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Decision Making in Virtual Communities: How Conflictive Institutions May Influence the Formation of Parallel Governance Structures

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ABSTRACT
Based on an empirical investigation, this study explores the influence of institutionalised social structures in governance models of virtual communities. Drawing upon institutional theory, the research shows that virtual communities are subject to the influence of their institutional environment, and that conflictive institutions dispute online spaces similarly to the phenomenon observed in offline interactions. The paper brings two main contributions: first, it reduces the gap in the scholarly literature on understanding the influence of institutions on virtual communities, and second, it proposes a new perspective in understanding governance structures in virtual communities. The literature on virtual communities emphasises that online collectives have adopted various levels of centralisation with regards to governance structures and decision making. This study proposes that virtual communities may cultivate parallel yet contradictory governance structures in environments populated by conflictive institutions, and that ideal models of governance may cover up actual patterned behaviours.

Keywords
Virtual communities, governance structures, decision making, institutional theory

INTRODUCTION
This research aims to add a new perspective on the influence of institutions on the domain of virtual communities – collectives that emerge from voluntary Internet interactions (Rheingold, 2000 [1993]; Steinmueller, 2002). Starting from a literature review on virtual communities, this study found that few academic researches focus mainly on understanding the influence of institutions in online interactions. This confirms similar conclusions from previous literature reviews on the domain (DiMaggio, Hargittai, Neuman and Robinson, 2001; Venkatesh, 2003). However, there are a few exceptions in which this approach was central to the study (see for instance Matzat, 2004; and Souza, Nicolaci-da-Costa, Silva and Prates, 2004).

The primary objective of this investigation is thus to understand the influence of institutions in virtual communities, mainly in their governance structures of decision making. The findings uncover a complex situation. Members of four Brazilian environmental-education virtual communities try to conciliate in their discourse two distinct schemas: on the one hand they cultivate the ideal of having decentralised governance structures, which they call network organisation; and on the other, they adopt centralised decision-making structures similar to hierarchical organisations. Grounded in institutional theory, this research explores and explains these contradictions.

The next sections develop this argument. Firstly the paper introduces the domain of virtual communities, reviewing the literature on their governance structures, secondly it introduces essential concepts of institutional theory that are necessary for the discussion, thirdly it explains the adopted methodology and fourthly it presents findings and analyses. It concludes by highlighting the main findings and contributions of the paper.

VIRTUAL COMMUNITIES
One important theme in the literature related to the impact of the Internet in society is the development of virtual communities. These may be understood as social collectives that emerge from voluntary online interaction (Castells, 2001; Rheingold, 2000 [1993]; Steinmueller, 2002). In fact, the concept has been revealed to be flexible enough to be applied to
groups that have very distinct forms of online interaction (DiMaggio et al., 2001; Graham, 1999; Preece, 2001). However, some authors are more restrictive about how to use the concept. Graham (1999) suggests that only collectives that have voluntary membership, and whose members have common interests and accept a defined set of rules may be called virtual communities.

One important theme on the domain of virtual communities is their governance structures (Rheingold, 2000 [1993]). Some authors adopt the concept of networks to describe organisation structures that emerge from online interactions, arguing that the Internet fosters non-hierarchical forms of organising in which decision making is decentralised among members, in a movement of flattering hierarchies and enabling more democratic collectives (Castells, 2001; Fukuyama, 1997; Slevin, 2000).

Although appealing, the association of virtual communities with decentralised governance structures is not unanimous. Authors criticise the concept of the network as simplistic and lacking the necessary precision to explain actual social practices (Fukuyama, 1997; Slevin, 2000). Furthermore, it is under dispute that online interactions are necessarily more democratic, since virtual communities reproduce a variety of governance models from the hierarchical to the democratic (Graham, 1999; Steinmueller, 2002).

For instance, following a more hierarchical model open-source communities nominate coordinators who centralise decision making related to the release of software versions, thus preventing conflicts and the fragmentation of the community (Steinmueller, 2002). In a different fashion anti-corporate globalisation social movements reproduce decentralised decision making when coordinating their activities through the Internet (Juris, 2005). Similarly more participatory decision making has been observed by studies on how Indymedia organises a large network of voluntary members around the world (Pickard, 2006).

The literature on virtual communities shows that their governance structures may be more centralised or more decentralised. This research starts from this perspective to investigate how institutions influence virtual communities in their choice for governance structures, mainly related to decision making.

**THEORETICAL FRAMEWORK**

This section develops a summary on institutional theory to support the analysis of the findings. Institutional theory proposes that institutions, understood as resilient social structures (patterned behaviour), strongly influence social actors, in such a way that determined social patterns are reproduced with a certain level of inertia (Berger and Luckmann, 1967 [1966]; DiMaggio and Powell, 1991; Scott, 2001). It is easier to understand the nature of resilient social structures when one thinks about institutions such as marriage, the contract, the formal organisation, the army and the voting mechanism (Jepperson, 1991).

Institutions influence behaviour through rule and normative systems that more closely constrain actors’ agency (DiMaggio and Powell, 1991; Scott, 2001), and through cultural-cognitive models, scripts and schemas, that may define understandings of the world, roles and forms of actorhood so that a pervasive social structure is understood as the only alternative in a situation (DiMaggio and Powell, 1991; Scott, 2001).

In addition, institutions are supported by bases of legitimacy (Scott, 2001) that may be understood as the assumption that specific behaviour is appropriate to a situation considering norms, values and beliefs associated with the respective social system (Jepperson, 1991; Suchman, 1995). Legitimacy thus derives from regulative (formal rules), normative (moral bases) and cultural-cognitive systems (frames of reference) (Berger and Luckmann, 1967 [1966]; Deephouse and Suchman, 2008; March and Olsen, 1989; Scott, 2001).

In defined circumstances, social actors may choose to conform to specific institutions in order to obtain the legitimacy to acquire the necessary resources from society (Meyer, 1992; Meyer and Rowan, 1977). Studying formal organisations, Meyer and Rowan (1977) conclude that they keep parallel formal and informal structures. The formal structure is a kind of blueprint that reproduces practices and procedures that are recognised as rational models by society. Even when these practices and procedures are not the most efficient, organisations adopt them ceremonially as a way of gaining social legitimacy and maintaining the flow of resources that support their activities (ibidem). The informal structure, complementarily, is the more efficient and adequate to the everyday organisational needs (ibidem).

Lastly, institutional theory highlights that although collectives have a high level of consensus about the appropriate behaviour in specific situations, this agreement is never absolute and social actors always have the possibility of enacting new social structures (Meyer, 1992). Social actors keep the freedom of choosing among different rules, norms and cognitive schemas, thus being able to combine them in different ways and enacting new patterns of behaviour (Jepperson, 1991; March and Olsen, 1989). In addition, institutions are ambiguous and contradictory and compete with each other, thus social actors...
choose different institutions in different situations, bringing institutional change (Avgerou, 2002; DiMaggio and Powell, 1991; March and Simon, 1993 [1958]).

METHODOLOGY

This research adopts an explanatory theoretical approach, aiming to explore broader institutional mechanisms that may clarify a phenomenon (Gregor, 2006). Starting from this aim, this study follows an interpretive perspective, understanding that the investigation of social phenomena may rely on the conceptualisation that social actors have about their situation (Berger and Luckmann, 1967 [1966]; Habermas, 1981 [1968]). Grounded in a qualitative methodology, the investigation is based on 58 in-depth, face-to-face interviews (Esterberg, 2002; Mason, 2002) with members of four Brazilian environmental-education virtual communities. These are as follows (membership numbers refer to April-June 2006):

- Rebea (Brazilian Environmental-Education Network): active since 1992 in national level. Membership: 380 members on the general list; around 600 members on Orkut (social network) (some members are in both lists).
- Reasul (Brazilian South-Region Environmental-Education Network): active since 2002. Membership: around 2,000 members on the general list.

These collectives are informal organisations characterised as virtual communities as defined by Graham (1999): membership is voluntary, the collective shares similar interests related to environmental education and has a minimum set of rules for admission and participation. These communities are also independent of each other, although members may participate in more than one community. Their main activities are the sharing of information and knowledge by the Internet, and the political mobilisation of members in order to influence decisions of governments and private organisations about topics related to the environment and the educational education.

The selection of respondents has followed a snowball process, a method that is accepted in qualitative research (Esterberg, 2002; Warren, 2002). The first contact with these collectives was with members who were referred on the communities’ websites as spokespersons. These members indicated others, a process that was followed successively, only including active members, to the point of having saturation of data, when new respondents were not adding information (Flick, 2002; Mason, 2002). In being a methodology that does not follow the sampling perspective, it is not possible to infer to what degree these interviewees are representative of the whole community, but it is clear that they had similar understandings on their governance structures considering the saturation of data. The value of this research is not in linking the individual perception with community demographics, but in the aggregation of interpretations in a coherent body that is supported by the theoretical analysis (institutional theory), as expected in an interpretive research (Berger and Luckmann, 1967 [1966]; Flick, 2002; Habermas, 1981 [1968]; Mason, 2002).

These interviews were conducted between April and June 2006 in Portuguese. The original conversations have been transcribed and codified and then excerpts and constructs have been translated into English by this researcher. The method of building constructs based on interviews is applied by scholars in the field of information systems (Avgerou, 2002; Avgerou, Ciborra and Land, 2004; Walsham, 1993), as an alternative option to the investigation of documents in the hermeneutic tradition. In this paper only the main constructs, understood as summarised ideas that represent the meaning brought by interviewees are presented. Respondents are identified by their communities and by a number that preserves their individuality without revealing their identity, as this research is compromised in preserving the anonymity of respondents.

The findings in the tables are presented by community, however for the sake of analysis they are aggregated as a unique case study because the limitations of this paper do not permit elaboration of a multiple case-study approach (Yin, 2003). The consistency of findings across cases permits this kind of aggregation. Indeed, this consistency reinforces the reliability and validity of this study, which has also obtained a good degree of adherence in relation to the adopted theoretical lens (Mason, 2002; Yin, 2003).

The empirical objects of this research have been chosen strategically, as accepted in the interpretive tradition (Patton, 2002). A previous pilot study has revealed the particular governance structures of these communities. On the one hand these collectives present themselves publicly (also on their websites) as groups that adopt the network (decentralised) model of governance (ideal model). On the other hand they have centralised structures of decision making (actual model), such as
excluding ordinary members (non-leaders) from decisions related to choosing community representatives and publishing content in their websites. The communities were chosen because centralised structures of decision making are pervasive in formal, hierarchical organisations Simon (1997 [1945]), thus chances were that the informal collectives have been influenced by the institutionalised governance structure. In this direction the choice was strategic, as there was an opportunity of exploring an observed phenomenon, not implying that these communities have special reasons for developing such structures either because they are Brazilian, or because they focus on environmental education instead of any other topic.

Acknowledging this contradiction between ideal and actual models this research investigates the influence of institutions in the governance structures of these communities. In the first part of interviews members were asked to explain why their communities are called networks, thus permitting them space to construct their interpretation of their ideal model of governance. In the second part of the interviews they were asked to describe in detail actual situations of decision making, thus allowing respondents to think about their governance models not only as described in their websites, but also as an empirical experience they have had. The findings are presented below.

FINDINGS AND DISCUSSION

Confirming the pilot study, the research findings show that there is a contradiction between how members in the studied communities abstractly define their ideal model of decision making, and how the communities actually decide collective issues.

When describing their governance structures abstractly (not related to an empirical experience of decision making), community members recall their adherence to the principles of networks, egalitarian spaces in which all members may participate in decision making. Interviewees contrast this ideal model to hierarchical models of decision making, in which some people centralise decision-making processes, thus making decisions on behalf of others.

The table below summarises the main constructs that have emerged from the first part of the interviews when members describe their principles as network organisations. In the columns related to the communities the members are identified by their number in order to keep their anonymity, as explained in the methodology.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Rebea</th>
<th>Repea</th>
<th>Remtea</th>
<th>Reasul</th>
</tr>
</thead>
<tbody>
<tr>
<td>The community has non-hierarchical, decentralised decision-making structures.</td>
<td>Members 2, 3, 4, 6, 9, 10, 12, 14, 17</td>
<td>Members 1, 4, 6, 7, 8, 9</td>
<td>Members 1, 4, 6, 8, 11, 13</td>
<td>Members 1, 4, 5, 7, 9, 12, 14</td>
</tr>
<tr>
<td>All members have the same rights and power, thus there is not subordination between members.</td>
<td>Members 1, 2, 3, 4, 6, 17</td>
<td>Members 1, 3, 4, 5, 6, 7, 9, 11</td>
<td>Members 1, 4, 6, 9, 10, 11, 13</td>
<td>Members 1, 2, 4, 5, 7, 11, 12, 14</td>
</tr>
<tr>
<td>All members have the same right of communicating and expressing (freedom of speech, non-censorship).</td>
<td>Members 1, 3, 6, 6, 14</td>
<td>Members 1, 5, 9, 10</td>
<td>Members 1, 2, 8, 12, 13, 14</td>
<td>Members 2, 3, 7, 8, 10</td>
</tr>
<tr>
<td>Decisions are taken by consensus, attending the different interests of members.</td>
<td>Members 2, 5, 6, 9, 14, 16</td>
<td>Members 3, 4, 5, 6, 7, 9</td>
<td>Members 1, 2, 6, 7, 8, 10, 14, 15</td>
<td>Members 4, 6, 7, 11, 12</td>
</tr>
</tbody>
</table>

Table 1 – Characteristics of the idealised network model

The four constructs in table 1 build the idea of having a network organisation in which members have the same rights, thus participating in decision making in a decentralised fashion. The first construct summarises the idea of having a network governance structure: the community has non-hierarchical, decentralised decision-making structures.

Some members cite that their communities follow the principles of network organisations as described by Martinho (2003): horizontal patterns of coordination that oppose hierarchical governance structures. Interviewees also relate network governance structures to the ideals of participatory democracy that are pervasive in social movements. In fact, since the 1960s, a significant number of social movements have adopted decentralised governance structures in which members participate in decision making in a more egalitarian fashion thus avoiding delegation of power (Epstein, 1996; Pickard, 2006; Polletta, 2002).

Interviewees also point out that the United Nations Conference on Environment and Development (Rio de Janeiro, Brazil, 1992) inspired these communities in aiming to build network organisations. During this conference the Global Forum of
Non-Governmental Organisations (NGOs) elaborated on documents (Treaty on Environmental Education for Sustainable Societies and Global Responsibility and Communication, Information, Media and Networking Treaty) that suggest social movements should promote network forms of organising, such as networks of environmental educators. Interestingly, when asked to relate in detail empirical cases of decision making, interviewees describe situations in which some members centralise the process, as summarised in the table below.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Rebea</th>
<th>Repea</th>
<th>Remtea</th>
<th>Reasul</th>
</tr>
</thead>
<tbody>
<tr>
<td>The community has a leadership group, which centralises decision-making processes, and organises its discussions through a segregated discussion list.</td>
<td>Members 1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 16</td>
<td>Members 1, 2, 4, 5, 6, 7, 8, 9</td>
<td>Members 1, 2, 4, 6, 7, 8, 10</td>
<td>Members 1, 2, 3, 5, 7, 9, 10, 11, 12</td>
</tr>
<tr>
<td>The leadership group decides which members represent the group in events and courses.</td>
<td>Members 1, 2, 3, 5, 7, 10, 14</td>
<td>Members 1, 3, 4, 5, 6, 7, 8, 10, 11</td>
<td>Members 1, 2, 4, 5, 6, 7, 8, 10, 13, 15</td>
<td>Members 1, 3, 4, 5, 6, 9, 12</td>
</tr>
<tr>
<td>The leadership group controls website publications and communications.</td>
<td>Members 1, 2, 5, 8, 14, 16</td>
<td>Members 1, 2, 3, 4, 6, 7, 8, 11</td>
<td>Members 1, 2, 13</td>
<td>Members 1, 2, 4, 9, 10, 12, 13</td>
</tr>
<tr>
<td>The leadership group sanctions community moderators who have more power than ordinary members.</td>
<td>Members 1, 2, 3, 5, 6, 7, 8, 9, 10, 14, 16</td>
<td>Members 1, 2, 3, 4, 6, 8, 10, 11</td>
<td>Members 2, 3, 4, 6, 7, 8, 10, 13, 14, 15</td>
<td>Members 1, 2, 7, 13, 14</td>
</tr>
</tbody>
</table>

Table 2 – Characteristics of the actual centralised model

The constructs above show that the communities have leadership groups which, in practice, centralise their decision making, such as choosing community representatives in events (also in negotiations with governments and sponsors), deciding about contents published on the websites and approving membership or exclusion from the community. The first construct in table 2 summarises the actual practices in these communities: leadership groups have segregated discussion lists in which ordinary members cannot participate. By definition, one only enters segregated discussion lists when contents published on the websites and approving membership or exclusion from the community. The communities do not have formal moderators who have more power than ordinary members.

This procedure of segregating decision making goes against the ideal of having a network organisation, indeed, the social structures which emerged when members describe their actual practice are not similar to the principles of either participatory or representative democracy as leaders in these communities have not been chosen by vote. These collectives do not have rules for alternating power and it is not clear how leaders represent the interests of community members (Pickard, 2006; Urbinati, 2006).

In practice the governance structures in these communities are closer to hierarchical organisations. Studying organisation structures, Simon (1997 [1945]) explains that organisations centralise decision making believing this is a more effective way of coordinating collective tasks. In this model, organisations adopt a hierarchical division of labour: supervisory authorities make decisions on behalf of subordinated others (ibidem). The hierarchical model is pervasive in society, from business and governmental organisations, to religious and voluntary ones (ibidem).

Analytical findings, these virtual communities adopt two parallel governance structures in a similar fashion as observed by Meyer and Rowan (1977) in formal organisations. When presenting themselves as social movements that adopt network-governance structures, members explain their values and procedures in relation to the ideal model of decentralising decision making. In this way, they keep coherency in relation to their ideal models, which is institutionalised, at least rhetorically, among social activists around the world and has the support of the Global Forum of NGOs. Identifying themselves as environmental social movements, these communities prefer to keep a formal governance structure that is coherent with the values of similar collectives. In this way they legitimize themselves as democratic social movements, thus qualifying for receiving resources and support from segments in society and for representing the interests of significant segments in society.

In practice the communities informally adopt a more centralised decision making which emerges when members give details about their empirical experience. Members recall different reasons to explain their practice in accordance with the context of the described situation. For instance, arguments related to power and authority systems are very pervasive: those who have
more power and status in society more easily are leaders in these communities, legitimising their roles as decision makers. Often members also point out the fact that hierarchical schemas, routines and procedures are very pervasive in society, influencing the communities in spite of their efforts in enabling decentralised decision-making processes. Furthermore, some members relate their centralised social structures to the need of legitimising the communities in society, as governments and sponsors would not support communities that do not have a leadership group that is accountable for the collective. In sum, the centralised decision making is also a legitimate institutionalised structure considering other spheres in society that support the communities with money and resources.

In fact, this contradiction is recognised by some members who spontaneously talk about this incoherence and the difficulty of building effective network governance structures, as summarised in table 3.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Reba</th>
<th>Repea</th>
<th>Remtea</th>
<th>Reasul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member recognises the incoherence between community’s ideal and actual governance models.</td>
<td>Members 1, 2, 3, 6, 10, 17, 11</td>
<td>Members 2, 8, 4</td>
<td>Members 1, 2, 4, 8, 11</td>
<td>Members 1, 3, 5, 7, 9, 10</td>
</tr>
</tbody>
</table>

Table 3 – Identification of conflict between the ideal and the actual models

Indeed, some ordinary members and leaders oppose the actual practice of centralising decision making, as it confronts their principle of having network structures. In spite of these critical voices the communities keep the described parallel structures. On the other hand, some ordinary members ignore the actual practices of the community because they are marginal to the decision making, thus they are just able to present the formal description of their ideal models, even ignoring the existence of segregated discussion lists. It happens because leadership groups avoid informing ordinary members about the existence of segregated discussion lists and the centralisation of decision making. In spite of this attempt, many ordinary members are aware of the actual governance structures in these communities.

CONCLUSIONS

Considering the discussed findings, interpreted through the lens of institutional theory, this research presents two main conclusions. Firstly, the studied virtual communities cultivate two parallel decision-making structures. On the one hand community members present their collectives as being network organisations in which all participants may take a part in decision making. This structure (ideal model) is institutionalised in some social spheres, such as social movements, thus justifying the efforts of these communities to keep the image of network organisations alive as they also identify themselves with social movements. On the other hand members recognise their actual reproduction of centralised decision making in a similar fashion to hierarchical organisations (actual model). Although this is not the formal structure these communities would like to present to society, members recognise that the communities are influenced by the fact that centralised decision making is an institutionalised model in society as it is an inherent structure of hierarchical organisations.

Secondly, the studied virtual communities reflect the conflict between different institutions in society. Both centralised and decentralised governance models are legitimate in society although different social rules, norms and beliefs are behind each model. The studied communities struggle to keep their legitimacy as political actors in this conflictive environment. On the one hand they try to keep legitimacy as network organisations in their formal presentation to society, through their websites and the declaration of members. On the other hand, they have actual practices of centralising decision making which are more pervasively legitimate in society. In keeping the ambiguity of having parallel structures rooted in different institutions, these virtual communities struggle to keep the legitimacy in face of a broader social spectrum from social movements to the government and other formal organisations.

Thus, this research has two main contributions to the scholarly literature. Firstly, it provides insights into the influence of institutions on virtual communities, reducing a gap in the literature related to virtual communities as highlighted in the introduction to this paper. Second, it provides a new perspective on discussing the governance structures of virtual communities. The literature on virtual communities emphasises mainly the fact that different communities adopt different governance structures, some more centralised than others. In this paper it is argued that some virtual communities may have more complex governance, enacting parallel structures to better cope with a fragmented institutionalised context. Considering that many online groups cross institutional boundaries, this study informs other researchers on the possibility of having virtual communities which have parallel competing governance structures. This study also informs researchers on how virtual communities may use the discourse on ideal models of governance to cover up their actual practices. Naturally further research is necessary to understand the arguments that support each social structure in particular communities and to explore how community members conciliate their contradictions when faced with irreconcilable models.
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