth and the impact of such control on firm's performance. Results revealed that firm size (log of turnover), dividend payment and retained earnings have significant relationships and impacts on shareholders fund but total earnings does not have a significant relationship and impact on shareholders' fund. It was observed that dividend payment had an inverse relationship on shareholders fund. The firm size (log of turnover) and retained earnings are the major determinants of shareholders fund and have positive relationship and where there is an increase in shareholders' fund it will also increase or boost firm performance. It was discovered also that all the regressors taken together have a good linear relationship with shareholders' fund.

In conclusion as companies grow, there is a tendency for the ownership and management of the business to separate. Due to this separation, there is always a conflict of interest between the management who is interested in ensuring high market shares and could maximize their own wealth (in form of high salary and perks) at the cost of shareholders who are interested in high dividend

payment and returns in their investment. The results showed that dividend payment, which represents shareholders' control in our study, reduces propensity for shareholders wealth maximisation. Furthermore, it was observed that the firm size (log of turnover) and retained earnings representing management control are the major determinants of shareholders wealth maximization. Thus, we can conclude that the management of the organizations under the present study is in major control of shareholders wealth maximization objective and impact on the firm performance. Implication is that selecting high quality management for the organizations would help in achieving shareholders wealth maximization objective in organizations.

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Have United States Legislatures Fully Considered Causal Factors in Assigning Liability for Inherent Risk Accidents?

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Abstract

The public's dissatisfaction with American tort rules has led US state legislatures to enact more than 120 statutes for assigning liability for accident losses. Many of these statutes address the liability of accidents involving inherent risks of activities where neither the activity provider nor injured participant was negligent. Due to business complaints about high insurance costs, legislatures decided that participants ought to bear the costs arising from inherent risk accidents. Yet, causal factors associated with sport activities may support an alternative liability rule to maximize social welfare. Because inherent risk statutes lead to increased activity levels, they are accompanied by increased accident costs. Factors causing incorrect liability results may be compared to offer a recommendation for a liability regime for inherent risk accidents.

Keywords

Inherent risks, accidents, damages, activity levels, levels of care.

Introduction

Absent an enforceable liability system, people have no incentive to use reasonable precaution to avoid injuring others. Since the 1970s, US policy makers and economists have studied liability options to devise laws that incorporate deterrence of injury and economic efficiency (Calabresi, 1970; Landes & Posner, 1987). However, given the range and nature of human actions, projected outcomes are not always achieved. Causal factors including misconceived risk, non-rational actions, precautionary measures for which a duty of care has not been established, and transaction costs detract from efficiency and complicate the assignment of liability. Not being able to evaluate these causal factors means that they may be ignored (see Brigham, 2009). Another concern is whether the level of activity is fully considered (Hylton, 2008).

Lawsuits arise when there is disagreement about who should be liable for damages from accidents. Disputes are between plaintiff-participants and defendant-activity providers (including alleged providers). Discontent with claims for damages for unavoidable accidents where providers have employed adequate precaution has led US state legislatures to enact specialized liability statutes for selected activities (see Appendices 1 and 2). Snow skiing, horseback riding, and roller skating are the most prominent activities covered. The statutes delineate provisions saying that activity providers are

not liable for accidents that occur as part of the inherent risks of the listed activity. Rather, participants are designated as residual bearers of liability for these accidents. The statutes have become known as "inherent risk statutes" (Centner, 1995).

With the assignment of liability by inherent risk statutes, questions arise whether the provisions are grounded on

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welfare-efficiency criteria or simply respond to special interest groups that had the political muscle to garner favoritism (Feldman & Stein, 2010). In the absence of negligence, who should pay for an injury of an unavoidable accident that resulted from an inherent risk of an activity? Legislatures have choices, but in changing liability rules, why should they enact inherent risk statutes for some activities and not others? This paper looks at tort liability rules to evaluate the selection of a preferred assignment of liability for accidents occurring due to the inherent risks of an activity. The first section looks at liability options, followed by an accounting of inherent risk statutes for unavoidable accidents. With this foundation, the paper analyses the effects of causal factors on negligence liability to suggest that the assignment of liability should give further consideration to accident determinants. In this manner, the price of an activity would more accurately reflect its real costs.

Liability Options

American law employs four major liability rules to assign accident losses: (1) no liability, (2) strict liability, (3) negligence, and (4) strict liability with the defense of contributory negligence (Shavell, 2003; Dari-Mattiacci, 2005). Under these liability rules, residual liability is assigned to activity providers or participants. The no-liability and negligence rules place residual liability with participants. The strict liability and strict liability with the defense of contributory negligence rules assign residual liability to activity providers. In discussing preferences for these rules, activity providers and participants are assumed to make decisions under uncertainty to maximize their utility. Similarly, legislatures select from among the rules to maximize the value of society's utility function (Tietelbaum, 2007).

The no-liability and strict liability rules assign responsibility for damages without considering fault. For accidents where no liability has been assigned, including unavoidable accidents, the participant is liable for the damages. Under inherent risk statutes, a no-liability rule also applies to qualifying activity providers. Strict liability is the opposite of no liability, and this rule holds providers responsible for damages whenever an injury occurs. Strict liability applies for abnormally dangerous activities. Moreover, due to legislative action, an administrative strict liability regimen applies to accidents involving workers' compensation and no-fault insurance. No-liability and strict liability rules may be accompanied by moral hazard because persons do not always bear responsibility for the economic consequences of their actions. Under a no-liability rule, providers are not concerned about the losses of participants. Under strict liability, participants may not employ sufficient care to keep themselves safe.

The third and fourth liability rules modify the no-liability and strict liability rules with negligence rules. Under negligence, an activity provider incurs liability if the provider's lack of precaution constituted a breach of duty that contributed to the injury. Participants also may incur liability if they are negligent. Negligence assigns liability based on fault so offers persons incentives to use care to deter accidents. For most accidents, including medical malpractice and automobile accidents, a negligence rule applies (Shavell, 2003). Strict liability with the defense of contributory negligence holds providers liable unless the participant failed to employ due precaution to avoid injury.

American legal liability rules rely heavily on a welfare-based normative approach under which common law and statutes are structured to maximize the well-being of individuals (see Kaplow & Shavell, 2001). This involves the consideration of individuals' well-being and the exclusion of matters that are unrelated to well-being. Well-being is determined from the preferences of individuals, including goods and services to consume, social and environmental amenities, feelings, and notions of fulfillment. Economic analyses of the four liability rules identify preferred welfare recommendations (Brown, 1973; Gilles, 1992; Shavell, 2003).

The traditional economic approach to tort law recommends that a determination of who should pay for damages should consider the levels of care and activity selected by activity providers and participants. Tort liability is concerned with the level of care because as more precaution is employed to avoid an accident, the likelihood of injury is reduced. Due care embodies precautionary measures for which a duty of care has been established to avoid injury (Dari-Mattiacci, 2005). Theoretically, due care may be set at the level of care where the marginal costs of precaution are equivalent to the expected

marginal reduction in accident losses. Providers do not use less than due care because they would be exposed to the risk of liability for related injuries, although this does not occur if injured persons do not advance their claims. Activity providers and participants decline to use too much care because it costs more than the damages they would incur under negligence liability.¹ Thus, persons use sufficient care to minimize precaution and accident costs. However, difficulties in evaluating whether a party employed due care may interfere with projected results.

In addition to due care, activity levels affect the likelihood of an accident (see Shavell, 1980; Hylton, 2008). By reducing the frequency of an activity, providers can reduce the number of accidents. An optimal level of activity occurs when the full social costs of an activity are less than or equal to its social benefits. Activity levels also include other precautionary measures for which a duty of care has not been established (Dari-Mattiacci, 2005). These other precautionary measures are not considered in a determination of negligence due to the excessive costs of observing them and calculating optimal levels of care.

Generally, both activity providers and participants can alter their activity levels to reduce the number of accidents. Under a negligence liability rule, providers only pay for accident damages if they fail to use due precaution. Because providers do not pay for accident costs in situations where they used due care, negligence does not provide an incentive for potential providers to consider all accident losses in determining their activity levels (Shavell, 1980). Social costs accompanying accidents that result despite the use of due care are an externality. Providers do not take into account participant care and remaining risk so that activity levels may be too high. The imposition of a strict liability rule governing these accidents can provide an incentive to reduce activity levels with a corresponding reduction in accident losses.

Inherent Risk Statutes for Unavoidable Accidents

To curtail lawsuits against providers of risky sport activities, US state legislatures have enacted more than 120 inherent risk statutes. Diverse provisions alter common law liability for selected activities, including skiing, horseback riding, roller skating, snowmobiling, sport shooting, agritourism, whitewater rafting, and amusement rides. For activities covered by inherent risk statutes, both activity providers and participants may use care but accidents still occur. These accidents may be called “unavoidable accidents” (see Posner, 1973). This means that neither providers nor participants can adjust their care to reduce these accidents. In the absence of a breach of a duty, providers are not liable for damages from accidents resulting from the inherent risks of the activity. Providers retain liability for negligence outside the scope of the statutory protection.

Justification for the Statutes

Providers of various sport activities petitioned for inherent risk statutes to establish a no-liability rule for non-negligent accidents to reduce liability and litigation costs (see *Grieb v. Alpine Valley Ski Area*, 1986). Businesses and organizations sponsoring sport activities claimed they were experiencing difficulties in securing insurance (North American Horsemen’s Association, 1993; *Rothstein v. Snowbird Corporation*, 2007). By placing more risks on participants, providers could escape liability and continue to offer activities.² Under inherent risk statutes, activity providers are not liable for accidents caused by the inherent risks of an activity, although they have a duty not to expose participants to increased risks. Participants are responsible for unavoidable accidents.

Proponents of the inherent risk statutes advanced a number of arguments to justify the provisions. Foremost was the claim of too many unjustified lawsuits. These included lawsuits by injured participants for accidents in which sport providers had not engaged in any negligence contributing to the damages. Sometimes, participants were negligent but brought the lawsuit believing that the activity providers must have also been negligent or that strict liability should apply. In other cases, the issue of whether a party employed due care was dependent on being able to observe their actions and their

1. This is not always true as persons who wish to avoid litigation may use more than due care.

2. Yet the costs of inherent risk accidents do not evaporate or go away just because providers have insurance. Instead, the statutes lowered the price of providers’ liability insurance by placing losses on participants.

honesty. Difficulties in being able to assess the level of care used by activity participants contributed to efforts to secure a no-liability rule. Yet, the American contingency fee arrangement is structured to curtail lawsuits without merit. A lawyer accepting a lawsuit involving personal injuries is only paid if the lawsuit is successful. Therefore, lawyers do not accept cases unless they feel there exists a good chance of winning the lawsuit or securing an adequate settlement offer.

Another possible explanation for an excessive number of injury lawsuits is the existence of a subconscious belief that sport providers should be strictly liable for all accidents. Participants are under the impression that if an accident occurs, the activity provider should be liable. The adoption of strict liability for defective products expresses support for strict liability (Twerski, 2006). Products liability cases suggest the expansion of strict liability may become the norm for other categories of accident participants, including providers of sport services.

Research also suggests that some decisions to proceed with lawsuits may be based in part on hindsight and outcome bias. Hindsight bias is the exaggeration of what could have been anticipated (Rachlinski, 1998). This means that people believe other persons should have foreseen that their actions might lead to injury despite the fact that they acted reasonably given the circumstances. Hindsight bias thereby favors finding liability despite the activity provider's use of due care. Outcome bias may occur when there are serious injuries (Montgomery, 2006). When looking at the result of an accident entailing serious injuries, people tend to feel that the provider made a bad decision. Therefore, despite the absence of a clearly defined breach of care, hindsight and outcome biases may lead the jury to perceive the facts as supporting liability and issue a verdict favorable for the participant.

Addressing Risks and Selected Activities

Inherent risk statutes address the risks accompanying activities in two ways. First, the statutes prescribe duties for providers and participants. These duties involve assignments of care that reduce risks of injury. Second, the legislative provisions identify inherent risks and note the impossibility of eliminating these risks (Idaho Code, 2010). Due to the perceived ability of participants to control risks, the statutes assign liability for inherent risks to participants. Participants cannot recover damages for injuries resulting from the inherent risks of the activity. Often, the statutes also provide that activity providers have no duty to eliminate, alter, control or lessen the risks inherent in the activity (Idaho, Code 2010).

Complementing the no-duty provision is an assignment of responsibility for risks associated with the sport to participants. For skiing, this may mean that:

each skier shall have the sole individual responsibility for knowing the range of his own ability to negotiate any slope or trail, and it shall be the duty of each skier to ski within the limits of the skier's own ability, to maintain reasonable control of speed and course at all times while skiing, to heed all posted warnings, to ski only on a skiing area designated by the ski area operator and to refrain from acting in a manner which may cause or contribute to the injury of anyone. The responsibility for collisions by any skier while actually skiing, with any person, shall be solely that of the individual or individuals involved in such collision and not that of the ski area operator (Idaho Code, 2010).

The enunciation of conduct relating to the inherent risks of an activity addresses precautionary measures for which duties of care may not be assigned under negligence law. Under negligence, some precautionary measures are so complicated that they are omitted from the duty of care (Dari-Mattiacci, 2005). By assigning risks of conduct to participants, the statutes create a no-liability rule under which participants are completely liable for accidents that did not involve provider negligence. By requiring participants to assume the costs of inherent risk accidents, there are fewer precautionary measures grouped under activity levels. This means that under the statutes, inherent risk accidents become more dependent on the level of the activity. Higher levels of activity will be accompanied by more injuries.

In enacting legislation to control risks, US state legislatures have approached the placement of liability only for activity providers of selected activities. Most inherent risk statutes are limited to a particular sport activity (see Appendices 1 and 2). The first group of statutes covered snow skiing, and the idea

of placing responsibilities on participants for inherent risks spread to other activities. The adoption of separate inherent risk statutes for individual sport activities raises questions of political favoritism for selected sports. Why have legislatures adopted inherent risk statutes for whitewater rafting and not for bungee jumping or canoeing?

Two examples reveal questionable policy choices with legislative dispensation for certain providers. The Colorado General Assembly enacted a statute for baseball saying that spectators at professional baseball games assume the risks that are obvious and necessary, such as being struck by a baseball or a baseball bat (Colorado Session Laws, 1993). No similar provisions address the risks of spectators at amateur or recreational games. Why should spectators at professional games be treated differently? Did the Colorado General Assembly feel spectators at professional games need to be encouraged to employ care to reduce risks of injury but spectators at amateur games do not? Or, did the General Assembly feel that spectators at professional games are better able to pay for injuries so professional teams should not have to incur expenses related to injured spectators?

The recent agritourism inherent risk statutes pose a similar question (Centner, 2010). These state statutes posit special liability provisions for persons owning farms and ranches who have broadened their businesses to include farm tours, pumpkin harvesting and painting, orchard tours, learning about farm machinery, Halloween parties, hay rides, wine tours, petting zoos, hunting for a fee, fishing for a fee, horseback riding, farm vacations, pick-your-own operations, camping, craft shops, country stores, roadside stands, farm museums, nature trails, picnic areas, and children's day camps (Holland & Wolfe, 2000). The legislatures adopting these provisions did not explain why the special liability exceptions were needed for farms and ranches providing tourism activities but not for other tourist facilities.

Reasonable Levels of Activity

Tort law seeks to encourage reasonable levels of activity. A liability rule that over-encourages an activity accompanied by injuries may impose costs that outweigh its benefits. If activity providers are not required to internalize the full costs of accidents, the reduced costs associated with offering the activity may lead to activity levels that are too high (Kornhauser, 1989). Participants may engage in activities that are not cost-justified (Meese, 2001) and high levels of activity may cause too many participants to be injured.

For accidents that are part of the inherent risks of the activity, external costs may be placed on others whenever both activity providers and participants employ reasonable care but an accident involving damages still occurs. Neither the providers nor participants of these accidents are internalizing all of the costs placed on others because under the law they have used due care. Under negligence, providers are not liable if they used due care, so they have no incentive to reduce their level of activity although accidents are occurring that place costs on participants. The costs of the activity do not include the expenses of inherent risk injuries. This means that providers provide more activities than are socially desirable. If participants fail to fully evaluate liability for damages that accompany inherent risk accidents, they may participate in the activity too often.

Uncompensated claims, including those with small amounts of damages, are additional liability components that accompany activities governed by inherent risk statutes. Most injured participants do not recover full damages under negligence law because they choose not to litigate. In the United States, an estimated 90 percent of accident claims are not litigated (Galanter, 2000). The existence of uncompensated claims means activity providers are not held liable for all of their errors. Because they only pay part of the damage they cause, providers do not internalize all of the costs of injuries (Geistfeld, 1998). The rational response is to expend monies for providing a safe activity equivalent to the damages for which providers must pay, resulting in an underinvestment in safety by providers (Harrington & Danzon, 2000). Providers do not have an incentive to employ optimal precaution to avoid accidents because they are not accountable for all resulting losses.

Small damage claims also result in uncompensated claims that affect liability. Lawyers for plaintiffs may find that it is not cost effective to litigate claims whenever damages are less than \$50,000, which is the median personal injury verdict (Kritzer, 2001). Participants of small claims probably cannot find

a lawyer willing to represent them because the lawyer cannot earn enough to cover litigation expenses. This means that participants with small amounts of damages never collect from negligent activity providers who voluntarily decline to compensate participants for wrongful injuries. When claims are uncompensated, providers never pay for all of the damages associated with their activities. The subsidization of activities involving claims that are small, uncompensated, or occur under an inherent risk statute means that the overall level of the activities may be too high. Reducing the level of activity to reduce damage costs might be beneficial.

Turning to participants, the possibility of not being compensated for damage losses often causes participants to take action to reduce losses (Miceli, 2008). Participants who file lawsuits due to providers not coming forth with compensation for injuries have to absorb the costs of the lawsuit, which are deducted from damage awards received by successful plaintiffs. Others may buy insurance to pay for accidents. Participants who do not file a claim bear their full damages. Even under strict liability, participants may employ some care to avoid accident losses. Yet the costs incurred by participants are not considered by providers in establishing their levels of activity.

Selecting Liability Provisions

Under inherent risk statutes, duties are prescribed for activity providers and participants, and participants incur liability for their injuries whenever there is no evidence that the provider was negligent. The issue is whether a no-liability rule is a reasonable social and economic response for personal injuries involving inherent risks. Is the placement of liability on participants for accidents governed by inherent risk statutes superior to strict liability? If the no-liability rule established by these statutes does not effectively reduce accident costs associated with the activity, strict liability might be preferred (Geistfeld, 1998).

Neither strict liability for providers nor no liability for participants takes into account all of the known liability factors. A strict liability rule does not take into account the costs associated with participant care. Under a no-liability rule, activity providers employing sufficient precaution do not pay for accident damages. Because damage costs for inherent risk and other uncompensated accidents are not factored into the marginal costs of precaution and accident prevention, activity levels may be too high under a no-liability rule. Thus, the choice of a liability rule might be grounded on whether participants' level of care or providers' level of activity is more significant in responding to inherent risk accidents (Anderson, 2007).

This would involve an analysis of the injuries to determine how many are related to the level of care taken by participants. Activity participants should be assigned liability for inherent risk damages for activities where their behavior affecting expected harm cannot be scrutinized (Sykes, 2007). Activity providers should be assigned liability for inherent risks for activities where they are better able to take measures to reduce expected harm (Sykes, 2007). If activity levels are too high, a legislature might adopt a strict liability rule under which providers would be designated as the residual bearers of liability for inherent risk accidents.

Turning to the sport of skiing, what might be significant in determining the assignment of liability? Obviously, injured skiers have numerous allegations for seeking damages from providers. Under the statutes, providers have responsibilities concerning safe equipment and premises. Any violation of a rule or regulation is negligence and providers remain liable for associated injuries. This includes injuries caused by manmade features placed in the wrong location relative to a ski slope (see *Spencer v. Killington, Ltd.*, 1997). The inherent risk ski statutes only assign injuries to participants that resulted from an inherent risk. Two categories of accidents lead to a majority of the inherent risk lawsuits: conditions of the ski area and collisions with objects and other skiers.

Conditions inherent to the risks of skiing include changing weather conditions; snow conditions such as ice, cut-up snow, and machine-made snow; surface or subsurface conditions such as bare spots, trees, rocks, stumps, streambeds, or other natural objects and collisions with these objects; impact with lift towers, signs, and man-made structures; and the failure of skiers to ski within their abilities (Colorado Revised Statutes, 2010). The inherent risk statutes mean that providers do not incur liability for injuries relating to these conditions. Rather, skiers with injuries that occur when they lose control

on icy snow (see *Salderini v. Wachusett Mountain Ski Area, Inc.*, 1996) or are surprised by a bare spot (see *McHerron v. Jiminy Peak, Inc.*, 1996) are responsible for their injuries.

Collisions with objects and other skiers are a second category of inherent risk accidents. The ski statutes place duties on providers to provide warning notices to skiers. Statutory provisions may require identification of the difficulty of trails and slopes, extreme terrain, closed areas, and man-made features not readily visible (Colorado Revised Statutes, 2010). Providers who fail to comply with statutory warning requirements can incur liability for accidents related to their negligence. For collisions that occur despite the warnings, participants incur liability.

For both conditions of a ski area and collisions, the issue is whether the provider or the participant can reduce the risks of injury. Because providers are liable for any negligent conditions of the premises and are required to place warnings of dangers, there remain few opportunities to enhance safety through additional care by providers. Conversely, skiers know their skills, can observe their surroundings, and can determine whether they can safely navigate a trail or condition of the ski area. Participants also can avoid a collision with another skier or an object. Thus, participants may be in a superior position vis-a-vis providers to keep themselves safe. Assigning participants liability for damages associated with conditions and collisions related to their conduct may help reduce risks.

The level of activity is also important in determining how to assign liability for inherent risk damages. Under general liability law, activity providers do not incur liability for uncompensated claims that injured participants fail to seek redress and unpaid claims for minor accidents that are never litigated. Under inherent risk statutes, providers also do not incur liability for damage costs for inherent risk accidents. Absent liability for all of these damage costs, activities may be offered too often under the liability provisions established by inherent risk statutes. Without liability for these accident damages, providers have lower overall activity costs. In a competitive market, the lower costs result in a market readjustment where providers lower their fees for activities, leading to greater participation. Activities with high amounts of damages placed on participants may not be very beneficial. By internalizing more injury costs, providers would raise the price of their activity. Higher prices would lead to fewer participants engaging in these activities, and the lower participation would be accompanied by fewer accidents.

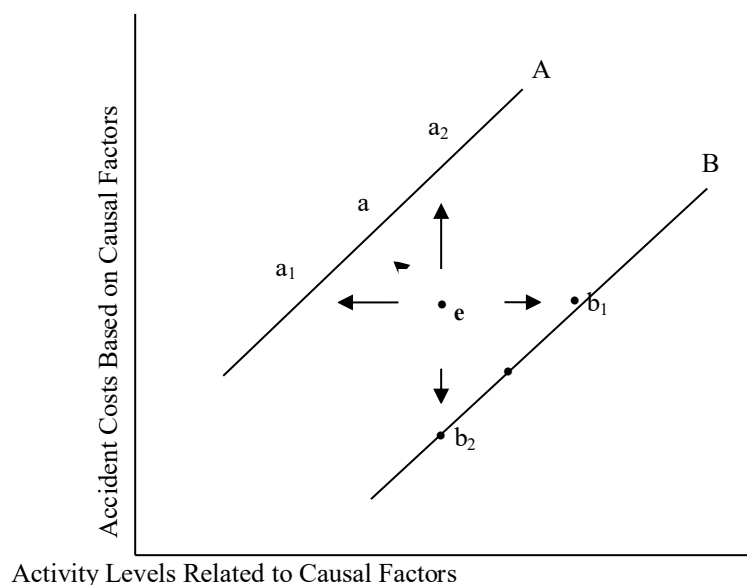


Figure 1: Shifts in Activity Providers' Accident Costs for Causal Factors under Negligence

Effects of Causal Factors on Negligence Liability

The effects of causal factors on negligence liability are shown in Figure 1 (above). Let e represent negligence equilibrium where the marginal costs of precaution are equivalent to the expected marginal reduction in accident losses. The horizontal axis denotes activity levels related to causal factors while

the vertical axis denotes accident costs related to three factors. Line A represents liability for activity providers where they are liable for accident costs despite not being negligent. Causal factors that would be represented by A include unmeritorious lawsuits, fraudulent claims, judicial mistakes finding liability, inability to show participant negligence, hindsight and outcome bias, and failure to account for activity-provider care. Line B represents liability for activity providers where they are not liable for accident costs despite being negligent. Factors that would be represented by B include small claims not litigated, difficult claims and unproven claims not paid, judicial mistakes in not finding liability, unobservable activity-provider negligence, and failure to account for participant care and remaining risk.

In Figure 1, segment ea_0 represents those causal factors that cause activity providers to pay more accident costs. Segment eb_0 represents causal factors that enable activity providers to avoid accident costs associated with wrongful conduct. For A, causal factors that cause activity providers to incur liability may be expected to lead activity providers to raise activity prices to cover the expenses. Higher prices would cause a change from equilibrium e to a lower activity level denoted by a_1 . Correspondingly, participants may use less precaution as they recognize they can recover accident damages. With less participant precaution, accident costs are projected to increase from e to a_2 . The joint effects of higher prices and less participant precaution for these factors would lead to activity level a_0 .

Turning to B, factors that cause activity providers to not be liable for accident costs may lead activity providers to lower prices. This would encourage more people to become participants, resulting in a change from equilibrium e to a higher activity level denoted by b_1 . Correspondingly, participants may use more precaution leading to fewer accidents. The result would be lower accident costs, accompanied by a lower activity level, and a change from e to b_2 . The joint effects of these factors would lead to activity level b_0 .

The significance of Figure 1 arises from comparing the accident costs from all causal factors that shift liability from equilibrium e . If one group of factors represented by A or B is more weighty, when all of the factors are considered together, equilibrium may shift from e . Although inherent risk accidents do not involve negligence by activity providers or participants, the choice of assigning liability for these accidents might be based on which group of negligence factors is most significant. Are the causal factors under which activity providers unfairly incur liability (represented by A) more significant than the factors under which activity providers escape liability for their negligence (represented by B)?

One comparison is whether the causal factors leading to lower activity levels denoted by a_1 are more significant than the factors leading to higher activity levels denoted by b_1 . Under this comparison, the assignment of liability for inherent risk accidents might be based on whether the factors unfairly assigning liability to providers (represented by A) are smaller than the factors under which providers escape liability (represented by B). If $ea_1 > eb_1$, this lends support for holding participants liable, which occurs under inherent risk statutes. However, if $ea_1 < eb_1$, this lends support for making activity providers liable for accidents.

A second comparison is whether the factors leading to increased accident costs, denoted by a_2 , are greater than the factors leading to decreased accident costs, denoted by b_2 . Under this comparison, the assignment of liability to activity providers might be based on whether the accident costs accompanying causal factors unfairly assigning liability to providers are smaller than the accident costs accompanying factors under which providers escape liability. If $ea_2 > eb_2$, this lends support to hold participants liable under an inherent risk statute. However, if $ea_2 < eb_2$, this lends support for making activity providers liable for accidents.

Finally, a comparison of the change in equilibrium e to a_0 or b_0 may offer the greatest support for selecting a liability regime. If $ea_0 > eb_0$, this supports participant liability under an inherent risk statute. The factors involved in holding activity providers wrongfully liable are greater than the factors enabling activity providers to avoid liability for their wrongful conduct. However, if $ea_0 < eb_0$, this supports activity-provider liability.

Legislatures enacting inherent risk statutes were convinced $ea_1 > eb_1$. Legislators felt that activity providers were incurring too much liability for unmeritorious lawsuits. However, more weighty

factors may offset the negative factors of activity providers. Because placing liability for inherent risk accidents on participants increases accident costs, the level of activity needs to be considered. It may be beneficial to lower the level of activity to reduce accident costs.

Conclusion

Many US state legislatures have taken action to adopt inherent risk statutes that delineate a no-liability rule for accidents occurring due to the inherent risks of the activity. Statutes that encourage participants to employ care to avoid accidents can be justified by their deterrence of losses. This may occur in activities where participants are in a superior position vis-a-vis providers to employ care to keep themselves safe. Yet for accidents occurring due to the inherent risks of the sport, participants have not been negligent. Therefore, criteria other than due care may be more appropriate for assigning liability for these accidents.

In defining inherent risks of an activity, most statutes and courts recognize that activity providers should take reasonable steps to minimize risks of injury without altering the nature of the sport (see *Knigh v. Jewett*, 1992). Whenever activity-provider liability would deter vigorous participation in the activity or fundamentally alter the nature of the activity, risks are assigned to participants. Simultaneously, if activity providers are not held accountable for accidents, they have lower business costs and increase the level of activity. Increased participation leads to more accidents. Does the protection from liability granted to activity providers by inherent risk statutes lead to activity levels that are too high? If the activities are accompanied by significant injuries, reducing activity levels to reduce accident costs may be beneficial.

The evaluation of casual factors accompanying negligence liability suggests that it is not clear that activity providers should escape liability for inherent risk accidents. By encouraging greater participation, the legislatively-enacted inherent risk statutes increase accident losses that are placed on participants. Participants may use their insurers to cover the costs or, alternatively, severely injured participants may be unable to pay the costs and file for bankruptcy. One study suggests that the financial difficulties of more than 40 percent of debtors filing for bankruptcy are related to medical expenses (Jacoby, 2001). Severely injured participants filing for bankruptcy may default on mortgages and loans thereby adversely affecting other businesses.

The placement of accident costs on injured participants' insurers, families, and creditors by legislatures adopting inherent risk statutes may not be socially beneficial.³ Given that increased levels of activities lead to additional accidents, consideration might be given to placing some costs of accidents on providers so that the price of an activity more accurately reflects its real costs. Coinsurance or an industry accident-trust fund might provide a more satisfactory resolution for the placement of liability for inherent risk accidents. Alternatively, adopting a rule where activity providers internalize accident costs by bearing residual liability may be more consistent with current social beliefs. Further research is needed to evaluate levels of care and activities to discern whether alternative liability assignments could augment social welfare.

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3. Thus, the inherent risk statutes have similarities with environmental injustices. Providers of selected activities have garnered legislative dispensation for their businesses at the expense of participants. In the absence of robust remedies against activity providers, it is less likely that injured persons can collect for their injuries (see Koenig & Rustad, 2004).

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Salderini v. Wachusett Mountain Ski Area, Inc., 665 N.E.2d 79 (Mass. 1996).
Spencer v. Killington, Ltd., 702 A.2d 35 (Vt. 1997).

APPENDIX 1: Specialized Liability Statutes

- Alabama Code § 6-5-342 (roller skating and skateboarding).
 Alaska Statutes §§ 05.45.010–.210 (skiing).
 Alaska Statutes § 09.65.290 (general sports).
 Arizona Revised Statutes §§ 5-701 to 5-707 (skiing).
 Arizona Revised Statutes § 12-554 (baseball).
 Arkansas Code Annotated §§ 18-60-107 (harvesting crops and trees).
 Colorado Revised Statutes Annotated § 13-21-120 (baseball).
 Colorado Revised Statutes Annotated § 13-21-121 (agricultural recreation).
 Colorado Revised Statutes Annotated §§ 33-44-101 to -114 (skiing and snowmobiling).
 Connecticut. General Statutes Annotated §§ 29-211 to -213 (skiing).
 Florida Statutes Annotated § 316.0085 (skateboarding, skating, paint ball, offroad bicycling).
 Georgia Code Annotated §§ 2-14-152 to -153 (harvesting crops).
 Georgia Code Annotated §§ 27-4-280 to -283 (fishing).
 Georgia Code Annotated § 43-43a-1 to -8 (skiing).
 Georgia Code Annotated § 51-1-43 (roller skating).
 Hawaii Revised Statutes § 663-1.54 (active sports).
 Idaho Code §§ 6-1101 to -1109 (skiing).
 Idaho Code §§ 6-1201 to -1206 (outfitters and guides).
 Illinois Compiled Statutes Annotated, chapter 745, §§ 52/1 to 52/99 (hockey facilities).
 Illinois Compiled Statutes Annotated, chapter 745, §§ 72/1 to 72/30 (roller skating).
 Indiana Code Annotated §§ 34-31-6-1 to -4 (roller skating).
 Kansas Statutes Annotated §§ 74-50,165 to -50,173 (agritourism).
 Louisiana Revised Statutes Annotated § 9:2795.4 (motorized off-road vehicles).
 Louisiana Revised Statutes Annotated § 9:2795.5 (agritourism).
 Louisiana Revised Statutes Annotated § 40:1485.1 (amusement rides).
 Maine Revised Statutes Annotated, title 8, §§ 601–608 (roller skating).
 Maine Revised Statutes Annotated, title 8, §§ 801–806 (amusement rides).
 Maine Revised Statutes Annotated, title 32, §§ 15201–15227 (skiing).
 Massachusetts General Laws Annotated, chapter 128, § 2E (harvesting crops and trees).
 Massachusetts General Laws Annotated, chapter 143, §§ 71H–71S (skiing).
 Michigan Compiled Laws Annotated § 324.73301 (harvesting crops).
 Michigan Compiled Laws Annotated § 324.82126 (snowmobiling).
 Michigan Compiled Laws Annotated §§ 408.321–.344 (skiing).
 Michigan Compiled Laws Annotated §§ 445.1721–.1726 (roller skating).
 Michigan Compiled Laws Annotated §§ 691.1541–.1544 (sport shooting).
 Missouri Annotated Statutes § 537.327 (paddlesport).
 Missouri Annotated Statutes § 537.550 (small-town festivals and fairs).
 Montana Code Annotated §§ 23-2-651 to -655 (snowmobiling).

Montana Code Annotated §§ 23-2-702 to -734 (skiing).
Montana Code Annotated §§ 27-1-741 to -745 (amusement rides).
Montana Code Annotated §§ 37-47-401 to -404 (outfitters and guides).
Nevada Revised Statutes §§ 455A.010–.190 (skiing and snowboarding).
Nevada Revised Statutes §§ 455B.010–.100 (amusement rides).
New Hampshire Revised Statutes Annotated § 215-A:5-c (off-highway recreational vehicles).
New Hampshire Revised Statutes Annotated § 215-C:55 (snowmobiles).
New Hampshire Revised Statutes Annotated §§ 225-A:1 to -A:26 (skiing).
New Jersey Statutes Annotated §§ 2A:53A-43 to -48 (professional baseball).
New Jersey Statutes Annotated §§ 5:13-1 to -11 (skiing).
New Jersey Statutes Annotated §§ 5:14-1 to -7 (roller skating).
New Mexico Statutes Annotated §§ 24-15-1 to -14 (skiing).
New York General Obligations Law §§ 18-101 to -108 (skiing).
New York Labor Law §§ 865–868 (skiing).
North Carolina General Statutes §§ 99C-1 to -5 (skiing).
North Carolina General Statutes §§ 99E-10 to -25 (skating, skateboarding, freestyle bicycling).
North Carolina General Statutes §§ 99E-30 to -32 (agritourism).
North Dakota Century Code §§ 53-09-01 to -11 (skiing).
Ohio Revised Code Annotated §§ 4169.01–.99 (skiing).
Ohio Revised Code Annotated §§ 4171.01–.10 (roller skating).
Oregon Revised Statutes §§ 30.970–.990 (skiing).
Oregon Revised Statutes §§ 401.605–401.635 (wilderness travel).
Pennsylvania Consolidated Statutes Annotated, title 40, § 2051; title 42, § 7102 (skiing).
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Utah Code Annotated §§ 78-27-61 (amusement park rides).
Utah Code Annotated § 78-27-62 (hockey facilities).
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Virginia Code Annotated §§ 3.2-6400 to -6402 (agritourism).
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West Virginia Code §§ 20-3A-1 to -9 (skiing).
West Virginia Code §§ 20-3B-1 to -5 (whitewater rafting).
West Virginia Code §§ 20-15-1 to -8 (off-highway vehicles).
Wisconsin Statutes Annotated § 895.525(4m) (contact sports).
Wisconsin Statutes Annotated § 895.527 (sport shooting).
Wyoming Statutes §§ 1-1-121 to -123 (recreational sports).
Wyoming Statutes § 6-9-301 (skiing).

APPENDIX 2: Equestrian and Animal Immunity Statutes

Alabama Code § 6-5-337.
Alaska Statutes § 09.65.290.
Arizona Revised Statutes Annotated § 12-553.
Arkansas Code Annotated §§ 16-120-201 to -202.
Colorado Revised Statutes Annotated § 13-21-119.
Connecticut General Statutes Annotated § 52-557p.
Delaware Code Annotated, title 10, § 8140.
Florida Statutes Annotated §§ 773.01–.05.
Georgia Code Annotated §§ 4-12-1 to -5.
Hawaii Revised Statutes Annotated §§ 663B-1 to -2.
Idaho Code §§ 6-1801 to -1802.
Illinois Compiled Statutes Annotated, chapter 745, §§ 47/1 to 47/999.
Indiana Code Annotated §§ 34-6-2-40 to -43, 34-6-2-69, 34-6-2-95, 34-31-5-1 to -5.
Iowa Code Annotated §§ 673.1–.3.
Kansas Statutes Annotated §§ 60-4001 to -4004.
Kentucky Revised Statutes Annotated §§ 247.401–.4029.
Louisiana Revised Statutes Annotated §§ 9:2795.1, 9:2795.3.
Maine Revised Statutes Annotated, title 7, §§ 4101, 4103-A.
Massachusetts General Laws Annotated, chapter 128, § 2D.
Michigan Compiled Laws §§ 691.1661–.1667.
Minnesota Statutes Annotated § 604A.12.
Mississippi Code Annotated §§ 95-11-1 to -7.
Missouri Annotated Statutes § 537.325.
Montana Code Annotated §§ 27-1-725 to -728.
Nebraska Revised Statutes §§ 25-21,249 to -21,253.
New Hampshire Revised Statutes Annotated § 508:19.
New Jersey Statutes Annotated §§ 5:15-1 to -12.
New Mexico Statutes Annotated §§ 42-13-1 to -5.
North Carolina General Statutes §§ 99E-1 to -3.
North Dakota Century Code §§ 53-10-01 to -02.
Ohio Revised Code Annotated § 2305.321.
Oklahoma Statutes, title 76, §§ 50.1–.4.
Oregon Revised Code §§ 30.687–.697.
Rhode Island General Laws §§ 4-21-1 to -4.
South Carolina Code Annotated §§ 47-9-710 to -730.
South Dakota Codified Laws Annotated §§ 42-11-1 to -5.
Tennessee Code Annotated §§ 44-20-101 to -105.
Texas Civil Practice & Remedies Code Annotated §§ 87.001–.005.
Utah Code Annotated §§ 78-27b-101 to -103.
Vermont Statutes Annotated, title 12, § 1039.
Virginia Code Annotated §§ 3.1-796.130–.136.
Washington Revised Code Annotated §§ 4.24.530–.540.
West Virginia Code §§ 20-4-1 to -7.
Wisconsin Statutes Annotated § 895.481.
Wyoming Statutes §§ 1-1-121 to -123.

Corporate Governance Reforms in Nigeria: Challenges and Suggested Solutions

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Abstract

This paper examines the challenges to corporate governance reforms in Nigeria from the promulgation of the Corporate and Allied Matters Act of 1990, the introduction of the 2003 Security and Exchange Commission (SEC) code of best practices in corporate governance to the 2006 Central Bank of Nigeria (CBN) code of corporate governance for banks in Nigeria. It uses related literature to review and discuss the identified challenges. It discovers that some of the challenges to corporate governance reforms in Nigeria stem from the country's culture of institutionalized corruption and political patronage which is characterized by weak regulatory frameworks and refusal of government agencies to enforce and monitor compliance. The complexity of these challenges are compounded by the wide spread poverty and high unemployment which discourages a culture of whistle blowing. A set of suggested solutions were made including the separation of business from politics, the establishment of a special corporate affairs tribunals within the judiciary to try violators, promoting the culture of whistle blowing, enhancing business through moral education and promoting resource based development through fiscal federalism.

Keywords

Corporate governance; corporate governance code; corporate governance environment; corporate governance mechanisms; regulatory framework.

Introduction

There has been renewed interest in corporate governance reforms in Nigeria amongst public and private sectors organizations (Alo, 2003; Wilson, 2006; Dabor and Adeyemi, 2009; Roe 2003; Ahmed 2007; Olusa, 2007), these practitioners and scholars have written on the benefits of good corporate governance in Nigeria but very few have drawn attention to the challenges posed by the inadequacy of the corporate governance mechanisms in Nigeria (Iyang, 2009; Wilson, 2006). Whilst Corporate governance might mean different things to different people, the Cadbury Committee's definition of corporate governance as "the system by which companies are directed and controlled" (Cadbury, 1992) provides a good basis for discussing the challenges of corporate governance reforms in Nigeria. The Organization for Economic Cooperation and Development's definition of corporate governance as "the structure through which company objectives are set and the means of attaining those objectives and monitoring performance" (OECD, 1999; 2004) highlights the importance of resolving the challenges of corporate governance reforms in Nigeria. Without good corporate governance, corporate performance cannot be measured.

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Corporate governance aims at promoting corporate transparency and accountability. Its goal is to enhance the directors' fiduciary duties and their ethical conduct in directing the affairs of a corporation but the recent happenings in most private corporations in Nigeria have raise concerns about the effectiveness of the corporate governance reforms in Nigeria.

This paper sets out to discuss the challenges posed by the country's corporate governance reform mechanisms and to provide some insights into the possible solutions to the identified challenges especially regarding the newly introduced corporate governance codes by the Nigerian Security and Exchange Commission (SEC) and Central Bank of Nigeria (CBN).

The SEC inaugurated a code of best practices in corporate governance in 2003 (SEC, 2003), three years later the CBN established another code of corporate governance for banks in Nigeria post consolidation in 2006 (CBN, 2006). These codes were invoked to supplement the Company and Allied Matters Decree (now an Act) of 1990 promulgated by a military administration to regulate all corporate affairs in Nigeria. Whilst both codes were aimed at promoting the tenets of good corporate governance which include transparency, accountability, responsibility, integrity, independence and discipline in the private sector corporations (Modlane, 2008). The Act remains the main law which regulates all corporate affairs in Nigeria. Despite all these legal and regulatory frameworks there have been shocking scandals in Nigerian organized private sector since the mid-1990s ranging from the failed and distress banks crisis of the late 1990s through the falsification of financial statements by Cadbury Nigeria Plc directors (Olusa, 2007; Amao and Amaeshi, 2008) to the more recent sacking of the board of directors of eight banks for gross insider abuse and mismanagement of their banks' funds (Economic Confidential, 2009). These scandals indicate that there are challenges to the corporate governance reform mechanisms in Nigeria.

The focus of this paper is to answer these questions; are there challenges to the corporate governance reforms in Nigeria? If yes, what are these challenges? What are the possible solutions to these identified challenges? The paper is organized six sections; section one is the introduction while section two states the theoretical framework of the corporate governance concepts and terminologies. Section three uses related literature to discuss the evolution and challenges of the corporate governance reforms in Nigeria while section four identifies and classifies the major challenges to corporate governance reforms. The next section proffers possible solutions and the paper's final section provides the concluding remarks.

Conceptual Framework

Corporate governance

Corporate Governance is "the system through which corporations are directed and controlled" (Cadbury, 1992). It embodies the entire process for ensuring good corporate performance and responsiveness to shareholders and other stakeholders (Iyang, 2004). Given the importance of good corporate governance to a country's economic system and national development (Roe, 2003) many multilateral organizations such as the Organization of Economic Cooperation and Development (OECD, 1999; 2004), the Commonwealth Association of Corporate Governance (CAGG 1999), the World Bank (1999); the Global Corporate Governance Forum (GCGF, 1999); the Pan African Consultative Forum on Corporate Governance (PACFCG, 2001) have recommended corporate governance principles for corporations.

Corporate governance code

The most typical method for ensuring good corporate governance reforms in most countries is through the invocation of corporate governance codes which supplement existing corporate laws. Corporate governance codes are documents which state the rules and procedures for governing and managing corporations (Dabor and Adeyemi, 2009; Ugoji and Isele, 2009; Scott, 2007; Classens and Bruno, 2007). Since corporate governance is a process by which corporations are governed and controlled with a view to increasing shareholders values and meeting the expectations of other stakeholders (CBN, 2006; Iyang, 2009), the codes categorically state the rules, principles and best practices for governing corporations properly (Okhealam and Akinboade 2003; Armstrong 2003; Gatamah 2008; Andreason 2009). Most corporate governance codes are instituted by self regulating professional bodies with the consent of the relevant government regulating agencies but the responsibility for adopting and implementing the code lies on a corporation's board of directors (Elebute, 2000; Iyang, 2009; Sanusi 2003, Soludo 2004). Hence it has been argued that the boards major responsibility is to

ensure good corporate performance, increase shareholders' value, protect stakeholders' interests, contribute to society's wellbeing, preserve the environment and to prepare accurate financial reports (Alo, 2003; Wilson, 2006; Dabor and Adeyemi, 2009; Roe 2003; Ahmed 2007; Olusa, 2007, Elebute, 2000; Iyang, 2009; Sanusi, 2003, Soludo, 2004).

Corporate governance mechanism

Corporate governance mechanisms are the processes and systems by which a country's company laws and corporate governance codes are enforced. The mechanisms incorporate the means for monitoring compliance by corporations (Reed, 2002). The effectiveness of a country's corporate governance mechanism depends largely on the country's regulatory frameworks and public governance systems (Wilson, 2006, Dabor and Adeyemi, 2009; Roe, 2003; Ahmed, 2007; Olusa, 2007). The corporate governance codes are best enforced by professional bodies in collaboration with government institutions and the capital market regulators or vice versa (Vinten, 2002; Reed, 2002; Wilson 2006; Roe, 2003). The existence of many corporate governance mechanisms does not necessarily translate into good corporate governance as many corporate scandals in Nigeria and other countries have proven. The wide-spread adoption of a country's corporate governance code by private sector corporations often indicate mere conformance which does not necessarily mean that the corporations are committing themselves to sound and ethical business practices (Rossouw, 2005, Gatamah, 2008; Iyang, 2009). A survey conducted by SEC in Nigeria indicates that 40 percent of country's quoted companies have adopted the corporate governance code (Amao and Amaeshi, 2008; Olusa 2007) but the incidences of lack of transparency, accountability, integrity, social responsibility and environmental sustainability have not abated.

Corporate governance environment

A country's corporate governance environment considers the impacts of the political, economic and social-cultural factors that enhance good corporate governance or prevent unethical conduct (Li and Nair, 2009). It embodies the political, economic, social, technological and legal institutions that influence the ethical dispositions of private corporations (Amaeshi and Amao 2008; Wilson, 2006). The Corporate governance environment determines the context for evaluation a corporations' performances, decisions, strategic choices and actions. While the political, cultural and socio-economic ramifications of the recently introduced corporate governance codes in Nigeria are still being studied, it is important to note that these codes were established as instruments for safeguarding the corporations against corruption, mismanagement and environmental abuse. These codes were invoked to promote corporate transparency and accountability, economic growth and social development (Okhealam and Akinboade, 2003; Armstrong, 2003; Gatamah, 2008; Andreason, 2009).

Prior to the introduction of Nigeria's foremost corporate governance code by the SEC in 2003, the country's corporate governance reform mechanism were enforced via military decrees most notably was the Corporate and Allied Matter Decree (CAMD) now Corporate and Allied Matters Act (CAMA) of 1990 when the country returned to civilian rule in 1999. This law regulates and governs all corporate matters relating to corporations and non-profit organizations in Nigeria. Given that the CAMA was military promulgated decree, there were insufficient stakeholders' inputs and lack of parliamentary debates into the law making process. Nonetheless, the CAMA was able to address some of the lapses and loopholes observed in the 1968 Company's Act. The CAMA sets up the Corporate Affairs Commission (CAC). The CAC has wider powers and more authorities than the defunct company registrar which it replaced; it supervises, regulates and resolves all corporations' related matter in Nigeria. The SEC corporate governance code was later introduced in 2003 was to supplement the effectiveness of the CAMA (Amaeshi and Amao ,2008; Wilson, 2006; Amao, 2002) just as the CBN code was meant to supplement the effectiveness of the Bank and Other Financial Institutions Act of 1992.

Related literature

Corporate governance is an evolving field which have gained popularity in the last decade after the demise of Enron, Worldcom, Arthur Anderson etc in the United States which have forced academics,

legal practitioners, accounting and other professionals, regulatory agencies, government institutions, NGOs and international financial institutions to pay attention to corporate governance reforms, (Kay and Silberston 1995; Vinten, 1998; 2002; Aquiler and Luervo- caruza, 2004; Bhasa, 2004; Mardjono, 2005; Wieland, 2005; Chambers, 2006;; Malin, 2008; Judge, Douglas and Kutun, 2008; De Cleyn, 2008). Other Countries have had similar corporate scandals, for example HIH Insurance in Australia; Marconi in UK, Parmalat in Italy; Regal Bank, Leisure Net and Krypton in South Africa and Cadbury PLC in Nigeria. Consequent upon these publicized corporate scandals and the preceding financial crises experienced in Asia in the late 1990s, there was a global impetus to promote good corporate governance, accountability and ethical business practices in many countries (Alo 2001, Sanusi, 2003; Wilson, 2006; Iyang, 2009). Thus, many multilateral organizations such as the Organization of Economic Cooperation and Development, the Commonwealth Association of Corporate Governance, the United Nations Compact instituted principles and best practices of corporate governance which corporations and countries are encouraged to adopt and practice (OECD, 1999; 2004; CAGG, 1999; UN Compact, 2002).

Corporate governance codes are documents which state the principle, rules and procedures for making strategic decisions and prescribe the frameworks for governing corporations and achieving corporate objectives (Ajogwu, 2009; Alo, 2001). Corporate governance is a system by which organizations and company are directed, managed and controlled in order to enhance corporate performance and cater for shareholders concerns and stakeholders interests (Sanusi, 2003; Iyang, 2004). Corporate governance has a leadership dimension, because it provide directional leadership to organizations by creating an enabling environment which integrates and systematize various collaborative efforts for setting objectives and achieving corporate goals (Ugoji and Isele, 2009). Good corporate governance helps to prioritizes organizational objectives achieve good corporate performance, enhances ethical decision making within organizations where shareholders' concerns and stakeholders interest and are addressed properly (Sanda, Mikailu and Garba, 2005; Wieland, 2005; Chambers, 2006; Malin, 2008; King, 2006; Andreasson 2009; Vinten 1998; 2002; Aquiler and Luervo- caruza, 2004; Gatamah 2008, Roe, 2003; De Cleyn 2008).

The triple bottom line reporting introduced by Elkington (1997) and adopted by the Kings Report, (IoDSA, 2002; 2009) requires modern corporations to disclose their economic, social and environmental performances instead for better decision making. The Social Responsible Investment index adopted by South Africa's (JSE, 2004) requires quoted corporations in South Africa to integrate social responsibility and environmental sustainability issues into their corporate strategic plans and to adopt sound business practices (Naidoo, 2002; Wixley and Everingham 2005; Vaughan and Ryan 2006; Taylor 2007; Roe, 2003). Corporations are vital part of the society and as corporate citizens, they are expected to contribute actively to the development of society and protect the natural environment (West, 2006; King, 2006).

It has been widely acknowledged that good corporate governance helps most developing countries and emerging markets to attract domestic and foreign direct investments, build their markets competitiveness, restore investor confidence, promote economic growth and boost national development (Armstrong, 2003; Koufopoulous, 2006; Okhehalem and Akinboabe 2003) but there are many challenges to ensuring good corporate governance in these developing countries (Li and Flier, 2007; Wilson, 2006) especially when the corporations need to be convinced that they are not independent of the society, host community or the natural environment in which they operate (IoDSA, 2002; Rossouw, 2005; Ngwakwe, 2009). It has been affirmed that the mechanisms for ensuring good corporate governance exist in Nigeria but the will and capacity to enforce the laws, monitor and ensure compliance need to be strengthened because the CAC as the main agency for regulating and supervising all corporation related matters in Nigeria is weak and perfunctory in performing its duties (Oyejide and Soyibo, 2001; Okike 2007, Amaeshi *et al*, 2008).

In 2006, the CBN prescribed certain measures for mitigating the fifteen weaknesses that were observed in the 25 mega banks that emerged from the banking industry consolidation exercise of 2005 but the poor implementation and weak enforcement of the CBN corporate governance code have prevented the CBN from achieving its objectives of ensuring proper corporate governance in Nigerian banks. Three years after the CBN mandatory code was established, the boards of directors of eight

banks in Nigeria were sacked for poor corporate governance, insider abuse and mismanagement of their shareholders and depositors funds (Next, 2009; Alli, 2009). Although these listed weaknesses were misconstrued as challenges (Wilson, 2006; Iyang, 2009) it was still expected that the CBN will be able to enforce its own code on the banks since it applies to just one section of the financial industry in Nigeria unlike the SEC Code that applies to the entire organized private sector. The CBN's failure to effectively eradicate these identified 'challenges' and to develop sound banking institutions in Nigeria implies that there are still many challenges to the corporate governance reform mechanisms in Nigeria. These challenges are embedded in the corporate governance environment and the weak enforcement mechanisms because events have shown that the CBN code was either not complied with completely by the banks or its enforcement deliberately compromised by the CBN, SEC and other regulating agencies.

At this point, it is necessary to separate the challenges from the weak internal control mechanism of individual corporations. While, the CBN may be overburdened as initiator of monetary policies, banker to other banks, financial industry regulator, monetary policy formulator, currency issuer, adviser to the federal government, and inter-bank settlement and payment system manager (Wilson 2006), it still has a duty to effectively monitor and enforce its corporate governance code on the banks (Iyang, 2009) as it has been rightly pointed out that the real challenges to corporate governance reforms in Nigeria are the weak, inefficient, inadequate legal, institutional and regulatory frameworks.

Challenges to corporate governance reforms in Nigeria

While there are laws and corporate governance codes for ensuring good corporate governance in Nigeria the major challenge lies in the weakened, inefficient and inadequate legal and regulatory frameworks for enforcing and monitoring compliance with the CAMA and the corporate governance codes in Nigeria (Amaeshi *et al* 2006, Wilson 2006; Okhehalem and Akinboabe, 2003; Nmehielle and Nwauche, 2004; Oyejide and Soyibo, 2001; Okike, 2007; Iyang 2009). To further buttress this point, just two months into the tenure of the new CBN governor, the CBN in August 2008 exercise its powers to comprehensively audit the 25 mega banks that emerged from the banking industry consolidation exercise. A year later, after the audit, only 15 banks (60 percent) were considered healthy, eight (32 percent) were distressed and two (8 percent) were grossly undercapitalized. The CBN had to sack the board of directors and sacked of the eight distressed bank for gross insider abuse and financial impropriety. The sacked directors are now being prosecuted for various financial crimes in Nigeria. The new CBN management was quick to admit that the CBN's failure to effectively enforce its own corporate governance code and monitor its strict compliance was partly responsible for the 2009 banking industry crisis as such the CBN had to quickly reorganized its banks supervision unit while embarking on a more extensive corporate governance reform in the Nigeria banking industry (Thisday, 2009; Sanusi, 2010).

The objective of this paper therefore is to identify the major challenges to corporate governance reforms and suggest some possible solutions. The assertion by Amaeshi *et al* (2006) that the Nigeria's legal enforcement and regulatory framework are weakened and made inefficient by institutionalized corruption has been widely accepted as the bane of poor corporate governance in Nigeria but this alone cannot be blamed for the persistent corporate governance failures in Nigeria. There are other socio-political, economic and cultural factors which create the dismal corporate governance environment in a country (Wilson, 2006; Meyer, 2006; Andreasson, 2009) and these factors are analyzed within the socio-political context of contemporary Nigeria in order to provide more detailed insights into the challenges to corporate governance reforms in Nigeria which are discussed in the subsequent paragraphs.

Institutionalized corruption

Corporations cannot be divorced from the corruption that exists in the society in which they are operating especially if they are operating in a weakened corporate governance environment like Nigeria (Wilson, 2006; Liu and Lin 2009). After attaining independence from Britain in 1960, Nigeria was ruled by unelected military governments for a total of thirty years while the remaining twenty has been under corrupt civilian elite. Under both systems, a culture of political patronage was fostered on

the country by the ruling class; the military regimes institutionalized corruption and created an atmosphere of impunity from arrest and legal prosecution while the politicians shielded law breakers (who are politically connected) from investigations and prosecution (Amaeshi *et al* 2006; Bakre 2007; Elumelu 2007; Okuaru 2006). Since 1972 when the Nigerian Enterprises Promotion Decree as amended in 1977 and 1989 (otherwise known as the indigenization decree) was promulgated by a military administration to promote indigenous ownership of business (later repealed and replaced by the Nigerian Investment Promotion Act of 2000), the politicians and business owners have formed an alliance and both spheres have been dominated by the same ruling class (Afigbo, 1989). The politicians often appoint their cronies as board members of government agencies and use them to award bogus and over inflated contracts to private sector corporations in which they have controlling interest, influence or powers to extract bribes from. In other instances the private sector organization offer kickbacks to the politicians and helped them to launder their loot through legitimate corporate channels (Bakre, 2007; Elumelu, 2007; Okuaru, 2006).

This ignoble alliance between the political and business class has created a system where corruption is institutionalized and further entrenched through a network of family owned and controlled companies. 80 percent of the registered companies in Nigeria are small and medium scale enterprises (SMEs) which are family owned and controlled (Limbs and Forts 2000; Oyejide and Soyibo 2001; Ahunwan, 2002). The corruption is so pervasive such that the CAC cannot effectively monitor the SMEs. Even when the CAC wants to do so, the politicians and business owners who have appointed to the CAC Board members often frustrate such laudable efforts. Thus the SMEs are inclined to doing business with the politicians in the 'Nigerian way' because the politicians often influence how government contracts are awarded and how government officials are 'settled' through bribes and kickbacks. In a bid to stop this institutionalized corruption, the civilian government had to set up two special anti-corruption agencies; the Independent Corrupt Practices Corruption (ICPC) and the Economic and Financial Crime Commission (EFCC) but the effectiveness of these agencies in fighting corruption is being influenced by the ruling politicians.

Weak regulatory framework

Nigeria is a country where the ruling elites have little respect for the laws of the land. Rather than obeying laws, the politicians will peddle their political influence and connections to circumvent and violate laid down procedures and control mechanisms. Nigeria operates a unique system where the ruling political elites are treated as 'untouchables' and 'above the law' (Emenyonu, 1996). The country's law enforcement agencies have been deliberately weakened by the corrupt practices of the political elites either military or civilian such that they are more inclined to look the other way instead of confronting the 'big men'. The institutionalized corruption discussed above is so entrenched that law enforcement is done alongside a culture of political patronage. The politicians siphon public funds and launder them through the corporations and use their political influence to prevent the law enforcement agencies from investigating their cronies (Dike, 2005; Bakre, 2007; Yinusa and Adeoye, 2006). It is these corrupt practices and abuse of official privileges that have made Transparency International to consistently list Nigeria as one of the most corrupt countries in the world (Ibru 2008; Amaeshi *et al* 2006; Bakre, 2007).

The Corporate governance mechanisms in Nigeria will always weak remain as long as the politicians and business owners are closely linked and are mutually dependent on each other for bribes and patronage. The politicians need the corporations and business professionals to launder their ill gotten wealth and to consolidate their hold on power (Bakre, 2007) and the business class need the politician for government contracts and patronage. The business owners also rely on the politicians for protection to avoid paying taxes and to avoid criminal investigation, arrest and subsequent prosecution for their corrupt practices and tax evasion (Okauru, 2006; Dike 2005; Nye, 1967).

Wide spread poverty caused by high unemployment

The third major challenge to corporate governance reforms in Nigeria is the wide spread poverty and high unemployment. Over 70 percent of the Nigerian population lives below the absolute poverty line of less than one U.S dollars per day and the country's unemployment rate is approximately 50 percent

of the population (World Bank 2009). Thus, the incentives for doing business transparently, accountably and maintaining high ethical standards are nonexistent (Visser, 2006). Corporations in Nigeria often behave in manners that suggest that they are not bothered by the environment and social responsibility concerns of the citizens (Ngwakwe, 2009). Nigeria is a country where the government has persistently reneged on its many promises of rapid development promises to the people such that corporations are more inclined to disrespecting the people's rights, doing business unethically, damaging the natural environment than embarking on corporate social responsibility (Ite, 2004; 2005).

Due to the widespread poverty, whistle-blowing on unethical corporate practices or professional misconducts are not encouraged (Akosile, 2007; Komolafe, 2008). There are many cases where fraudulent acts have been reported to government agencies by employees, informed outsiders or even professionals but very little have resulted from it. Those who blew the whistle often become the victims of oppression instead of being protected and rewarded for their patriotic acts (Bakre, 2007; ICAN 2008).

Collapse of moral values

The fourth challenge to good corporate governance in Nigeria is the collapse of the country's moral values (Tukur, 1999). While Nigerians are seen to be very religious, with 90 percent of the population subscribing to one form of religion or the other (Yinusa and Adeoye, 2006), the lack of transparency and accountability especially amongst the religious leaders have made the religious institutions to become accomplices to the widespread corruption (Bello-Imam, 2004). The country is often described as a nation with no moral values or has lost its moral compass such that the religious institutions are more interested in material things rather than the spiritual development of the believers. The institutional and widespread corruption discussed above has eaten deep into the Nigerian society (Emenyonu, 2007; Tomori, 2010) such that some religious leaders who are accused of money laundering and other criminal acts are not investigated and brought to justice, Faith based organizations are consistently accused of financial impropriety at different times to the extent that the people seem to be losing their faith and confidence in these religious institutions. Moreover, most religious organizations do not have annual audited financial statements and do not submit their annual reports to the CAC. The situation is worse, when prominence is given to the corrupt politicians and business owners by the various religious leaders and institutions.

Falling Standard of education

The fifth challenge is the falling standard of education in Nigeria, the educational institutions which are supposed to inculcate the moral values of honesty; integrity and rectitude in young minds are bogged down by strikes, inefficient leadership, insufficient funding, low staff morale and rampant closures. The quality of education in Nigeria has declined steadily since the mid 1980s due to corruption, poor funding, rampant closures and industrial actions by staff union (Babalola, 2006). Eventually, the students will graduate without obtaining the optimum level of learning from institutions bedevilled by favoritism, cultism, examination malpractices or other vices only to join the expanding band wagon of unemployed youths who are seeking employment. Only few graduates are able to find employment and those who get employed do so through nepotism, the political patronage or business connections referred to above and they start their training in political intrigues and high stake corruption very early in their career due to poor business ethics in the public and private sectors (El-Rufai, 2003). The graduates observed their supervisors and manager breaking business rules, circumventing established procedures and avoiding internal control systems or ignoring code of conduct yet cannot blow the whistle for fear of losing their jobs. Before very long, they too get accustomed to these unethical conducts and corrupt practices which has been perpetrated by their mentors such that when they are promoted to senior positions they have become adept at breaking rules, cutting corners and adopting sharp practices (Saliu and Aremu 2004; Bello-Imam 2004).

Suggested possible solutions

Demarcating the boundary between business and government

The first step to overcoming the corporate governance reform challenges in Nigeria is to demarcate the boundary between businesses and politics. This means that clearly separating the corporations from the government agencies that patronize them. The office of public procurement should prevent all political interferences in selecting bids for government contracts. There must be clear distinction between the political elites and the business owners. The existing policies that forbid political office holders and public servants from being directors in private sectors corporations should be enforced by the CAC and other relevant government agencies. If enforced properly, the inherent conflict of interests which leads to unethical decisions by corrupt government officials would be checked and this will make contract bidding more competitive. Unless these laws are enforced properly and equally to all without prejudice to personalities or political positions, Nigeria cannot have a good corporate governance environment (Wilson, 2006) and the present efforts at corporate governance reforms will surely come to naught.

The establishment of a special corporate affairs tribunal

The second step is to establish a special corporate affairs tribunal where violators of the CAMA are tried promptly and speedily. The present situation where violators are simply fined and allowed to remain in operations does not serve as enough deterrence to the violators. Prosecuting the offenders through the regular courts is not only time wasting (lasting between two and ten years) but also resource consuming as all kinds of legal injunctions are sought and obtained to delay and frustrate the trials.

Prior to the establishment of the special corporate affairs tribunal, the CAC must reorganize itself to enhance its monitoring and enforcement mechanisms so that violators are investigated and brought to justice quickly. The present situation when the country's corporate laws are breached with the active connivance of professionals especially lawyers; accountants and auditors without investigation and prosecution have created several avenues for breaking the law by unscrupulous persons (Bakre, 2007). The proposed corporate affairs tribunal should be a specialized court within the country's judicial system independent of the executive arm of government so that political influences are reduced to the barest minimum.

Promoting the culture of whistle blowing

This third step of promoting a culture of whistle blowing is dependent upon separating corporations from government which requires demarcating the boundary between business owners and political office holders discussed above. The CAC should set up a hotline when complaints can be lodged by employees or stakeholders who are aware of any violations. A culture of whistleblowing is encouraged when the signed complaints or anonymous petitions are properly investigated without disclosing the petitioner's identity. The EFCC and the ICPC have adopted this strategy to discourage corruption but this practice has not been extended to the private sector where most corporate law violations occur. If the CAC's monitoring and enforcement mechanisms are reorganized to carry out investigations, most complaints could be dealt with speedily and the business community will react appropriately. The culture of whistle blowing will be facilitated and allowed to thrive when the investigations and law enforcement are independent of political pressures and influences from the political office holders.

Enhancing business ethics through moral education

The fourth step is to instil moral values and enhancing business ethics through moral education in the youths. A nationwide programme where the citizens are inculcated with sound moral values and trainings at schools, universities, churches, mosques and cultural organizations is required. The essence of this moral education is to train the citizens that crime does not add value to a person's career and "the fear of God is the beginning of wisdom" (Holy Bible, Proverbs 9:10). This step requires more transparency and accountability from our religious institutions for them to inspire,

maintain and sustain a culture of moral discipline and rectitude among our citizens (Zekeri, 2008; Emenyonu 2007). The efforts of the Non-Governmental Organizations (NGOs) such as the Zero Corruption Coalition and the Civil Society Legislative Coalition in fighting corruption should be intensified especially at the top where government officials are held responsible and accountable to the citizenry by the legislative arm of government.

Facilitating rural development through employment generation

At present, the country's macroeconomic policies are focused on job creation at the urban centres with limited infrastructural development and employment opportunities in the rural area. This centralization of resources and amenities in the cities breeds corruption and creates a poor corporate governance environment. A political solution to both menaces is to decentralize resources and promote employment generation at the local level through fiscal federalism such that development is resource driven and grassroots oriented as was the case in the 1960s. Nigerians should be allowed to develop from the rural area and hinterland through agriculture and other local resource-based employment activities rather than pursuing bogus contracts and other get rich quick schemes in the big cities and urban centres.

Conclusion

This paper discusses the challenges to corporate governance reforms in Nigeria after agreeing to the fact that the country's corporate laws and corporate governance codes as sufficient for promoting good corporate governance in Nigeria. It identifies the challenges as institutionalized corruption, weak regulatory framework, wide-spread poverty caused by high unemployment, collapse of the countries moral values and the falling standard of education. The paper suggested a set of possible solutions which include demarcating the boundaries between business and government, establishing a special corporate affairs tribunal in the judiciary to try offenders of the country's corporate laws, promoting a culture of whistle blowing, enhancing business ethics through moral education as well as facilitating rural development through resource based grass root employment opportunities. Before Nigeria can enjoy the benefits of good corporate governance the CAC must effectively enforce and monitor compliance by corporations and should be able to impose sanctions on offenders and violators without fear or prejudice in order to boost investors' confidence and public trust and make shareholders and other stakeholder feel protected from corporate exploitation and mismanagement (Nmehielle & Nwauche 2004; Ahunwa, 2002; Ajogwu, 2007; Okike 2007, Iyang 2009).

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