Journal of Information Technology (1999) **14**, 193–202

Understanding participation in entrepreneurial organizations: some hermeneutic readings

EDGAR A. WHITLEY
London School of Economics and Political Science, London WC2A 2AE, UK

This paper explores the use of participative methods in an entrepreneurial organization. It does this through a series of hermeneutic readings of the situation, which develop an increasingly satisfactory understanding of the complexities of the development process. The paper begins by describing the case study site and the market that it operates within before considering the role of corporate culture on entrepreneurial firms of this kind. The first reading of the situation, using participative methods and the sociology of translation, is then presented and a critique of the limitations of this reading is presented. A second reading, drawing on Heidegger's ideas as applied to the notion of entrepreneurship, is then presented. This second reading proves to be far more satisfactory and the paper ends with a summary and reflections on the process of making a series of readings of the development process at the case study site.

Introduction

The goal of all information systems developers is to introduce a new system into an existing organizational framework in such a way that the new system becomes institutionalized. The system represents a change from the *status quo* and the aim of systems development is to make this change irreversible (MacKenzie, 1997).

One common way to try and achieve the institutionalization of information systems, particularly in large, traditional organizations, is through participative methods and many organizations succumb to the appeal of participative methods as a result of a history of industrial relations problems and, thus, participation is seen as a way to minimize future problems with the workforce. The common sense reasoning is that, if the employees in the organization have participated in the design of the new system, then they will be more willing to accept the changes that it has introduced.

The organization that features in this case study, however, is different. It is a growing entrepreneurial organization which has a very different culture to that found in more traditional organizational forms. Despite this very different culture it faces the same problem as more traditional organizations, namely how to make the changes associated with a new information system irreversible. The paper therefore explores the extent to which participative approaches can be employed by the organization and seeks an explanation rather than just a description of the changes that the organization undergoes.

This paper will do two things. First, it will describe a systems development process at the case study site, emphasizing the contextual features which make this organization different to more traditional, large organizations. It will then try and understand the reasons for the particular way in which the organization undertook the development process. A second level of the paper, however, provides a reflexive critique of the way in which the process of reaching an understanding of the use of participation in the company was achieved. It does this by breaking the understanding process into two readings of the situation, with each being based on a particular set of theoretical understandings.

The next section therefore outlines the research method used in providing these different understandings of the development process. The paper then describes the case study site and the market that it operates within before considering the role of corporate culture on entrepreneurial firms of this kind. The first reading of the situation, using participative methods and the sociology of translation, is then presented and a critique of the limitations of this reading is presented. A second reading, drawing on Heidegger's ideas as applied to the notion of entrepreneurship, is then presented. This second reading proves to be far more satisfactory and the paper ends with a summary and reflections on the process of making a series of readings of the development process at the case study site.

Research method

A recent trend in information systems research (Downey, 1998; Scott, 1998) has been the tendency to make very explicit 'confessions' about all the features of research method chosen, not just those that relate to ensuring the quality of the data collected. Thus, for example, Scott (1998) talked about her experiences when interacting with UK bank managers. She highlighted her conscious decision when undertaking interviews to dress in a manner that would allow her to blend in with the other employees in the bank, rather than emphasizing her otherness as an 'outside' academic. Her father had been a manager within the bank and again this family connection meant that she was often considered as a 'quasi insider' rather than as an outsider. Both of these factors had direct implications for the 'gender-based power dimensions' found inside large, traditional, British retail banks (Scott, 1998).

A similar 'confession' is given by Downey (1998) in his study of computer-aided design and manufacturing. In order to come up to speed with the technical side of the topic, he decided that he would participate as a student in various classes teaching the skills he needed. Unfortunately, the time constraints associated with completing his research meant that he could not wholly integrate with his 'classmates'. In particular, his time constraints prevented him from doing all the exercises and assignments associated with the course and he had to recruit one of the other students on the course to act as a personal tutor. As he reported, '(s)everal times during my fieldwork, students found ways of asking me if I was taking the course for a grade. My presence was anomalous not because I was generally twice their age, for they were used to professors visiting classes, but because I was both not enrolled and always there. I was not a student but behaved as one' (Downey, 1998, p. 139). In an ideal world, Downey would have participated fully in the class and done all the exercises with his fellow students. This was not possible and rather than gloss over this discrepancy between theory and practice, he chose to describe in detail what he achieved and what he did not.

In a similar style, this paper is going to describe the various attempts that were made to try to understand and explain the systems development practices at the particular case study site. In so doing, it will highlight the dangers of being driven by theory which, as will be shown, carries the risk of reading too many things into a situation and, as a result, providing a distorted account of what actually happened. It will also demonstrate how our understanding of a situation develops and becomes more sophisticated, essentially following a hermeneutic process (Introna, 1997), whereby each new reading of a situation differs as a result of the accumulated understanding gained from previous readings.

Thus, the insights gained from the first attempt at understanding the situation, even if they are not wholly appropriate, provide a platform which informs the later reading of the same situation; the readings grow historically.

The study site

This section describes the context in which the case study organization (Prêt à Manger) operates. It gives a brief history of the organization and describes the market in which the company operates, demonstrating how Prêt à Manger has transformed this area of the food/take-away sector.

Prêt à Manger

'There was nowhere you could get in and out quickly and find something to eat that was consistently good, fresh and value for money. This is typical not just of London, but the world' (Metcalfe quoted in Fraser (1995)).

Tired of queuing at the normal snack bars or going to a typical restaurant, Julian Metcalfe and Sinclair Beecham, the creators of Prêt à Manger, decided to try and do something new in the food market experiment with a wine bar in Fulham and a delicatessen in Putney in the early 1980s. They finally opened a sandwich bar in central London's Victoria Street in 1986. The Victoria shop was the first to use the Prêt à Manger name after they acquired the name from a bankrupt café in Hampstead for £100. For the next 4 years they worked in their sandwich shop and learned the steps necessary to become a successful chain. Realizing that they had found a niche that could be exploited, they saw a new concept in the competitive fast food market, a branded sandwich chain and sought to change the world of fast food to incorporate their innovation. As Julian Metcalfe expressed it, 'Quite rightly, with hindsight, we realized that what brings customers back is a good product at the right price and with the right service. That is 95% of the battle, since what makes us a success is repeat trade. You can fool a customer once or twice but after that they won't come back' (Fraser, 1995).

Jeremy Long, chairman of the strategic marketing consultancy New Solution said 'Prêt is a true "high concept" in food – a combination of food, service, design and image, with real integrity. It has deservedly taken the market by storm.' It did this by inventing the new 'super sandwich' category. This category offers the high quality of food served in a good restaurant, with the service speed of a McDonald's, for the cost of an ordinary sandwich (Galileo Brand Architects, 1995).

The fast food market

Fast food, i.e. all packaged, cooked food sold at a counter to be consumed on the premises or taken away, is a large and growing sector of the market. The UK fast food/takeaway market for 1996 was estimated to have a sales value of £7 billion, representing 15% of all consumer expenditure on the catering business and 53% of all consumer spending in the restaurant market. Consumer fears arising from the BSE (bovine spongiform encephalopathy) scare shrank the beefburger market by 7% in 1996, with attention transferring to both the sandwich and chicken markets (MSI, 1997). At 38% sandwiches are currently the largest sector of the market.

With the desire of consumers for healthier food (the burger sector is associated by many consumers with unhealthy eating) and the shrinking lunch 'hour' (down from 60 min in the past, 36 min in 1993 and only 32 min in 1996) sandwiches have become an alternative to a heavy meal, with business opportunities arising particularly in the premium sandwich market.

Prêt à Manger as a brand

Although Prêt à Manger's main focus is to sell top quality sandwiches at reasonable prices, they also offer more than 80 different products including a wide variety of coffees. The stainless steel environment of their shops brings the feel of a good restaurant and reflects the hygiene requirements of the operation. The friendly staff are an example of the good service usually found in excellent restaurants rather than the robotic smile of normal fast food operators.

The declared aim of Prêt à Manger is 'to create hand made, natural food, avoiding the obscure chemicals, additives and preservatives common to so much of the "prepared" and "fast" food market of today'. This defines two major competitive scopes, within which the company wants to operate (Kotler, 1995).

(1) Industry scope. The statement clearly places the organization in the fast food industry. Given the acceptance of this challenge, it defines the market segment focusing on quality and time as extremely important factors in order to succeed.
(2) Market segment scope. Given the type of market the organization aims to satisfy, the company's mission statement focuses on a specific niche with which it is targeted. It also sets the guidelines on relationships with the customers, suppliers, distributors, competitors and other groups.

Prêt à Manger's mission statement is given a central role by the company and it is seen throughout Prêt à Manger's stores. The mission statement is visible to actual or potential customers on the outside windows and inside walls. Prêt à Manger also highlights the term 'passionate' in its slogans: 'Passionate about people', 'Passionate about coffee', 'Passionate about food', etc. Prêt à Manger was given a commendation for the 'Most Prominent Positioning of a Company Mission Statement' by the Investors in People Award.

The mission statement and Prêt à Manger's declared passion for things suggest a company that has a supportive attitude to its workforce which is reciprocated by positive images of the company by its employees. In order to evaluate the extent of this, Prêt à Manger's human resources department commissioned an independent survey to measure the effectiveness of the training department, customer services, payment schemes and their managers' working styles. Ninety-three percent of the respondents strongly agreed with the statement that the customer comes first, more than 70% of the employees claimed to be proud of working for the company and 66% believed that Prêt à Manger looks after its people and that customer service training is well implemented. Over two-thirds have a lot of respect for their managers and 74% enjoy their job and three-quarters believe that the employees work very much as a team.

Such high levels of support from the workforce are not common in traditional organizations and suggest that Prêt à Manger has a particular organizational culture, one that is shared by many entrepreneurial organizations. The next section provides a brief review of the academic literature on corporate culture in entrepreneurial organizations.

Corporate culture in entrepreneurial organizations

Organizational culture refers to a system of shared meanings by members of an organization. It is a set of characteristics that the organization values, defending it against today's pressures of disintegration caused by decentralization, delayering and downsizing. Culture is community, the outcome of how people relate to one another. Robbins (1996) captured the essence of an organizational culture by suggesting seven primary characteristics: innovation and risk taking, attention to detail, management focus on results or outcomes, people and team orientation, aggressiveness and competitiveness of employees and the degree to which the organizational activities maintain stability. Goffe and Jones (1996) divided organizations into two dimensions of culture: sociability and solidarity. In highly sociable organizations, employees tend to share their values and obtaining consensus is a priority. The second dimension deals with the organization's ability to seek common objectives effectively, regardless of personal bonds. When these two dimensions are plotted against each other the outcome is four types of cultures: networked, mercenary, fragmented and communal (see Figure 1).

Small, fast-growing, entrepreneurial startups like Prêt à Manger have the characteristics of communal cultures. The owners or founders are often close friends who started in small spaces working many hours. Members of this type of organization possess an incredible sense of identity and membership with the company. In communal organizations the employees display a strong sense of urgency and will work together for the main purpose. The company's main objectives are known by everyone in the company, regardless of their department.

Although many managers see this type of culture as an ideal to be reached, there are also problems with high solidarity and sociability. When there are well-established, performance-related incentives, employees may withdraw their support if they are unable to see an additional advantage.

Given this understanding of corporate cultures, the next section presents the first reading of the system development process at Prêt à Manger.

Introducing the first reading

The first reading of the systems development process at Prêt à Manger was heavily influenced by the perceived organizational culture at the company. The field work was undertaken by an MSc student who was working for the company in his spare time. He managed to arrange to become part of the systems development team for a new information system in the organization and acted as a 'brown paper' librarian recording decisions taken in meetings where prototypes (mocked up on brown paper) were discussed. Given

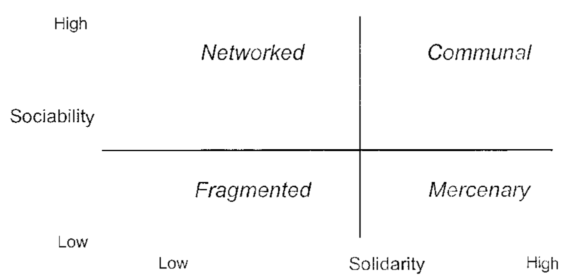

Figure 1 The four culture types

an academic awareness of the notion of participation and the organization's 'passionate' approach to its employees, it seemed natural and obvious to undertake an analysis based on traditional notions of participation. The next section therefore summarizes the traditional arguments around the notion of participation. The following section reconsiders these arguments with a reading drawn on the sociology of translation.

Participative approaches in information systems

In information systems, one common way of trying to ensure the successful introduction and use of new systems is through participative or sociotechnical approaches. The philosophy behind these approaches is a humanistic belief that people have a basic right to control their own destinies. If they are allowed to participate in the analysis and design of the system that will affect them, the relevance, acceptance and operation of the system will be enhanced (Mumford and Weir, 1979). The sociotechnical approach also recognizes the different interest groups or stakeholders (Pouloudi and Whitley, 1996, 1997): 'The method seeks to discover their social, technical and organizational objectives which are perceived by the interest groups'.

Participation by end users is considered to have the following benefits.

(1) High morale and motivation amongst staff as their views have been sought in the development of the information system. There is also some perception of control over their (users') work environment.
(2) More relevant and useful systems are being developed as the detailed knowledge of the working system possessed by the users has been factored into the system.
(3) Users would have a high commitment to make the system work. Information systems are better accepted as the users have been consulted. The users, owing to the need to participate, may receive value added through training.

Participative approaches stem from a humanistic tradition and can be described from that perspective; however, they also act to distort the existing power relations in an organization. Thus, participation can be used by well-meaning employers who wish to empower their workforce or, more cynically, by managers who wish to manipulate the situation to their own ends. It seems useful, therefore, to review participative approaches from a perspective that is more aware of the building up of networks of associations and power. One such perspective, which will be described in the next section, is drawn from the sociology of translation which is taken from the field of science studies.

Sociology of translation

There are many different perspectives for analysing the way in which innovations attempt to become institutionalized and irreversible and the issues of power associated with them. One particularly useful viewpoint is given by the sociology of translation (Callon, 1986; Latour, 1987, 1991; Silva, 1997). This approach views the process of innovation as a political affair involving persuasion and control, a process which requires Machiavellian techniques in order for the innovation to progress (Latour, 1988) and not be dispersed by other actors adopting it for their own ends. Others need to be enrolled in the project and their behaviour then needs to be controlled.

A central tenet of this approach is that things only happen if other actors make them happen. The innovation only proceeds if other actors take the innovation and run with it. The key, therefore, is to try and set up the innovation so that these other actors can be persuaded to take up the innovation. However, once these other actors have taken up the innovation they can adapt it to their own ends. Another goal of the innovation process is therefore to ensure that they continue with the innovation in the manner intended. At each stage there are many alternative paths that can be followed and the sociology of translation provides a useful perspective for explaining the success or failure of a particular innovation at each of these stages.

According to this model, the proposed innovation must pass through four distinct stages. The first stage is known as problematization and at this point the proposed innovation is designed so that it can become an 'obligatory passage point', a 'place' where other actors are forced to pass through so that they can proceed. Thus, the new information system is intended to provide the single solution to the range of problems that the organization faces. In many cases, however, the actors in the organizational context need to define their identity in such a way that they appreciate the problem and can acknowledge the solution. Thus, when video recorders were first invented, the general public needed to be persuaded that they were not individuals who could live with missing television programmes if they were unable to be at home at a particular time. Instead, the developers of video recorders tried to redefine their identity to people who are missing out on their favourite television programmes purely for technological reasons and who would therefore be interested in a new technology (i.e. the video recorder) to record programmes when they were out.

However, it is not enough simply to have a solution to problems other actors may be aware of. They must be shown that it is in their interests to pass through an 'obligatory passage point'. They must be persuaded to define their problem and even their own identity in such a way that the proposed system is the obvious solution to their problem. Clearly, this process of 'interessement' fails if the actors choose to define their problem and themselves in a different way. Thus, if people choose to catch up on missed programmes by talking with friends they are unlikely to be interested in the potential of video recorder.

Interessement, however, is only successful if the actors can be enrolled into accepting the proposed solution that they have been interested in. Thus, having persuaded a group of people that they have a problem with missing television programmes and having informed them of the video recorder solution, they must be persuaded actually to use the obligatory passage point. At this time reliability and usability of the technical innovation can become important (although see Grint and Woolgar (1997) for a challenging account which argues that there is no essential component to any technology and, hence, 'reliability and usability' do not influence the adoption of technology). If the video recorder is particularly difficult to use or is unreliable then enrolment is likely to fail and the actors will redefine themselves away from the obligatory passage point.

Finally, the resolve of the representatives must be evaluated. The earlier stages of the innovation are unlikely to have involved all possible users of the new system. It is more likely that a representative sample will have been chosen. Even if these actors have been successfully enrolled and their behaviour controlled, there is still no guarantee that the innovation will succeed. For the change to continue, the actors that the initial sample represent must also take up the idea. If they do not, then the innovation will again fail. If the initial sample, however, was truly representative then they can then act as spokespeople for the innovation and its development can continue. Thus, the initial sample of video recorder users must be able to persuade other people to take the recorder as an obligatory passage point for themselves. In the case of the video, this clearly happened. In other cases, however, it might fail.

The sociology of translation therefore gives us another, more cynical reading of the participative approach. This suggests that participation is proposed because it facilitates the users enrolling themselves into the innovation process. By being involved in the development process, they are more easily persuaded that there is a problem situation that the computer will help address and their future actions are therefore likely to be constrained; there is a reduced likelihood that they will reject the resulting system. Moreover, by contributing their experiences and 'shop floor' expertise (Cooley, 1987) the resulting system may actually address their concerns and, hence, will help keep them using the system.

Implications of the first reading

When considering the Prêt à Manger case study under this first reading, everything appears to fit neatly into place. Prêt à Manger, being a passionate organization, clearly uses participative approaches to system development and these can be seen as a way of maintaining the corporate culture. By problematizing the current work situation and showing how computers can help the organization maintain its prominent position in the market, the employees can be enrolled into developing and accepting the new system using participative methods which are attuned to the values found in the organization. The resulting system will therefore be beneficial to the organization and the system development process will help maintain the supportive employee culture. Unfortunately, as the next section demonstrates, this reading was less than perfect.

Problems with this first reading

When this first reading was presented to the organization, together with a series of recommendations for further action, it immediately caused considerable concern. At one level, this was because of a number of factual inaccuracies that had arisen in the analysis, but, more significantly, they felt that the analysis was generally an inaccurate reflection of what had actually happened. For example, the analysis had underplayed the role and scope of the participation of the external system developers and had failed to recognize the important up-front work of the entrepreneurs.

The use of the sociology of translation was also far too simplistic and had been applied too programmatically (B. Latour, personal communication). The whole point of the sociology of translation is to provide guidance on questions of power which did not presume a pre-existing social structure; it was intended to provide a means of explaining the complex, world-building activities of the various actors that create and maintain social structures. It was never intended to provide a series of steps that could simply be followed in order to enable an innovation to succeed and was certainly not intended as a simple 'snap-on' model that could be used to 'explain' the (in this case) systems development processes that the organization undergoes.

It thus became apparent that this reading of the situation was inadequate and a more sophisticated reading was required. The chosen theories had led me to distort the account of what was going on, by including and overemphasizing things that were found in the organization that supported the theory and choosing to ignore those factors that did not tie in neatly with the chosen approach.

This is not to say that this first reading was wasted, as the hermeneutic process argues that every reading adds to further readings and, as can be seen below, some of the insights from this reading become important in the second reading. The company undertook a form of participation and this certainly tied in with the general organizational culture but this was not the whole of the systems development process. There were significant stages of the development process where all the principles of participation and staff empowerment were ignored. A new reading of the situation would have to be able to account for this non-participation as well as the participation. Similarly, the reading should be informed by but not driven by the sociology of translation, drawing on the key insights it provides but not using it to avoid understanding the complexity of the situation under investigation.

A second reading

At the time that these issues with the first reading of the project were becoming apparent I had been reading a book that develops the ideas of Martin Heidegger with regard to issues of entrepreneurship, democratic action and the cultivation of solidarity (Spinosa, *et al.*, 1997). The ideas found in this book seemed to relate to the concerns with the first reading and so a second reading of the situation could be undertaken, based on the use that Spinosa *et al.* (1997) made of Heidegger's notions of involvement and their reworking of these ideas to the concept of entrepreneurship. These ideas are briefly summarized below.

Entrepreneurs

Entrepreneurs are the ones who introduce new styles of living to a society; they are the ones who cause shifts in our everyday practices. They do not just add a new product or a new practice to our lives, they change what it is to live in a particular culture.

Entrepreneurs make these changes by picking up on anomalies in our current way of life. They spot disharmonies in our disclosive space. A disclosive space can be understood in terms of Heidegger's (1937, 1962) notion of a 'world'. A world has three characteristics. It is a totality of interrelated equipment, each of which is used for a particular purpose and these activities enable people performing them to have particular identities (Spinosa *et al.*, 1997, p. 17). Thus, the subworld of a typical office environment consists of equipment such as word processors which are used to produce business letters and the production of such letters is the task of people we describe as secretaries (Whitley *et al.,* 1997).

Clearly different subworlds are not going to be identical, but many share a similar style which allows people to cope with moving from one subworld to another. Styles allow people to adapt by preserving and changing their identities. 'That is, they respond to each local situation by elaborating a current stand on who they are by reference to past or related stands they have taken' (Spinosa *et al.,* 1997, p. 33).

We are all skilful actors in such situations. Entrepreneurs, however, distinguish themselves because they have a particular sensitization to their particular (historical) environment which makes them particularly aware of when such transitions bring up anomalies. They perceive these anomalies and realize that there is an essential disharmony between our subworlds and our practices for coping within them.

Having spotted the anomaly the successful entrepreneur must deal with it. This cannot be done by simply changing one element in the disclosive space. Adding a new piece of equipment or a new activity or a new identity in isolation will not be successful. The entrepreneur must change the whole subworld; the whole way of coping must be transformed.

An interesting example of such entrepreneurial action can be found in the example of Gillette, who did not just address the problem he faced with his dull razor, rather he 'sensed that he and other men were willing to give up their masculine rituals not only for the sake of convenience in the domain of removing facial hair but also for the sake of having a different relation to things in general. Gillette sensed that masculinity could – and would, thanks in part to him – be understood as commanding things and getting rid of them when they ceased to serve rather than as caring for and cherishing useful and well engineered things' (Spinosa *et al.,* 1997, p. 42).

Gillette did not just introduce a new piece of equipment (the disposable razor) as a solution to a problem (a dull razor) in a particular subworld, rather he changed the whole shape of the subworld.

Again, there is a danger of oversimplifying the situation to fit the theory (or the requirements of an academic paper), but bearing this in mind it is reasonable to suggest that, whilst Gillette did not cause the single biggest transformation in the lives of males, he did have a noticeable effect on the lives of most men and their perceptions of themselves and the artefacts they use.

We can thus characterize entrepreneurs as those individuals who are particularly involved in their subworld and who, as a result, spot anomalies in their current situation which they realize are not isolated examples, but are disharmonies that are more widely felt. They tackle these disharmonies by changing the whole shape of the subworld they are dealing with. Entrepreneurs do not, therefore, think explicitly about their problem; rather their actions take place in the situation they are faced with. To paraphrase Frank Lloyd Wright 'Entrepreneurs don't have to think. They know'.

In particular, it is important to note that entrepreneurs often do not have clearly articulated goals for their organizations, but instead rely on their own intuitions for driving the organization. As we will see, there is an essential tension between this intuition-based view of organizational goals and the more formal methods required for information systems development and management more generally.

Applying the second reading

This section introduces the second reading of the systems development process at Prêt à Manger. This reading is focused around the conflicting requirements of the various participants in the systems development process. The entrepreneurs are characterized by their involvement in the subworld they are transforming which gives them the special ability to see how the subworld can be further transformed. It also, however, means that if they are to maintain their unique perspective on the situation, they cannot detach themselves from the situation and decide on the kind of formal minutiae that are required by the systems development process. The second reading shows how these contrasting requirements can be resolved to create a satisfactory computer system.

Entrepreneur participation

The second reading needs to explain why participation was applied at some stages of the system development process and why it was consciously ignored at other stages, despite the overwhelming employee-focused culture and values found in the organization.

The founders of Prêt à Manger had clear ideas about how they wanted to develop their organization within the subworld of take-away food and, naturally, they were aware of the ways in which management information systems could help with this development. Their ideas, however, were related to the subworld of take-away food; they were not related to issues of software development. Indeed, the theory suggests that if the entrepreneurs are required to articulate their plans in the detail required by the systems development process, then all the benefits of their expertise will be lost and they will be no different to ordinary employees of the organization.

Furthermore, since the entrepreneurs' vision of the future is a very personal one, associated with their disposition towards the world, they are unlikely to find a systems development process appealing if they cannot control all the outcomes of the process. The formal requirements of developing new systems increase the risk of having the ideas appropriated by other participants in the development process, both because there are other people who are less closely involved with the subworld participating in the process and also because their involvement is qualitatively different in style and is closer to that of the software developers.

The first part of the systems development process now becomes easier to understand. The founders are prepared to outline their requirements for a new computer system in a development process that they can control. They cannot do this in a participative approach and, since their perspective is in a different form to that required for detailed system design, they cannot undertake the whole specification process; at best they can outline and describe the shape of the system in terms of their understanding of the subworld of take-away food. The entrepeneurs can thus specify the shape of the new system but are unable (if they are to remain as involved entrepreneurs) to contribute to the formal specification of the system. However, by being so closely involved in the earlier stages, they are also enrolled into accepting the resulting system.

Employee participation

In order to develop a functioning computer system which satisfies the described needs of the entrepreneurs, it is necessary, of course, to go into more formal detail. It is at this stage that employee participation, in the traditional sense, begins. Having been given an overall vision of the computer system, the variety of employee perspectives can be explored to come up with a suitable design and implementation of the resulting system. Since these employees are not as finely attuned to the subworld of fast food (although they may have particular experience of the day-to-day workings of the restaurants) they can make a different contribution to the debate and do so in a way which does not destroy their special role.

A further consequence of the participative process can now be understood in terms of the sociology of translation and organizational culture. Although a wide selection of employees have become involved in the development process they also need to be able to bring their colleagues with them in accepting the new system. In organizations like Prêt à Manger where there is considerable workforce respect for senior management and where there is a strong team element to most work, this is unlikely to be problematic and the innovation is likely to succeed.

Over time, the participative approach will lead to the development of various components of the system, both as brown paper prototypes and also as computer-based prototypes. At this stage, the entrepreneurs may again become involved in the development process. By being presented with a version of the system, they can compare the actual implementation with their visions. By presenting the concrete implementation to the entrepreneurs, the system developers may be able to help them clarify areas which they had not previously understood or thought through. For example, on viewing the prototype, the entrepreneurs may come to realize that it is the total number of sandwiches produced per hour rather than the number of each type of sandwich produced per hour which is most important. In this way, the formal computer system can act with the less formal and unarticulated vision of the entrepreneurs to improve the design of the system.

Summary and reflections on theory and practice

This paper has introduced the systems development process in an entrepreneurial organization. This is an organization which emphasizes the importance of its employees and, thus, would seem to be an ideal situation for participative approaches to be used. The paper therefore presented an attempt to understand the systems development process from this perspective, a presentation that was further informed by ideas from the sociology of translation. Unfortunately, this first reading of the situation was rather limited and, therefore, a second reading, drawing on theories of entrepreneurial involvement, was adopted. This reading proved to be more satisfactory as it came up with plausible explanations for both the initial avoidance of participative methods and the later, expected use of employee participation in the development process.

In so doing, the paper has highlighted the risks of applying a particular theoretical perspective in an uncritical manner. Both readings, but in particular the first, can be criticized because of their tendency to oversimplify the situation so that it fits the particular chosen theory. In the first reading, the assumed link between an organization that values its employees 'passionately' and participative methods was so strong that it caused important parts of the development process to be ignored. These activities could not be ignored, however and so a second reading had to be attempted. This second reading, however, was not undertaken with a clean sheet; rather it drew on the insights gained in the first reading. It was apparent that participation was undertaken in the company and the analysis of the implications of this process that were drawn from the sociology of translation proved to be important, but there was also a stage in the development process where participation was consciously not followed and this needed to be explained as well.

The hermeneutic process, moreover, is always ongoing. It would be possible to undertake third, fourth and fifth readings of the situation, each of which drew on the earlier readings that had been made. For example, further insights may be drawn from a Foucaultian perspective of the situation or by the use of critical theory or narrative. If used clumsily, each of these readings would run the risk of excluding important aspects of the situation, but, if used with care and precision, each could further increase our understanding of situations like this.

A reflexive researcher should always be aware of the limitations of the chosen research tool. Every situation that is being investigated is a mass of complex, world-making activities by many actors, both human (managers, employees, etc.) and non-human (computers, telecoms infrastructures, etc.). It is unlikely that any one perspective can provide a complete understanding of all the details associated with the situation. The researcher should therefore be sensitive to the details that do not fit the theory being used as much as those that do; the field of information systems can only develop if we are prepared to 'squirm' a little when these details do not fit our theories perfectly and then try to improve them to accommodate those details that do not fit.

Acknowledgements

I am grateful to Marcelyn McGinn for her insightful comments about the introduction of the new system at Prêt à Manger and to Ernesto Uribe whose MSc dissertation was the catalyst for this paper. I would also like to thank Leslie Willcocks and Bruno Latour for their comments and Georgios Doukidis for his support. An earlier version of this paper can be found in Whitley (1998).

References

Callon, M. (1986) Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. In *Power, Action and Belief: A New Sociology of Knowledge?* Law, J. (ed.) (Routledge & Kegan Paul, London), pp. 196–233.

Cooley, M. (1987) *Architect or Bee? The Human Price of Technology.* (Tigerstripe, London).

Downey, G.L. (1998) *The Machine in Me.* (Routledge, New York).

Fraser, I. (1995) Legends in their own lunchtime. *Marketing Business,* December/January, 30–3.

Galileo Brand Architects (1995) *50 Recommendations to Help Prêt à Manger Expand to 500 Stores.*

Goffe, R. and Jones, G. (1996) What holds a modern company together? *Harvard Business Review* **74**(6), 134–48.

Grint, K. and Woolgar, S. (1997) *The Machine at Work: Technology, Work and Organization.* (Polity Press, Cambridge).

Heidegger, M. (1962 [1937]) *Being and Time* (trans. John Macquarrie Edward Robinson) (Basil Blackwell, Oxford).

Introna, L.D. (1997) *Management, Information and Power: A Narrative of the Involved Manager* (Macmillan, Basingstoke).

Kotler, P. (1995) *Marketing Management: Analysis, Planning, Implementation and Control* (Prentice Hall, Englewood Cliffs, NJ).

Latour, B. (1987) *Science in Action: How to Follow Scientists and Engineers Through Society* (Harvard University Press, Cambridge, MA).

Latour, B. (1988) *The Prince* for machines as well as for machinations. In *Technology and Social Process,* Elliott, B. (ed.) (Edinburgh University Press, Edinburgh), pp. 20–43.

Latour, B. (1991) Technology is society made durable. In *A Sociology of Monsters: Essays on Power, Technology and Domination,* Law, J. (ed.) (Routledge, London), pp. 103–31.

MacKenzie, D. (1997) Abolishing the bomb: actor-network and other theoretical perspective, in *ANT and After Workshop,* Keele University.

MSI (1997) Databrief on Fast Food: UK. *Caterer and Hotelkeeper Magazine.*

Mumford, E. and Weir, M. (1979) *Computer Systems in Work Design, the ETHICS Method: Effective Technical and Human Implementation of Computer Systems: A Work Design Exercise Book for Individuals and Groups* (Associated Business Press, London).

Pouloudi, A. and Whitley, E.A. (1996) Stakeholder analysis as a longitudinal approach to interorganizational systems analysis. In *Fourth European Conference on Information Systems,* Coelho, J.D., Jelassi, T., König, W., Krcmar, H., O'Callaghan, R. and Sääksjarvi, M. (eds.) (ECIS, Lisbon, Portugal) pp. 33–44.

Pouloudi, A. and Whitley, E.A. (1997) Stakeholder identification in inter-organizational systems: gaining insights for drug use management systems. *European Journal of Information Systems* **6**(1), 1–14.

Robbins, S. (1996) *Organizational Behaviour: Concepts, Controversies, Applications* (Prentice Hall, Englewood Cliffs, NJ).

Scott, S.V. (1998) Computer Mediated Interpretation of Risk: The Introduction of a Decision Support System in a UK Retail Bank, PhD thesis (Judge Institute of Management Studies, Cambridge University).

Silva, L. (1997) *Power and Politics in the Adoption of Information Systems by Organizations: The Case of a Research Centre in Latin America, Information Systems* (London School of Economics and Political Science, London).

Spinosa, C., Flores, F. and Dreyfus, H.L. (1997) *Disclosing New Worlds: Entrepreneurship, Democratic Action, and the Cultivation of Solidarity.* (The MIT Press, Cambridge, MA).

Whitley, E.A. (1998) Understanding participation in entrepreneurial organizations: applying the sociology of translation. In *Sixth European Conference on Information Systems,* Baets, W. (ed.) (Euro-Arab Management School, Aix-en-Provence, France), pp. 1225–37.

Whitley, E.A., Siemer, J. and Introna, L.D. (1997) Studying the involved computer user: a phenomenological approach. In *Proceeding of the Americas Conference on Information Systems,* Gupta, J. (ed.) (AIS, Indianapolis, IN), pp. 327–9.

Biographical note

Edgar Whitley is a Senior Lecturer in Information Systems at the London School of Economics and Political Science. He has a BSc (Econ) Computing and a PhD in Information Systems, both from the LSE. He has taught undergraduate, postgraduate students and managers in the UK and abroad. Edgar was one of the organizers of the First European Conference on Information Systems and is actively involved in the coordination of future ECIS conferences. He has published widely on various information systems issues and is currently completing a book on the socio-philosophical foundations of information systems and is co-editing a book of papers on Heidegger and Information Technology.

Address for correspondence: Edgar A. Whitley, Information Systems Department, London School of Economics and Political Science, Houghton Street, London EC2A 2AE, UK.