

Making the Evaluation of Information Systems Insightful: Understanding the Role of Power-Ethics Strategies.

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Abstract: In this paper, we develop a critical view of the process of information systems evaluation based on Michel Foucault's ideas on power and ethics. The application of these ideas in practice led to the identification of two layers of power that impact the evaluation of information systems and future research in this field: An institutional level and an 'emerging' local level. A critical awareness of this 'power-ethics apparatus' by the evaluation practitioner leads to more insightful information systems evaluation. It has also implications for future research on the analysis of issues which impact on processes of information systems evaluation in organisations.

Keywords: Information systems; evaluation; participation; power; ethics; Foucault.

1. Introduction

Our current information society is based on the premise that the use of electronic information will bring improvement in the quality of life of people (Japanese Government, 2000). Information technologies pervade almost every aspect of daily life. New advances in software and telecommunications lead organisations to invest considerable resources in integrating technology to their operations. Because of their pervasive nature, evaluation of the impacts of technology in society is important. Approaches to evaluation increasingly focus on the inclusion of a variety of issues which affect or may be affected by the implementation of information systems. Progress has also been made in developing participative approaches in which different stakeholders can raise issues related to the value that they attribute to information systems (Remenyi and Sherwood-Smith, 1999). However, little has been said about the importance of understanding the context of relations in which information systems are implemented and evaluated as an enabler or facilitator of change.

In this paper, we develop a view of the process of evaluation of information systems plans from the perspective of power relations and their connections with the ethics of the process. Michel Foucault's ideas on power and ethics provide an alternative understanding of evaluation as a process of continuous tension between discourses about ethics. Using these ideas, we propose to consider a critical view of evaluation processes as power strategies that we must be aware of to achieve change in organisations and beyond them. We provide an account of a practical evaluation exercise in which one of us has been recently involved in a university setting. The insights gained from this experience lead us to suggest some

strategies that could be used to rethink the scope of evaluation processes in organisations. With these insights, we intend to contribute to the ongoing debate about the development of participative approaches to information systems evaluation.

The paper is structured as follows. First, we provide a description of some issues which are emerging in the field of information systems evaluation. We introduce the ideas of Michel Foucault on power and ethics, and describe some of their implications for the practice of information systems evaluation. Then we present an experience of doing a short evaluation of an information systems plan and emerging projects. We discuss the influence of Foucault's ideas in informing the role of evaluators and their decisions during the process. Finally we present some insights for the evaluation of information systems that could contribute to develop future research in this area.

2. A context for evaluation

Currently, the notion of an information society as one in which almost every activity involves information (Information Society Commission, 1996) is manifested in a diversity of information societies. This is partly due to the diversity of actors that are directly or indirectly involved in defining or using technologies, conditions of the market, and needs of local groups (Mansell and Steinmueller, 2000). This diversity highlights the importance of considering particular circumstances which affect the definition, implementation and evaluation of information systems.

There is an emerging interest in the development of continuous and participative approaches to evaluation which could help the delivery of information systems maximising

their value to businesses (Remenyi and Sherwood-Smith, 1999). This is complemented by the inclusion of different organisational issues whose treatment could help to maximise the delivery of benefits by information systems (Doherty and King, 2001). If the scope of evaluation is becoming continuous, participative and integrated into the daily activities of an organisation, evaluation practitioners need to understand the context of relations between people as influencing and being influenced by the process of evaluation. This requires a more comprehensive view of how information systems produce a variety of effects in people's relations, and also how these relations shape the adoption of technology. In this regard, this could also involve an understanding of power in evaluating information systems.

3. Evaluation and power

Following Gregory (2000), our analysis of power in evaluation is focused on participative approaches to evaluation. The notion of power in evaluation is a great unmentionable issue in evaluation theory (Gregory, 2000). Participative approaches for evaluation stress the importance of involving different groups of stakeholders in defining, carrying out and assessing the outcomes of evaluation. This could also help to motivate people, to empower them in taking control of the tasks of the evaluation process, and ensure their commitment. Participation is seen as a way of establishing open dialogue with those involved and affected in a situation. In the realm of information systems, participation could help to strengthen decision-making processes related to definition, design and implementation of information requirements (Flynn, 1992).

In evaluating information systems, participation and involvement of stakeholders has become an interesting if not essential feature of formative approaches to evaluation (Doherty and McAulay, 2001). Participation can contribute to learning from experience and developing contingency plans to address emerging issues which might be affecting the success of IS projects and therefore their delivery of value to the business (McAulay, Keval and Doherty, 2001; Remenyi and Sherwood-Smith, 1999). More comprehensive approaches that take into account a variety of organisational issues affecting success in implementing information systems have been developed. Using participative approaches could help identify these issues, and treat them adequately to ensure that different impacts of

an information system (individual, social and economical) are desirable (Doherty and King, 2001).

We take the view that the treatment of these issues could be improved by reflecting on the assumptions made about participation in evaluation, and how the treatment of organisational issues could be challenged or improved from a perspective based on power. As Gregory (2000) has argued, the use of participative approaches for evaluation has provided little guidance on how to account for the existence of power relations. Moreover, the power of some stakeholders might affect and be affected by process and outcomes of evaluation (Serafeimidis and Smithson, 1999). It has been accepted that evaluation is a specific effort (i.e. project), which is associated to another one (IS project). Evaluation should provide insights because of the need of information systems to deliver value to organisations by correcting the course of actions in projects (Walsham, 1993). This indeed is setting an agenda influences the purposes of evaluation. The risk is that, without a deeper degree of reflection, some inequalities in power could be reinforced and perpetuated some of which might even be contributing to the failure of projects despite an apparent success in the short-term.

Furthermore, the treatment of a wider variety of issues in evaluation could contribute to the delivery of benefits that match and enhance organisational capabilities and constraints (Doherty and King, 1998). This can be seen as finding or developing ways in which the processes related to the implementation of information systems integrate into the relations between people, and contribute to achieve collective benefits (including improving organisational performance). In this respect, a more detailed analysis of how to identify and use existing relations could be useful to create an environment of acceptance to the use of information systems.

4. Foucault's research project

It is difficult to provide a summary of Michel Foucault's work on the history of Western civilisation without missing or misunderstanding important issues. Foucault has provided an interesting insight for the problem of the *human subject*, be it individual or collective. For Foucault, the main question in modern society is how human beings are constituted as subjects (Foucault, 1982;1982). The meaning of 'subject' is twofold: "someone subject to someone else by control and

dependence, and tied to his own identity by a conscience or self-knowledge” (Foucault, 1982). Both meanings in the above definition suggest a form of *power*, which subjugates and makes subject to.

In his historical analysis of the different forms of constitution of subjects, Foucault employs the concept of power as an aide for analysis, which enables him to describe how these forms have emerged and evolved. For Foucault power is constituted by the relations between subjects and the same time, it constitutes them. Power can be seen as a “total structure of actions brought to bear upon possible actions: in incites, it induces, it seduces, it makes easier or difficult” (Foucault, 1982). Power is dynamic, elusive; it operates at different levels, and targets individuals as well as collectives. Power influences, seduces; it makes difficult or easier to do something (Foucault, 1977).

Distinct forms of power relations interact. They mutually cancel, reinforce, contribute to or struggle against each other. They are connected to forms of knowledge, which produce objects to be known about; these objects also include the human subjects. Therefore, relations of power also include relations between subjects and *themselves* (Foucault, 1977;1984;1984). They contribute to constitute what subjects are, what they know, how they act and behave ethically and in relation to what they consider is right to be or to do.

Foucault’s notion of power brings an essential connection between power and knowledge but also to our understanding of ethics. Foucault argues that forms of power create relations between subjects, themselves and others, which have constrained them in their possibilities for action (Foucault, 1984). In reacting against the potential risk of being ‘normalised’ (e.g. made normal for the benefit of ‘society’ as constituted in relation to power struggles), subjects could consider the possibilities of “no longer being, doing or thinking what we are, do, or think” (Foucault, 1984 p.46). For Foucault, these possibilities need to be understood in the presence of power and how it manifests itself in relations between subjects according to historical and contingent conditions (Foucault, 1982;Kendall and Wickham, 1999). Subjects cannot escape from power, nor does it only produce intended consequences. However people could identify different options of action in relation to it. The power-ethics relationship should not be

understood only as a limiting one, but one which sets responsibilities for managing our freedoms more consciously (reference).

For the practice of participative evaluation in information systems, these ideas suggest the possibility of enhancing self-reflection between people about their own situation, how knowledge is constituted or could be redefined. Strategies to encourage participation could be assessed as strategies of power, which need to take into account forms of power that they could reinforce, resist or act upon. Furthermore, to those facilitating the evaluation, an analysis of power and ethics could lead them to reflect on their own identities. They could identify and explore the different roles that make them acceptable (or rejected) in a particular context of intervention. An adequate starting point for such analysis is in situations where there is struggle to protect or promote different forms of individualisation (Foucault, 1982). This is the case for instance where there is the potential (or danger) for standardising the ways of behaving, acting or thinking of people as ‘normal’ or ‘good’. Examples of such analysis can be found elsewhere (Atkinson, 1998;Kendall and Wickham, 1999). In the field of information systems, understanding the potential and danger for standardising the ways of behaving could help us to identify areas of creative improvement. For example, the tension between the implementation of common technological software platforms against moving forward via individualisation could be used as starting point for the analysis of power relations.

A further reflection on power might also lead practitioners and participants in evaluation to reflect on the purposes of the process in relation to their own purposes as ethical subjects, and act accordingly. This does not only mean that power can be only resisted, but instead *used strategically*. Those who are evaluating and being evaluated could develop their own agendas while still being in evaluation, as a way of operating within the constraints and possibilities for action offered by existing power relations.

5. An example

In this section we give a summary of a first attempt to use these ideas in the practice of evaluation. A full description of this experience is out of the scope of this paper. Additionally, an analysis of how power operates in practice is contingent to the conditions of the process, let alone to what we could draw from it. The

reflections are made after the exercise took place. They are related to the process of evaluation developed as being inspired by the ideas on power and ethics above presented.

In 2003, one of us (José) had the opportunity to conduct an evaluation of an information systems planning project which he had been involved in at Javeriana University in Colombia in 1999 (Córdoba and Midgley, 2003). The purpose of this project was to develop a series of understandings about the roles of information technology at the institution that could help people to improve the ways in which education was delivered. The project concluded with a set of suggestions to improve current situation of the use of information technology that were delivered to senior management. A two-week project was proposed in 2003 to assess the extent to which these suggestions had been taken on board by decision makers. The purpose was also to learn about the evolution of information technology during the period of four years that followed the process of planning. Initially, the process was going to involve five people who had been taken part in the project.

The main suggestions made in 1999 included:

1. Improve the coordination between IS projects and the evaluation of the social impacts that information systems were to have.
2. Develop an information system to provide flexibility and support in the delivery of lectures and in the definition of research projects in conjunction with the industry.
3. Encourage members of the institution to develop a culture of solidarity in which there could be tolerance and respect for diversity (Córdoba and Midgley, 2003). At the time of being presented, these suggestions were received with enthusiasm by senior research managers. They were also included in discussions for the definition of plans by the computer science department, where the project had been based. Nevertheless, some of the participants in the project were concerned about the implementation of the suggestions. There was also the feeling that a participative process had been creating expectations amongst the people that could not be satisfied, and that the suggestions could be going against established plans. Those who took part were instinctively recognising the potential tensions between local departments and the wider institutional environment. We will describe these tensions in more detail later on in this paper.

In order to conduct the evaluation, José contacted the current head of the computer science department. José initially aimed at getting the acceptance about the project, and know how it was perceived. He advanced the idea that this project could contribute to advance research on evaluation of information systems at the institution. He also offered to help as a visiting (foreign) researcher, so that people saw this as an opportunity to have a useful resource for their research.

After a few weeks of proposing the project, José received a response from one of the department managers. They liked the idea, however they said that they were too busy to help with the organisation of the research. Additionally they said that 'the department had changed a great deal', therefore research in this area was difficult to develop. At this point, it seemed that there was a need to develop a strategy to be recognised as a valuable researcher in order to get access to people in the institution. By having a few conversations and exchanging some e-mails, José let the five participants of the project in 1999 know about the possibility of doing an evaluation. He could get hold of three of them; the other two never replied. Those who replied seemed to be implicitly interested in getting any new knowledge on research that José could offer to the institution. He accepted this role and then organised a schedule for interviews. He then went back to the computer science department with the news that he had already organised some activities, which they offered to host for him. Although this situation did not seem to be entirely consistent with the initial purpose of the evaluation exercise, the role of a 'foreign expert' seemed to be more accepted within the existing dynamics of power at the institution. This role was connected to the delivery of 'expert-based' knowledge that was seen as valuable for some individuals within the organisation.

On arrival to the university, José decided to assume this role of 'foreign expert' in order to gain the recognition of staff members and students, and to get to talk to those who had been involved in 1999 about their perceptions of the project. He was introduced to some people to whom he took the opportunity to explain the project. By being based at the computer science department, José also became involved in conversations with staff members. Some of them were interested in finding out information about possibilities of studying or doing research abroad, or how universities were developing their electronic

information services. In these conversations, José was also able to exchange views about how people saw the evolution of the role(s) of technology and how the suggestions made in 1999 had contributed to it. At the time of evaluation, Javeriana was facing the challenge to become internationally accredited, and this seemed to be the main focus of attention of staff members inside and outside the department. As an evaluator, taking the role of a 'foreign expert' was shaping the role and the conversations that were possible, and the topics to which this role was leading the evaluator to be engaged with. José offered his help to facilitate debate in the meetings that were organised to talk about the international accreditation of the department. He was told that the format was already defined and there was no need for his help.

In the interviews that he had organised from before, José used a semi-structured questionnaire to start the conversation, and get gradually to know and to get the feeling of the main factors that could have contributed to the implementation or failure of the suggestions made in 1999 (see appendix 1). With two of the senior managers and a member of staff, José was asked about his main interest in doing this evaluation exercise, as well as his current affiliation with the institution. People seemed to want to know on which side (for or against) José was standing on. The role of a foreign expert seemed to be shaping the knowledge José was granted access to. This role granted him access to some relations with people, and it was highlighted that those taking part in conversations wanted to know what power José had.

In one interview with a senior research manager in which the conversation was brought around to the suggestions made in 1999 to improve the situation, José was challenged on the grounds that these suggestions seemed to be developed without considering the scheme that had been designed for the assessment of suggestions derived from research projects. This assessment scheme stated that suggestions should be justified by departments, then taken to the corresponding research committees and approved by faculty directors. After this process was developed successfully (and perhaps more justifiable suggestions were made), the senior management could decide to allocate resources for their implementation, which in some cases required further analysis. The scheme for discussing and selecting was not developed until 2001. Although the

suggestions made in 1999 did not conform to that selection scheme, they were described as still relevant for the current situation. Any proposal for change needed to be framed within a particular discourse about what constituted a good research methodology. For one of the senior managers, these suggestions lacked credibility, as they had been the result of using a qualitative methodology. For this manager, in order to properly justify any suggestion, a quantitative survey should be done, and the suggestion should be raised by a representative sample of the population at the university.

Aside from a particular role which was recognised as important, it could be said that there was a set of practices (schemes) which needed to be used in order to produce adequate or appropriate research, e.g. ethically acceptable. These practices seemed to be embraced in a type of '**institutional layer**' of knowledge and power about information systems related projects. In this sense, the idea of power is being used in a way consistent with Foucault: Actions influencing other actions, projects and decisions about them influencing others. Knowledge involves knowledge of how to justify projects according to what is being regarded as acceptable to do: Knowledge of methods used, schemes for approvals, reasons for the need of a project, meetings in which it is advisable to present ideas, etc. The practices discussed were complemented by some initiatives which were generated by a proper process of justification (as described above) or the definition of senior management initiatives. One of these projects was the implementation of a corporate information system to support academic registration. This project had been organised under the direct supervision of senior management, and had been allocated management resources, which gave it recognition and support within the institution.

This speaks about the nature of the justification for a project and the relationships that exist between typically used justification methods and the institutional layer reinforcing existing power-ethics structures. Justification methods are a key power strategy. In the case of the senior research manager, particular forms of justification were used to profile projects, to channel activities and resources, to reinforce his existing plans.

The operation of this institutional layer has contributed to the implementation of some

projects, and also affected the success of others. One example of this situation can be seen in the existence of a project which aim was to bring the use of a new (virtual reality) technology at the university. The development of this project had gone through different stages, also characterised by the change in project leader role several times. The project has been continuously re-started and one of its main activities is the gathering of information about the existing use of this technology in departments and faculties. The idea is that with this identification, the best practice is selected and implemented across different areas. However, timing in having a clear institutional policy has affected the selection of any practice and its subsequent support for implementation. Those leading the project were still required to continue with it.

Taking advantage of having a physical space at the computer science department, José also organised another two additional interviews: one with a lecturer at this department, and another with the leader of an institutional project. The latter was suggested by the head of the computer science department, as it seemed that the project that this person was leading had strong similarities with the one conducted in 1999. This opened up a new ground of discussion about the development of information systems projects. Parallel to the existence of an institutional layer, there seemed to be '**local layer**' of initiatives embedded: It was composed of a series of initiatives that had been developed to address the needs that certain departments and areas had, which could be addressed by using information technology. The initiatives developed their own justification that was accepted at the level that provided them with resources for their completion (i.e. faculty or department). Some of them had been keeping a low profile in order not to get the interest of other areas or the same institutional layer, and therefore their scope and the relations developed between those involved did not transcend the boundaries of an area or department. These initiatives could be potentially recognised as having impacts across different areas and departments at the institution. However, this required a change in their justification, organisation and impact, and possibly their delay or cancellation when being regarded as institutional projects. This possibility was not made strongly, as a way of avoiding the potential for tension with the institutional layer.

With respect to the justification of projects at the local level, we can consider two illustrations of 'local layer' projects whose description emerged from interviews across the organisation. The first was an application to support the monitoring of progress of students. The second was a project to define possible roles for technology in education. Each project is in a different department. These two illustrate similarities in the way justification works in the local layer, and the potential for tension between them and the 'institutional layer'. The similarities lie in the conception of a local need, and in that the philosophical style reflects the intellectual style of the group, and finally that the resources and expertise are already under their command. In the case of the first project local need came about because of large numbers of students, it was led by the computer science engineering department team who were driven by technical credibility. In the case of the second project it was led by the need of the 'open education unit' who saw the necessity to integrate technology with the educational process. The differences between the projects demonstrate the potential but not certainty for the local layer to be in tension with the institutional layer. The second project was producing conceptual definitions placing an obligation to the institutional layer to select particular projects. Additionally, there were demands to change the course of some current institutional projects. However, the institutional layer had its own justification mechanisms that would not necessarily promote the same suggestions. Furthermore, the institutional layer had ways of issuing policies and definitions that had some conflict with the recommendations made by the second project. Part of the tension was the lack of institutional definitions for the use of technology.

From these two examples, it can be seen that from the local layer may emerge projects consistent with those who appeal to the organisational layer, but also those which are potentially subversive to the organisational layer.

Between the institutional and local layers there appeared to be a continuous power tension. Two of the interviewees recalled the discomfort that some institutional initiatives created among departments, and the lack of institutional guidance about what to do with initiatives that were led by departments. Moreover, the focus on achieving international accreditation seemed to lower the priority of some of these initiatives. The tension was

reinforced by the development of a common practice between institutional and local levels. Those initiatives with a potential institutional scope were required to gather information across areas or departments about their own needs or projects, as a way of ensuring that the most appropriate initiative (that could satisfy most of the needs) was to receive institutional support for its implementation.

José concluded the evaluation exercise by conducting a workshop on evaluation of the central library with staff members and users of it (see appendix 2). This enabled him to contribute to improving the implementation of one of the institutional projects (and therefore align himself with the institutional layer). At the same time it opened up the opportunity to assume a more critical role by posing questions about what could constitute good evaluation, who else should be involved, and what other services could be offered to different stakeholders. The questions were received with a mixture of openness and scepticism, as they seemed to partially challenge the self-image that the library had of being the most successful and competitive area at the university.

José also presented a final report to the computer science department and to those involved in the process. In the report, the identification of the layers described above was highlighted. Little response or comment has been received, which could be partly due as the result of the engagement of people (including researchers) in existing and new forms of power which enable them to address their own ethical concerns.

6. Discussion

In this section we provide further detail on our understanding of the notions of ethics and power as seen in practice above. The use of these notions has enabled those involved in conducting an evaluation to be aware of different situations that emerge as the result of involving different types of participants in the evaluation of an information systems plan. In the above situation, the notion of power helped to understand how those facilitating the evaluation (evaluators) are immersed in a set of practices and justifications that render particular types of knowledge as *true* and accepted (appropriate). It also enabled the identification of a variety of relations between people by which evaluators can gain access to sources of knowledge. These relations offer possibilities and limitations for action.

A particular role for evaluation (that of a 'foreign expert') led José (the evaluator) to engage in certain relations, to get recognised as being part of certain dynamics in which expertise was seen as valuable. The role of expert seemed appropriate to establish relations with those in formal positions of power, and collaborate with their purposes in the institution of improving the delivery of information services and their competitiveness. Assuming a more critical role to challenge the benefits that information systems are giving to their users became a more difficult task. When facing such difficulties, it was important that the evaluator reflected on *what type of ethical subject he wanted to be*. The evaluator had to be flexible to give some people what they needed to know, in order to be able to engage in conversations in which he could then challenge them.

In some of these conversations, a variety of issues could be identified (i.e. lack of institutional guidance, pressure to gain international accreditation) and this led to identify an 'apparatus of power' that operated at two levels: institutional and local. Each level had their own way of justifying initiatives, putting them in place and implementing them. Each layer had its own apparatus of power configured to reinforce their own power-ethics. Implicitly, the institutional layer intends to shape the practice of the local layer. The local layer may not intend to impact on the other layer but may generate effects unintentionally. The evaluator found himself as engaged in both levels, something that perhaps he could do as an outsider to the dynamics of the institution. Due to the tensions perceived, the evaluator needed to align at certain times with one of these levels, and be careful not to 'upset' any of those people who engaged him in any of them. However, the choices made (i.e. inquiring about the suggestions of 1999, or presenting a final report) had consequences that could not be fully foreseen, but which flow from the desire of the evaluator to obey his/her own ethics. It can be argued that in evaluation, any choice can be conceived of as the product of power, and defines continuously new opportunities and constraints for action, influencing the outcomes of any evaluation process and the ethical identity of those involved.

With power and ethics, a particular set of power relations were identified, which had some activities associated with them. When the evaluator decided to conduct the evaluation, he became inevitably immersed in

power relations, to their possibilities and constraints for action. The activities of evaluation provoked a shift in these relations by introducing some challenges to the nature and outcomes of information systems projects. At the same time, they were also challenged and transformed by the same relations, because some of those involved (including the researcher) defined some opportunities for action (i.e. workshop on evaluation) or were denied others (i.e. further conversations). In this regard, a more detailed analysis of the dynamics of power could help to identify and raise issues which affect the outcomes of evaluation projects, and inform practitioners about different possibilities for action in relation to what is possible and ethical to do.

Overall, the use of Michel Foucault's power-ethics concepts create the conditions for reflecting and informing evaluation of information systems, as based on the potential opportunities to deliver knowledge that could be made acceptable among those involved in it. These situations of power-ethics happen anyway. Our evaluation practices can be blind to them and therefore poorer, or aware and critical of them, and therefore be more robust. These ideas can help ensuring the usefulness of evaluation. This action is informed by what those involved (including the evaluator) consider is ethical to do, and this could cause tension in an evaluation exercise. A more detailed analysis of how power operates in contexts of evaluation is needed, which could contribute to the definition of approaches, tools and methods to the improvement of practice in the realm of information systems evaluation.

7. Concluding remarks

In this paper, we have used Michel Foucault's ideas on power and ethics to enrich the practice of participative evaluation of information systems. These ideas suggest the need to be continuously aware of the constraints and opportunities for action that any process of evaluation could have in the particular context in which it takes place. They also raise the importance of reflecting continuously about what it means to be ethical in evaluation, and how this is transformed into meaningful action, including the design of the research (participants, roles, purpose).

These ideas have been used to inform an exercise of information systems evaluation related to a plan already developed in a university. They informed the role(s) of the evaluators to enable them to be flexible according to emerging circumstances. They also supported the adoption of contingent

strategies for action, which were defined to operate within an environment characterised by the existence of two layers of power (institutional and local). In this particular case, the tensions between these layers influenced the definition and implementation of information systems related projects and therefore the evolution of information technology in the organisation.

In our current information-based society, the notions of power and ethics presented in this paper could help practitioners to deal with the complexities encountered, and to be aware of the dynamic nature of relations between people which influences the deployment of information systems projects in organisations. The development of a map of existing layers of power and consideration of the strategies must form the basis of a reflective evaluation exercise. Such maps could be personal or shared. This could contribute to a more insightful evaluation practice. Further research could provide more concrete methods and tools for analysing and dealing appropriately with the dynamics of power and its connections with knowledge and ethics. The analysis of power layers developed in the paper could inform future analysis of similar type in evaluating information systems. The following considerations could contribute to improve the development of approaches which aim at improvement the treatment of a variety of issues in the evaluation of information systems projects:

- Understanding the wider context in which power is identified and deployed. This involves analysing the forces and factors (internal, external to the organisation) which influence the adoption of particular power strategies (i.e. issues which lead to the adoption of competitive strategies).
- Analysis of different layers of power relations between people through which projects are supported, justified, approved, or cancelled, delayed.
- A reflective practice about what is to be a 'good' evaluator, or a 'good' participant in evaluation in relation to power relations.

8. Acknowledgment

We would like to thank all the people at Javeriana University in Colombia who were involved in this exercise, — particularly the staff members at the computers science and systems engineering department who provided us with so much support.

9. Appendix 1: Questions for Interview

- If you could describe your experiences during the last 4 years, what is your view about the evolution of the role(s) of information technology in the organisation? (This might also include the delivery of information services).
- Can you remember what happened with the project? What were your positive and negative experiences with the project in general (activities followed, methods of research, the role of the facilitators, the suggestions made, etc)?
- Looking at the suggestions that we made at that time (the interviewer can show them to the interviewee), which factors do you believe inhibited or enabled their implementation?
- If we had the opportunity of conducting a similar project (e.g. a participative process to define what is or are the roles of information technologies in the organisation), what factors do you consider essential to address and to avoid the mistakes that occurred in 1999?
- How does the evaluation of information technology projects and/or services take place in the organisation nowadays?

This last question encourages the interviewer and interviewee to reflect on the role of evaluation in the organisation. After, the interviewer could proceed to find out more about the mechanisms used for evaluation in an organisation, the relationship between them and mechanisms of power used to confirm or deny results from planning or evaluation, and the existence of different forms of ethics that contribute to shape the behaviour of those involved in an organisation.

10. Appendix 2. Workshop on Evaluation of Information Services

The aim is to help those involved in delivering and using electronic information services to identify some opportunities to improve their evaluation mechanisms and activities. The workshop includes the following activities:

- **Introduction.** Presentation of participants. A group of staff members and users (students, academics) is recommended.
- **Brief presentation about evaluation of services.** The importance of evaluation is outlined. Evaluation means finding out the

value that users attribute to services, hence the need to evaluate continuously and put in practice mechanisms to make evaluation a daily activity.

- **Definition of services and their attributes.** Each service is seen as a 'system' which transforms the needs of users in services with particular attributes. The definition of attributes could be complemented by describing what type of indicators might help those delivering the service with the desired attributes.
- **Definition of evaluation activities.** The group defines a list of questions which could help to validate the attributes gathered or to obtain more information to improve the existing delivery. The questions can also be used to inform the definition of activities of evaluation and some performance indicators.

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