

Gender Reflexivity: A Missing Element from Action Research in Information Systems

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Much of the literature on AR in IS appears to have forgotten its radical roots and its subjective epistemology. More rigorous, mechanistic approaches and control mechanisms are continuing to emerge rather than more insightful and innovative methods of interpretation and reflexivity to facilitate making sense of the research. AR is a methodology, like ethnography, that involves people and as such is subject to organisational power and politics that can have dimensions of age, race, social class as well as gender. This paper argues that action researchers involved in information systems development should become more critical in their approach and provide insight into their research by avoiding linguistic reductionism and sanitised stories that remove the struggle, conflict and injustice inherent in all organisations involved in change. This can be done in a variety of ways. One such approach is by developing and presenting stories that are interpreted through different lenses that reveal to the reader new dimensions in the research. The lens used in this paper is a gender lens.

Keywords: Action Research, Information Systems development

1. Introduction

Action Research (AR) within the Information Systems (IS) field of study has emerged as a research methodology congruent with the need to investigate practical problems of IS in an organisational context and become involved with their solution. This has been particularly so in IS development. The origins of AR are unclear but careful examination of the literature shows “*clearly and convincingly that AR is a root derivative of the scientific method reaching back to the Science in Education movement of the late 19th century.*” (McKernan, 1991:8)

Despite its clouded origins it is generally agreed that it was Kurt Lewin in the mid 1940s who constructed a theory of AR as “*proceeding in a spiral of steps, each of which is composed of planning, action and evaluation of the result of action*” (Kemmis and McTaggart, 1990:8). Lewin argued that in order to “*understand and change certain social practices, social scientists have to include practitioners from the real social world in all phases of inquiry.*” (McKernan, 1991:10)

Since Lewin’s death in 1947 theory has moved on. Now the term action research is generic and is used to refer to a bewildering array of activities and methods (Miller, 1994). Some AR methodologies have developed from sociology that tend to focus on structural emancipatory issues while others have their origins in applied behavioural science and have developed in the organisational context. Action research is radical in so much as it challenges the traditional scientific approach to research. First it shares the power of knowledge production with the researched thus subverting the normative practice of knowledge and policy development as being

the primary domain of the researchers and policy makers. Second researchers work on the epistemological assumption that the purpose of academic research and discourse is not just to describe, understand and explain the world but to change it. Third is that the data used in the research approach are systematically collected and come from both the research participants and the researcher. Questions of reliability, replicability and universality do not pertain to AR. Instead AR poses three questions:

- *What happened? (A good story.)*
- *How do you make sense of what happened? (Rigorous reflection on the story).*
- *So what? (What has been learned) (Coghlan and Brannick, 2001:10)*

Much of the literature on AR in IS appears to have forgotten its radical roots and its subjective epistemology. More rigorous, mechanistic approaches to control the research process are continuing to emerge (Avison et al., 2001) rather than more insightful and innovative methods of interpretation and reflexivity to facilitate making sense of the research. AR is a methodology, like ethnography, that involves people and as such is subject to organisational power and politics that can have dimensions of age, race, social class as well as gender (Warren and Hackney, 2000). This paper argues that action researchers involved in information systems development should become more reflexive in their approach and provides insight into their research by avoiding linguistic reductionism and sanitised stories that remove the struggle, conflict and injustice inherent in all organisations involved in change. This can be done in a variety of ways. One such approach

is by developing and presenting stories that are interpreted through different lenses that reveal to the reader new dimensions in the research. The first section of the paper examines what is understood by the term 'reflexivity' and how this understanding might inform how IS action researchers might approach the re-examination of the IS literature from a more critical perspective. The second section describes how the IS action researcher could present and interpret their 'story' by using a gender lens to provide insight into issues that have impacted upon the outcome of the research. Finally the third section discusses some of the salient points that are relevant to this type of approach.

2. Reflexivity

There are many definitions and interpretations of 'reflexivity' throughout the social science literature (e.g. Bourdieu and Wacquant, 1992; Calás and Smircich, 1992; Maranhão, 1991) and it is not the intention of this paper to explore this subject in excessive detail. However, one particular text (Alvesson and Sköldbberg, 2000) that draws upon this vast literature has emerged and has provided a greater insight into the problematic nature of qualitative research and its interpretation. Alvesson and Sköldbberg (2000:5) argue in favour of qualitative research that acknowledges that all references to empirical data as being the '*results of interpretation*' and not a mirror of 'reality'. This means '*awareness of theoretical assumptions, the importance of language and any pre-understanding, all of which constitute major determinants of the interpretation*'.

Alvesson and Sköldbberg (2000:5-6) also advocate that reflexivity has a second element which requires attention being '*turned towards the researcher, the relevant research community, society, cultural and intellectual traditions and the central problem of language and narrative in the research context*'. Thus reflexivity would be defined as the '*interpretation of interpretations*'. Reflexivity is a challenge to explore how we construct ourselves socially while also constructing objects 'out there' in our research. It challenges us to explore aspects and dimensions of the research that might prove uncomfortable and provide multiple interpretations to develop maximum insight into the social construction of the research. Reflexivity thus occurs when one mode of thought is confronted by another.

2.1 Reflexivity on action research in the field of information systems

There are many interpretations of AR and the approaches that may be adopted (Reason, 1994; Flood and Romm, 1996; Moggridge and Reason, 1996; Dash, 1999; Stringer, 1999, Coghlan and Brannick, 2001). However, in the field of IS action research is seen as an interventionist approach to the acquisition of scientific knowledge with foundations in the post-positivist tradition (Clark, 1972; Susman and Evered, 1978; Baskerville and Wood-Harper, 1996; Lau, 1997,1999; Avison et al, 1999; Avison et al., 2001). Rapoport's (1970:499) definition of action research is one that is frequently quoted:

"Action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework"

One of the major influences in action research within IS area has been Peter Checkland, who began to recognise the limitations of positivism during the late 1960s early 1970s (Checkland, 1981). Although attracted to AR as a methodology Checkland has been unable to accept the loose framework of the interpretivist tradition and has sought to argue a much more structured approach to this type of work (Checkland, 1991; Checkland and Holwell, 1998a,b). His approach to AR focuses upon an "ideal type" model of traditional research in which there is a declared-in-advance framework of theoretical ideas (F) that are then used in a methodology (M) to investigate an area of interest or concern (A). Checkland believes that AR, organised along his principles '*...can be made to yield defensible generalisations*' (Checkland and Holwell, 1998b:16).

The quest for academic rigour through control of the AR process can be seen in the literature that has emerged since Checkland's (1981) early work. Baskerville and Wood-Harper (1996:242), while advocating an approach to AR similar to Checkland's, have included their own criteria to ensure 'academic rigour':

- Establishment of a formal research agreement
- Provision of a theoretical problem statement
- Planned measurement methods
- Maintain collaboration and subject learning
- Promote Iterations
- Restrained generalisation

Lau (1997, 1999) has developed a 'unifying framework' of action research and Avison et al. (2001:44) focus on aspects of control mechanisms " *to make AR more feasible and rigorous for researchers in information systems*". It is not the intention to explore all aspects of IS action research only to give a flavour of how academics have moved the research agenda in a direction that seems at odds with the original philosophy.

There are a number of problematic aspects to the emerging literature on IS action research. First is the rhetoric that emerges from the IS action research literature concerned with practical knowledge developed within organisations with local practitioners when the reality appears to be an academic elite/a priori agenda. Second is the uncritical manner in which the IS action research 'story' is interpreted and the lack of any real engagement with the power and politics of organisational research (e.g. Davison and Vogel, 2000; Chiasson and Dexter, 2001). In fact Mumford states:

"Action researchers must recognise that they are operating in volatile political situations where there may be different, even hidden agendas. It is important to be aware of internal politics but at the same time to keep detached from them" (Mumford, 2001).

Third is the sanitary manner in which the research must be presented in order to be accepted by academic journals. Mumford alludes to this issue in her discussion of writing up AR projects when she tried to involve participants in her research in writing part or all of the article themselves (Mumford, 2001:25). She also states that AR can be stressful for the researcher – but how many times does this emotion appear in AR articles on IS research?

2.1.1 Action Research and Gender

Although there is literature in the IS field that considers gender issues (e.g. Robertson et al., 2001; Wilson, 1999; Lander and Adam, 1997) there are few if any on IS action research and gender. A reason for this could be the focused perspective that action research has adopted within the IS domain or that much of the literature written on IS action research is by men.

This narrow focus is not the case in other areas of management and organisational research where there is a much broader interpretation of AR and also a more in depth discussion of epistemology and theoretical

perspectives with respect to AR. There appears to be a recognition that in a post modern world and with more academics in the field of management engaging in philosophical discussions the concepts of 'truth' and 'knowledge' is subjective and dependent on power and powerful groups (Reason and Bradbury, 2000).

Reason and Bradbury (2000) in recognising the various interpretations of AR have included contributions from many practitioners in the AR field with an array of theoretical perspectives – including a feminist perspective. Reason (2001) also discusses an AR project carried out by a black, professional woman working as a manager in a large organisation. This project investigated how black women learned to survive in the workplace and raised many issues of race and gender that previously she and the participants in the research had denied. This emancipation involved problematising the world of management. She used feelings, emotions and new metaphors to explore the situation and challenged the participants and readers of the research to explore some of the taboos about which we do not normally speak.

The reality of AR for those of us who have used it as a research methodology is that there is a survival aspect to it where we negotiate our way through the project and encounter organisational politics as well as manipulation and prejudice. If engaged in IS development there is an outcome and the journey by which we arrive at that outcome is open to multiple interpretations. There is not one story but many. IS action researchers must be prepared to develop a more reflexive understanding of their project and more innovative ways of making sense of their research material (interviews, observations, questionnaires etc). This mode of AR would be grounded in a critical/postmodern approach that aimed at interpretive, open, language-sensitive, identity conscious, historical, political, local, non-authoritative and textually aware understanding of the subject matter. Interpretations of the data may focus upon the political or power dimensions of the research. It may have racial or homophobic interpretations. However, it is through a gender interpretation that this critical approach to AR in IS research is to be demonstrated in the next section.

3. An action research project in North East Hospital

In 1994 I began an AR project that was to span a six year period with four major iterations. Initially the practical problem that sparked interest and gave rise to the project was the continuing failure of NHS hospitals to implement integrated information systems but over time it became focused on emancipation and the role of the systems analyst within IS implementations (Waring, 2000). By the time I began my work at North East Hospital I had already completed three major pieces of AR working on integrated information systems implementations.

The department of Gynaecology in North East Hospital has a long history and has been influential in the development of gynaecological oncology as a clinical speciality in its own right. It is considered to be one of the principle centres in the UK for the treatment of gynaecological cancers and is well known internationally, particularly in the development of standards and training and research.

Treatment of patients diagnosed with cancer is generally by surgery, which ranges from simple procedures performed under local anaesthetic to major surgical events. Radiotherapy and Chemotherapy complement surgical treatment and are carried out by other specialists within the Hospital.

3.1 Data collection and analysis

The data collected in Gynaecology took place over a nine month period. As in all of the AR projects mentioned data collection involved semi-structured interviews with the main participants in the project. In the Gynaecology project this consisted of 30 staff in total from the department itself as well as staff who interfaced with Gynaecology: Admissions, Outpatients, Colposcopy, Ward G, Theatres, Finance and Coding. Interviews were tape recorded, transcribed and fed back to interviewees for verification. I kept a research diary of what took place every time I visited the hospital. The focus of the writing was my understanding of the project, reflections upon my role, my practice, how I was treated by participants in the project and my interactions with others. Participant observation was also used in the AR project along with document analysis. The document analysis was highly sensitive and confidential due to the nature of the work in the department.

I am now going to structure some of the AR story in a normative manner but within that structure bring to the fore gender issues and the silent voices that are all too often omitted from the final version of what took place. It uses emotion, metaphors and radical interpretation of events and situations to challenge the reader. The approach that I have chosen to take has been inspired by Warren and Hackney (2000) and their work on gender issues and ethnography.

3.2 Gaining entry to the research site

Within the context of AR gaining entry into the research sites can depend on a number of factors ranging from a decision by the researcher to investigate a particular problem in an organisation to being invited by an organisation to help solve a problem. It could be within the researcher's own organisation and environment or one at some distance away from it. For the stranger confronting a new AR project their initial reception by the host organisation/participants reflects a cultural contextualisation of the fieldworker's characteristics - age, physical appearance, social class, ethnic, racial or national difference as well as gender.

In my case the first contact with the Department of Gynaecology was when I crossed the hospital grounds to an isolated building guarded by an intercom to request access and a key code lock for those lucky to be allowed the combination. I never was. After being kept waiting for a considerable period of time I eventually met the clinicians with whom I was to work. My diary entry at the time exposes my feelings and gives signposts towards how the relationships within the project might develop:

"The meeting to discuss the gynaecology project took place today (April, 1997). I met with the two clinical consultants and the business manager in the Clinical Director's office in the department. The atmosphere was tense and I was nervous. I found myself being questioned intently by the Clinical Director about my ability and the nature of the research. The business manager who had been involved in the integrated Payroll/Personnel project was quick to testify as to my credentials but Mr X was not that impressed. I had to sit and listen to them brag about the nature and importance of their work. They were doing life-saving work. I just felt my research was trivial." (Diary entry, April 1997)

The success of the Payroll/Personnel project counted for little here and I was taken aback by the reception. Even the initial discussions with senior management of the hospital did not properly reflect the problematic nature of the situation. What emerged during the course of the meeting was that the clinicians wanted an information system that would allow them to administer and analyse their cancer research and possibly help administer their clinics and record data during operations. The business manager wanted the department integrated into the administrative systems of the hospital as they currently operated in isolation to the rest of the hospital. There was little real interest in my work and when it came to explaining the research and the theoretical framework that might be applicable the Clinical Director paid only brief attention and soon brought the meeting to a close. What I had not realised at the time was that this was the way he dealt with most of his interactions with women. These insights were gained from being in the department frequently and observing his interaction with the various people with whom he came into contact as well as vignettes that emerged during interviews.

3.3 Diagnosing the Problem

Researchers carrying out AR cannot assume that the problem as articulated by the original contacts is in fact correct and consequently there needs to be a period in which they gather data to discover the issues from all perspectives. AR is also premised on the fact that participants in the project are willing and able to enter into discussions and want to change the situation. As this was intended as an integrated project involving a number of departments it was essential that all participants were involved in the diagnosis as it could affect them.

According to Warren and Hackney (2000) gender and its intersections with other field-worker characteristics can provide and limit access to various settings and topics. Gender also frequently serves to define appropriate and inappropriate behaviours. They suggest that female researchers can gain access to areas because of their ability to be 'invisible' in certain mixed-gender organisations where men are dominant in the organisational hierarchy. However, this is complicated in IS Action Research as the researcher takes a more prominent role and in fact could be seen to challenge the norm. Their ability to be 'invisible' is limited. Thus the fieldworker must '*find a place*' (Warren and Hackney, 2000:11) which allows her to collect data and interact

with the individuals that she needs to work with if the project is to proceed. Of course this relationship is also reciprocal in as much as the participants in the project may reject the researcher and refuse to co-operate.

'*Finding a place*' in the Gynaecology project was not easy. The clinical consultants within the context of their department only came into contact with women as patients who needed surgery or as servants – secretaries, administrative staff or nurses. This relationship was demonstrably subservient as observed on wards and in the departmental office. I did not so much find a place but was assigned a place by the clinicians – as their servant to develop their information system. This place was not negotiated and once assigned it proved difficult to gain access and interact with the clinical consultants as I required. I was not the only researcher having difficulty. There was another female researcher, an ex-nurse, working on an NHS funded PhD. project investigating psycho-sexual problems following radical gynaecological surgery. She had been told by the Clinical Director that her research was a complete waste of money and unnecessary:

"When I have spoken to a woman and discussed her illness she doesn't need any psycho-sexual counselling" (Interview with Senior Registrar, September, 1997)

The administrative staff in Gynaecology assigned me a different place and they treated me with deference as I was seen as part of the Clinical Director's project. They did not attribute any aspect of the research project to me. However, I was not comfortable with this early relationship and over a period of weeks it changed as I tried hard to become 'one of the girls'. I joined them at lunch breaks and generally infiltrated my way into the daily routine of the office. This provided me with insight into the actual information systems within the department instead of idealised ones - for example I discovered the secretaries selectively writing up clinical notes for one junior doctor and not another causing bottlenecks in the system; secretaries prioritising GP patient referrals on behalf of the consultants and discussing patients results with them on the phone.

An area of the research that was problematic was the relationship with ward staff. I had great difficulty in gaining access to nursing staff on the gynaecology ward in the main part of the hospital. In the beginning they refused to participate in the project. Over a period of two weeks I was given appointments to meet nursing staff that suddenly were cancelled.

When I did eventually meet the nurses my explanation of the project was met with stony silence and staff leaving the room. I found this a highly stressful period of the project as I tried to gain their confidence. They viewed me as a spy and lackey of the Clinical Director. This place once again was assigned and needed to be re-negotiated over a number of weeks. Through regular contact - turning up uninvited at coffee times -the relationship improved slightly as I listened to their problems and difficulties especially in their relationship with the Clinical Director and with previous failed information systems. They made it quite clear that they had other priorities:

"We had a computer put on the ward to do the rostering of staff. It's over there in that corner. Nobody uses it. We haven't got time and we were never trained. It takes us all of our time to look after the women on the ward."(Interview with Ward nurses, August, 1997).

My assigned place as a spy also extended to the Theatre nurses where I was 'taken prisoner' and then released:

"I turned up for my interview with Theatre Nurses J and B today at the Operating Theatre Suite. I was wearing my interview suit. They took me into a room where I was made to strip and then dress in a theatre gown, hat and shoes. I was then taken to a little room within the suite where I conducted the interview and they made me a cup of tea" (Diary entry, August, 1997)

However, by allowing the ritual to take place I gained a degree of trust and they then proceeded to discuss some difficulties they had with the Gynaecology department and in particular the Clinical Director. They insisted on anonymity.

The complexity of the project brought other relationships and roles that the researcher had to negotiate. The experience was akin to that of an ambassador in a war zone. The various roles and relationships that developed over time produced research data which reflected the degree of intimacy or otherwise with the participants.

This gave rise to problems when I had to report the findings and the diagnosis of the situation. I was fully aware of the potential for bias in the research as I became aligned with various individuals and became emotionally involved in the context of the department. The problem as I reported it was not a one of technical development of a system but a major overhaul of work processes to aid patient care and ease

junior doctors and nurses workloads. I recommended computerising only a small part of the department's working processes at that time.

3.4 Taking action

It took a few weeks for the management of Gynaecology to decide whether they wanted to continue. Eventually they decided to go ahead with developing the clinical consultants' cancer database and integrating the departmental administrative processes with the main hospital systems. I then tried to facilitate the systems analysis that was required. This was problematic as the clinical consultants would not co-operate in the manner agreed - they did not co-operate with staff! The administrative staff and secretaries were also difficult. As they were not asked by the Clinical Director to the meeting to discuss the action they were less than enthusiastic about their involvement. I had to re-negotiate my role in the department as a mentor and teacher. I taught them new IT skills and they co-operated in the systems analysis exercise by modelling their work processes and information flows.

At this point two male researchers joined the project as database programmers researching prototyping in the department. Although I was supervising their work, their relationship with the clinical consultants and secretaries was markedly different. By working on the cancer database system everyday for a number of weeks they were able to converse in a medical language familiar to the clinicians, even though they did not understand the context. Their technical IT skills were superior to those of the consultants and this gave them added status. Thus their assigned place was that of adoptive nephew and this gave them regular access to the consultants as and when they needed it. The secretaries also indulged them in a similar manner.

The project was on-going from a systems building perspective for about nine months and this allowed me to slowly distance myself from the department. It gave me the opportunity to observe the changing relationships between the male researchers and the participants in the department and hear about this from the male perspective.

It was interesting to hear the male researchers discussing how the new integrated system should bring more control over the administrative staff. They had aligned themselves with the departmental manager who was experiencing problems with the staff.

They were also completely desensitised to the nature of the surgery that took place in Gynaecology, something that I could not reconcile.

4. Discussion

The previous section has presented a highly successful AR project (from the perspective of the hospital management and clinical consultants) but from the perspective of the researcher and the powerless research participants using a gender lens. The work has never claimed to be feminist in its approach but by using a gender lens, in this instance, is intended to develop a certain degree of sensitivity to gender aspects in research. This is certainly controversial and will most certainly be condemned as 'poor research' by many. Historically researchers in IS have been predominantly men and are generally unacquainted with gender issues. Even female researchers in IS can be affected by gender blindness. I now want to consider some salient points that have emerged from this research and discuss their relevance to action research.

Rigour versus relevance: There has been an emerging debate within the IS discipline concerning the legitimacy and relevance of qualitative research and in particular practice driven research. Wainwright (2000) succinctly captures this debate and provides insight into the North American view as opposed to the research community from Europe, Scandinavia and Australasia. The tension between opposing views is still apparent and consequently is affecting the manner in which such research is justified to the academic audience. I would argue that IS action research should embrace other epistemological and theoretical positions and then look for criteria of 'rigour' as defined there. Thus within AR the criteria of 'rigorous reflection' (Coghlan and Brannick, 2001; Reason and Bradbury, 2000) would become as important as trying to understand what had been learnt from the research.

From an academic IS perspective I was rigorous in my data collection; I had a formal research agreement; I had a theoretical perspective; I used AR in an iterative manner; I collaborated with the participants. However, I believe it is the story of the AR itself and its many interpretations that can provide insight into the problems and issues concerning organisational contexts.

Constructing reality in IS development: Generally speaking the story that emerges in AR projects on IS development is an

accommodation of a number of realities as interpreted or constructed by the researcher (e.g. Chiasson and Dexter, 2001). Selectively the researcher analyses the data and presents a highly subjective view of what has taken place. Reflexivity needs to be applied to the data and to its interpretation to challenge all aspects of the project and explore issues to which the researcher may be blind. The concept of the 'lens' is one that has been applied in social science for some time (Mavin, 2001; Alvesson and Deetz, 2000). It is used within critical research to denote the shifting analytical attempt to see what could not be seen before and shows the researcher as positioned and active. Thus by using alternative lenses we are emphasising the political nature of empirical material and focusing on one particular aspect. Gender is not an issue that the IS research community is comfortable with and rarely appears in mainstream research. However, gender, patriarchal power and sexism was an integral part of this particular IS action research project and its negative force needs to be viewed no matter how uncomfortable this can be.

Giving a voice to the silent: In general, although we may be inclined to deny it, the 'voice' that is heard in AR projects is that of the powerful who have the resources to ensure the outcome that suits their purpose. In IS development the outcome may well be a new information system that serves the purpose of the management or the dominant group. Their story is told in the reporting of the research and may acknowledge the contribution power and politics made to the final result. However, by presenting the Gynaecology 'story' from a gender perspective we can begin to examine how patriarchal power can affect the lives of those involved in the research. We can see intimidation and silencing of opposing views – doctors and nurses frightened to speak out; replication of power structures within the administrative section through referential power. Through the use of alternate metaphors the researcher can linguistically provide insight into the experience of working in such an environment. It can bring emotion to the research which for some is inseparable from reason (Sköldbberg, 1998; Gherardi and Turner, 1987; Jaggard, 1989).

Giving a voice to silent majorities who have been dominated for too long is vital (Alvesson and Sköldbberg, 2000). In IS projects this is particularly important as very often it is these people who are expected to utilise the new system on behalf of management. Their voice

is rarely powerful and when heard may be only used to echo the views of the dominant group or individuals. This is not necessarily a gender issue and can affect male workers as well as female. However, IS practitioners as well as researchers must try to recognise gender-related difficulties in projects and develop strategies to address them.

5. Conclusion

Portraying Action Research in a 'scientific' guise that can be carried out in a rigorous, impersonal and unemotional manner perpetuates the fieldwork mythology that by following a particular model scientific knowledge will emerge. Deep emotional involvement in a setting or issues related to gender can produce strong research interest and certain situations can be a cause of depression or pain. Gender norms within the chosen organisation shape the man's or woman's entry into the research setting, the research relationships and the permitted actions. It is imperative that the researcher embarking upon an AR project is as prepared as possible about the organisation and has information about gender roles in the culture. Additionally the researcher must also be better informed of the 'messy' nature of AR and that their project may be influenced by various factors that without reflexivity they will have difficulty understanding and explaining.

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