

Women in Accounting Information Systems Research: An Account from Self-Reflection

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ABSTRACT

Very little evidence exists to explain why only a few women have undertaken career as academic researcher in information systems. John Lucas (1973) suggests that the feminist debate may lead to the application of certain concepts of justice, equality, and humanity. This being so, a central question for this paper is "Why is the academic management industry far from being gender neutral?" The author perceives that society as it stands, is still unfair to women, and that this unfairness should be addressed. This paper also deals with and brings up unanswered questions as to whether discrimination against suitably qualified women for such positions could ever be defended according to the current principles of social justice. On the other hand, there are explanations of the phenomena premise on Maccoby's (1998) findings on same sex aggregation, and the latest research of Robert Munroe and Kimball Romney indicate (2006) that Maccoby's findings are not challenged by cross-cultural results. Hence, the same sex preference is a universal phenomenon.

Keywords: Academic research, gender, distributive justice, reflective practice, women's education, practitioner professional development

INTRODUCTION

The main aim of this paper is to examine the lack of women in the academic management industry performing information systems research. It discusses the feminist debate through the author's collective and respective self-reflective accounts. To that end, the application of certain concepts of social justice, equality, and humanity is discussed, not as an insight, but from an analysis and evaluation metaphor of these phenomena. Using his self-reflection, the author asserts that there has been an increased controversy in recent years regarding the role of women in the academic research arena. Should the fact that the potential researcher is a woman create a presupposition that she is unsuited to

senior academic research management? Since this genre of academic research tends to have a quantitative focus, using mathematical forms of judgment, the dearth of women in this sector might have something to do with the fact that apparently more opportunities exist for men to study higher mathematics than for women. Surely, women who like to solve differential equations ought not to be prevented from doing so on the basis of their sex (Panteli *et al.*, 1998; Margolis, Fisher and Miller, 1999). Even though there are very few senior female academic researchers, there is no reason why any particular woman should not be employed in academic research. In this paper, the importance of relevant femininity issues is explored.

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The author is also of the view that this phenomenon may lend support to Maccoby's findings that both sexes were expected to display the same sex aggregation. Furthermore, the controversy may be sourced from the effect of societal sex roles, stereotypes, and the failure to make a distinction of the issues of relevancy and base values to justify the actual or implied exclusion of women. For example, Sherman (1983) examined the intellectual development of females in comparison with males, and stated 'data indicate that intellectual excellence is still enmeshed in a pattern of sex role expectations contrary to the feminine sex role.' Although in their earlier studies Maccoby and Jacklin (1988) argue that during adolescence, boys appear to have an advantage over girls on tests of arithmetic reasoning, and interestingly, Feingold (1992) who supported this also found that more boys than girls were exceptionally poor at Maths. Meanwhile, Byrnes and Takahira (1993) found that girls exceeded boys in computational skills.

The issues of the role of women in the academic fields and in corporate management, within accounting information systems research, are becoming a major subject, and it is important that the argument is properly addressed.

The rules of effort and contribution to society scored high on the differentiation scale in the studies of Clara Sabagh (2005) because these rules share most attributes with ability. It is admitted by Sabagh that effort is less differentiating than contribution and ability, as resource allocation is based on the willingness to make sacrifices, which demands from the donor, and a high moral responsibility.

Thus, discrimination results in unjust resource distribution, regardless of whether or not it is intentional. Unjust resource distribution creates inequality, and inequality may lead to social exclusion in opportunities, even in voluntary social exclusion.

Discrimination on the ground of sex is counting sex as relevant in contexts where it is not, and leads to the rejection of suitable women. It is not discrimination on the ground of sex to reject women, who are not suitable, even if being

a woman causes their unsuitability. When that happens, it is their unsuitability and not their sex that has caused their rejection, e.g. when someone is rejected because she will be away to have children (Personal reflection, May 2007).

The author also expands on this by stating that selection discrimination occurs if the rejection of suitable women does not base on relevant differences affecting the field of information systems research or that particular field in the information systems research. If someone is away to have children, it does not impede the end product, but only the timing of the product. In any event, solution could be found in the present technology sophistication on timing and distance. Same sex aggregation theory could result in social exclusion by societal forces itself, and this is a dilution of social capital, if any, which leads to disengagement of human capital towards a sustainable economy.

The right to selective discrimination, from the analogy of the women being away to have children, could therefore be argued on ground of practical reasonableness. More so, in sex role stereotype and same sex aggregation theory displayed in males, the rebuttable presumption of unfairness needs to be discharged in spirit of justice, and distributive justice. In principal, it is about the base values and relevancy to practical reasonableness.

As argued by leading feminist advocate J. Lucas (1973):

"Should the fact-'the mere fact'- of a person's being a woman disqualifies her from being the Bench of Bishops or the House of Lords, or from obtaining a mortgage, owning property, having a vote or going to heaven? Is it not, the feminists are saying, just as irrational and inequitable as disqualifying a man on the grounds of the colour of his hair? Should we come to enunciate the formal platitude that women are the same as men in some respects, different from them in others, just as men are the same in some respects, and different in others? Even if women are different from men, a feminist might argue, why should

this be enough to debar them from being a member of the Bench of Bishops, when, apparently, there is no case of sexual abuse from women clergyman?"

(Lucas, J., 1973, p. 162)

Stanworth (2000) argues that the research management industry is one of the fastest growing sectors of the world's economy, and in theory it should be gender neutral, and the industry should be accessible to both men and women at all employment levels. As stated by Panteli, Stack, Atkinson and Ramsay (1998, p.171):

"In many occupations, the sexual division of labour has been established through an historical sedimentation of role allocation such as the clerical (female-dominated) and engineering sectors (male-dominated). Computing, which has only come into existence during World War II (Kraf, 1997), might be seen as potentially less bound by traditions, for example, as men's work or women's work, and therefore as a gender-neutral occupation offering opportunities to both men and women to enter and progress."

In similar vein of Stanworth, and the first author agrees, while the second author argues that the world of computing would benefit from the presence of women and their enhancing role. If males are mathematically inclined, females are intuitively inclined. Her argument shall be set forth in later paragraph, based on requisites in Yair Levy and Thomas Ellis' (2006) framework in conducting and writing an effective literature review.

Embedded in the research by Williams and Colombo (2003) is that it must be noted that there is an element of 'warrants' in the argumentation theory other than having the problem, i.e. subject or object of research being addressed by a claim, supported by a reason to such claim. There is within the web of research, the argument processes that anchor the proposed problem. A proper argument process has been

claimed by Yair Levy and Timothy Ellis that should follow the sequence of "[claim] because of [reason] based on [evidence]", whereas a warrant serves to "connect a claim and its supporting reason."

The author self-reflectively shares similar views with Richard's philosophy (1984), in that that the feminist claim of injustice would be established if totally unisex societies sprang up and flourished, or if there were as many societies in which the roles of men and women were reversed as there were traditional ones. He also agrees with Richard's idea that the existence of any successful and stable society in which the roles of the sexes are reversed is evidence in favour of the claim of feminism (Richard, 1984).

The question that arises in this paper is how to explore the way in which a non-stereotypical woman thinks and acts, and what are the feminist perceptions of the issues within the research management industry. Thus, the focus of the question will be from the perspective of educational development in the higher education research management industry:

Are the patterns of senior academic research management employment among men and women different in our society?

Examining the individual's interests and desires is paramount in the determination of career choices, even if there are very few female senior academic researchers, are there reasons why any particular woman could not become an academic researcher, even if it is a male-dominated field or not a same sex aggregation environment?

The first section of this paper introduces the literature, which outlines some of the ways that a person's sex may impact and determine the attitudes towards selection, perception, involvement, and assessment of an academic researcher. The next section discusses the shortage in academic research skills, and the participation of each sex within the industry as social capital being an enlargement of human capital towards a sustainable economy. The third

section discusses a case study from the author's self-reflective perspective, while the last section identifies areas for future improvements.

LITERATURE REVIEW

Women and IS

Data gathered from the US and UK suggest that there is a serious shortage of skills in the IT industry (O'Neill and Walker, 2001).

As Gaudin (1999, p.53) states:

“The IT worker shortage is fast becoming a crisis that could threaten this country's global technology leadership and economic strength, according to industry observers and government officials.”

Australia appears to be following the US and UK in the aspects of industry skills shortages. Barnard (2000, p.3) points out that,

“Almost half the nation's employers are being forced to hire information personnel from overseas because of a shortage at home.”

As mentioned by O'Neill and Walker (2001), there is a shortage of skilled personnel within the industry, and the problem has become more complex and it involves the information systems management industry itself, particularly in terms of its image and more so in the gender ratios of the current staff.

Hence, it is useful to estimate the total stock of trained personnel. With regard to skill level: skill level = initial level+ improvement–deterioration. Here, the view of Harold D. Lasswell and Myres S. McDougal, i.e. the skill level means all who are capable of achieving a given state of proficiency, is adopted. Levels are affected by available opportunities and by incentive structure. Skill exercise = desired employment (by individual) – undesired employment (by individual) – unemployment – coerced employment. Hence, if the exercise for skills from the standpoint of gender neutral is considered, it is possible to arrive at first

approximation of employment opportunities (and their evaluation), the volume of employment, and the number of those who are engaged in both desired and coerced employment. Thus, unemployment is presumably as mostly undesired if it is relatively of large scale.

Women's Participation in the Accounting Information Systems Management Industry

Very little evidence exists on the reason that there are very few women employed or acting as Information Systems (IS) researchers. In relation to this, Joshi and Kuhn (2001) found that women are not entering the industry at the same rate as men. One school of thought suggests that the prevailing reason is that the pre-requisites of computer-related careers are school subjects such as maths and science, and these are the areas which traditionally do not attract young women (Panteli *et al.*, 1998 c.f. O'Neill and Walker, 2001). They believe that these lead to fewer women going into computer science courses at universities, and therefore, there are fewer women qualified to enter into the information systems management industry. Cromie (1999), in her study of high school children in Canadian states, states that “computers are still perceived as being a male domain by both girls and boys, and these perceptions are developed early. More boys play with computer games, and the games are clearly designed to appeal to boys.” As an example, computer games are often of a pseudo-military nature, which may not be appealing to young girls.

As Cole-Gomolski (1998, p.4) states:

Compared to 10 years ago, women make up a smaller percentage of information systems management graduates, and the percentage of women in information systems management has shrunk from 35% in the early 1990s to 29% today, according to recent data from the U.S. Department of Labour.

Gunter, in her review of the ‘information revolution’, relates how information systems

management industries in the 1960's had almost a 50:50 male to female ratio (Gunter, 1994 c.f. O'Neill and Walker, 2001). One of her interviewees put this down to the newness of the industry and the fact that men had not 'wised up' to the industry's potential, therefore women were still 'allowed' in.

This change over time parallels the change in perception of the gender-based use of computers evolves from being associated with routine clerical tasks to becoming an integral part of the overall working environment and IS also becoming an essential management tool, and therefore the domain of men.

Men's Participation in the Accounting Information Systems Management Industry

According to O'Neill and Walker (2001), the culture of maleness and stereotypical gender roles prevails within the information systems management industry. In their paper, they highlighted an interesting analysis of this stereotyping. Michaelson (1994), in his review of cartoons featuring women, men, and computers, identified that women were generally less represented and were mostly drawn in subservient stereotyped employment positions.

The author agrees with O'Neill *et al.* (2001) that the innocent portrayal of women in non-authoritarian positions simply perpetuates the notion of women not being 'capable' of doing the technical research aspects of information systems management. Hence, to deny people the fruits of their examination success or deprive them of their right of choice is wrong. As Ben *et al.* (1959) state:

Unfortunately what frequently happens is that we see what sort of facts would bring what sort of principles to bear upon our individual decisions and the general structure of our laws and institutions. We need to know not only whether there are differences, but whether these differences are integrally or only contingently connected with a person's sex. Hence, the more integrally and the more invariably

a difference is concerned with a person's sex, the more we are entitled to insist that the mere fact of being male or female can constitute a conclusive reason against being allowed to do something. We believe the arguments from Justice and Humanity must come into play as requiring us to pay respect to the interests and inclinations of each individual person, and to weight her actual interests, as against those of the community at large, on the basis of her actual situation and actual and reasonable desires (Benn *et al.*, 1953).

The author agrees with O'Neill *et al.* (2001) that to overcome some of the problems and barriers women as a whole have encountered in the information systems management industry, governments in all countries need to develop supportive programs and initiatives. As mentioned by O'Neill *et al.* (2001), most government's policies do not actually address the core problem, which in this case is "encultured" masculinity within the role-play of who works at what type of job. As Stanwort (2000), cited in O'Neill *et al.* (2001), points out when referring to UK policies:

Such initiatives tend to emphasise the changes that women themselves have to make in order to relate more successfully to technology and enjoy successful careers in technological work. The male is treated as the norm, and the women are supposed to adopt masculine ways of relating to technology (Stanwort, 2000, p. 22).

METHODOLOGY

This study involves social and organisational contexts, with hermeneutical dimensions (i.e. the process of mimetic or imitation through reconstructions of facts by the understanding of its meanings and intentions rather than by deductive explanation) and hence, an ethnographic reflection on professional practitioner case study methodology is most appropriate in this case.

The following flow chart (replicated in *Fig. 1*) presents the ethnographic reflection on the professional practitioner case study methodology used in this study. Here, the author previews his research method.

In phase one, the philosophical perspective, either the interpretivist or the positivist or both, influences the methodology. The ethnographic-reflective-practitioner-practice paradigm employing critical social theory narrows the interpretive approach. Then, the qualitative ethnographic reflection, which adopts the critical social theory perspective, is performed.

The selection of research instruments that include both face-to-face interviews and documentation is outlined in phase two. The

establishment of data collection procedures then takes place through the recall of the reflective practitioner data. After that, the hermeneutic approach is applied in interpreting interview transcripts.

In phase three, the analyses of data were carried out using an ethnographic interpretative approach through a data meta-matrix. The processes of discovery, observation, documentation, and assessment were integral aspects of the methods employed at this stage of the study.

Finally, the presentation of the recorded summaries of the interpreted findings, which includes the reflections of the principal researcher, draws the necessary warranted conclusions.

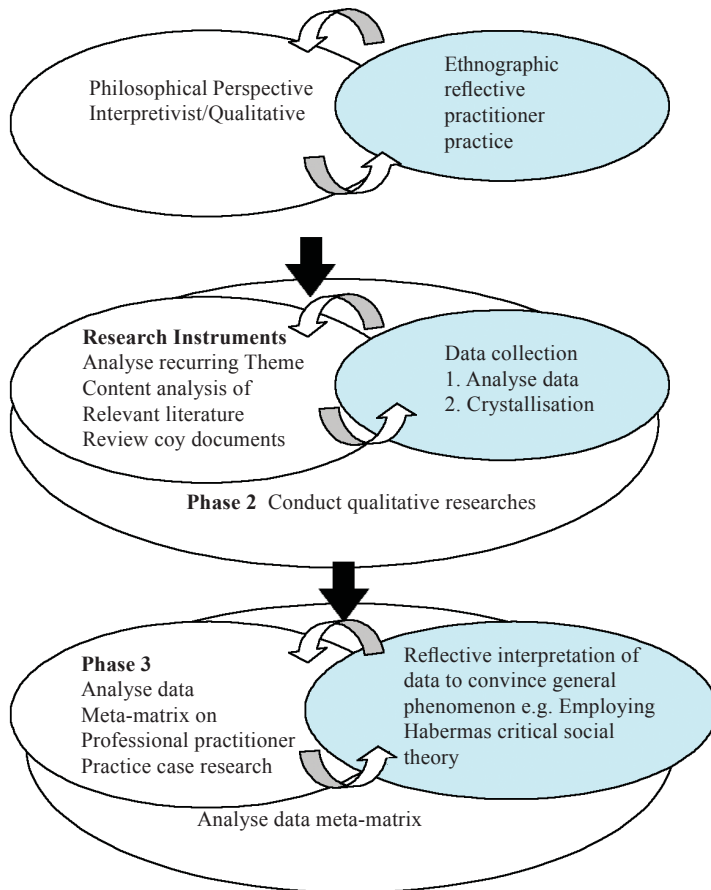


Fig. 1: A diagram illustrating the methodology used as flow-charts showing the progression of the research

The methodology chosen for this pilot study was qualitative in nature, and it included Moustakas' (1990) notion of validity in heuristic research. Based mainly on Moustakas's (1990, pp. 32-34) notion of validity in heuristic research, the first author began to seriously investigate Schon's (1983) admonition to be a reflective practitioner. This was in line with Habermas', Moustakas' and Tesch's emphasis on the importance of self-reflection, and it is also in line with the thrust in the qualitative research literature on researcher's voice and signature, researcher bias, and managing subjectivity (Denzin and Lincoln, 1994, p. 424).

The following section illustrates a pilot study in which the first author investigated the possibilities of femininity's issues of women as IS researchers, in the hope of providing a catalyst for the development of egalitarianism.

SELF-REFLECTION ACCOUNT ON A CASE STUDY

The author describes an experiment, illustrating the dominating methodological issues in the conduct of an information systems seminar. Six doctoral students were divided into two groups and asked to think about how they, and others, might react to the differences in the intellectual achievements and typical behaviour between men and women.

The two groups believe that women were prevented from exercising their talents to the full or given rein in their natural inclinations (Personal case study No 1, June 2007). As group one feminist doctoral participant summarised:

“In ancient Greece, for example, when the advocate of male supremacy marshalled his masses of major poets against a solitary ‘Sappho’, the women were so confined by domestic pressures and so inhibited by convention that those few [women] with real poetic talent never had opportunity to bring it to flower. Male poets might have been poor, but at least they could listen to the ‘Muse’ undistracted by baby’s cries: whereas potential women poets, unless

they lived on ‘Lesbos’ were married off and made to think of clothes and nappies to the exclusion of all higher thoughts. Perhaps women feel more strongly about their homes than men do, so that although we ought not, on grounds of humanity, to hurt either men or women, deprivation of her home would constitute a greater hurt to a woman than to a man. In some ways, then, women might be seen as more sensitive than men, but this does not mean that women are not capable of performing the technical aspects of information systems management.”

In addition, it has been shown through some studies that women are by nature less competitive and aggressive than men are, and therefore have little interest in pushing against the “glass ceiling”, as they do not want to expend energy in competing with their colleagues.

When dealing with contentious issues, such as the roles of women in any given area of expertise, it is essential, that the researcher uses reflection to identify and distance himself from his own assumptions and conditioning (Personal interviews, June 2007).

The author conducted another experiment; this time to try and find evidence either for or against the issues about feminine abilities and attitudes, particularly in information systems management (Personal case study No 2, July 2007). As group two feminist doctoral students summarised:

“With sufficient care we may be able to disentangle what is true in the feminists’ contention from what is false. At least we should be able to avoid the dilemma, which seems to be taken for granted by most participants in the debate, that we must say that women either are in all respects exactly the same as men or else are in all respects different from, and inferior to them, and not members of the same universe of discourse at all. We do not share Socrates’ feeling about gender. I think the sexes are different, and incomparable. No doubt, women are

not quite as good as men, in some respects are, but since men are not nearly as good as women in others, this carries with it no derogatory implication of uniform inferiority. What angers us most is the de-personalisation of women in society and one cannot but sympathise with their protest against women being treated as mere objects of sexual gratification by men. Given the fact that women have demonstrated that they are equally capable of succeeding in all industries, allowing encouragement, it would be short-sighted not to employ women, in any field of endeavour, including information systems research.” (Personal interviews, July 2007).

CONCLUSION – SELF REFLECTION ACCOUNT

On reflection the author realised that he had agreed with the above participants’ point of view, yet found it rather difficult to understand the reason for such a close agreement with them. Evidence for and against deprivation of women’s rights is hard to find in an IS research context. Therefore, the author concluded that social pressure is the main cause of discrimination in these areas.

Few people deny that social pressures have a considerable bearing on our behaviour and capacities. Some people argue from the analogy with other animals whose behaviours are indubitably determined genetically and differed according to their sex, or by extrapolation from purely physical features. Humans are animals, but unlike other animals, our behaviours are mostly socially and culturally determined. It seems likely that much of our behaviour is learned, and although recent studies seem to indicate that some behaviour may be inherited, humans are unlike other animals in so many ways; for example, very few of our actions can definitely be attributed to instinct. So here again, we are obliged to allot women’s apparent lack of interest and ability in the mathematical field to learn behaviour and condition. For instance, the would-be numerate “Sappho” is penalised

by society that denies women the opportunity to engage in all facets of information systems management and treats the male as norm, expecting women to adopt masculine ways of relating to technology. This would be unjust as handicapping a talented youthful entrepreneur on the basis of his lack of years and inability to enter into legal contracts because he has not attained the age of majority.

LIMITATIONS OF THE STUDY

The limitations of this pilot study pertain to the information gathered through the interviews with the participants. The historical construction of the data gathered rests on the integrity and knowledge of the interviewed participants.

Future Research

The following issue may therefore need to be further investigated:

Can women succeed in those areas in which their gender makes them less similar than men for the work, e.g. forensic accounting?

REFERENCES

- Bernard, N. (2000, November 1). IT boom but no one is home. *The Australian*, 3.
- Cromie, G. and Armstrong, P.I. (1999). *Perceptions of the high technology field of high school students enrolled in computer science* (online). Retrieved on May 25, 1999 from www: <http://cythera.ic.gc.ca/htos/hshightech/>.
- Cole-Gomolski, B. (1998, November 9). More opportunity, fewer women IT. *Computerworld*, 4.
- De Vaus, D.A. (1995). *Surveys in Social Research* (4th ed.). Allen and Unwin: StLeonards.
- Denzin, N.K. (1994). The art and politics of interpretation. In N.K. Denzin and Y.S Lincoln (Eds.), *Handbook of qualitative research*. California: Sage.
- Gunter, K. (1994). Women and information revolution: Washed ashore by the third wave. In A. Adam, J. Emms, E. Green and J. Owen (Eds.),

- Women, work and computerization: Breaking old boundaries- Building new forms* (pp. 439-452). Amsterdam: Elsevier.
- Joshi, K.D. and Kuhn, K. (2001). Gender differences in IS career choice: Examine the role of attitudes and social norms in selecting IS profession. *Proceedings of the 2001 ACM SIGCPR Conference*, 19-21 April. SIGCPR: San Diego.
- John Lucas. (1973). Because you are women. *Philosophy*, 48(184), 161 – 171. Cambridge University Press.
- Lawrence Alfred Powell. (2005). Justice judgements as complex psychocultural constructions an equity – Based heuristic for mapping two and three –Dimensional fairness representation in perceptual space. *Journal of Cross–Cultural Psychology*, 36(1), 48.
- Michaelson, G. (1994). Women and men in computing cartoons from Punch: 1946-1982. In A. Adam, J. Emms, E. Green and J. Owen (Eds.), *Women, work and computerization: Breaking old boundaries - Building new forms* (pp. 439 – 452). Amsterdam: Elsevier.
- O’Neill, L. and Walker, E. (2001). Women in the information technology industry: A Western Australian view. In *14th ECIS 2001 Conference*, 25 – 26 June. Bled, Slovenia.
- Panteli, A., Stack, J., Atkinson, M. and Ramsay, H. (1998). The status of women in the UK IT industry: An empirical study. *European Journal of Information Systems*, 8, 170 – 182.
- Richard, R.J. (1984). *The Sceptical Feminist*. Harmondsworth: Penguin Press.
- Rushdie, S. (1999). *Satanic Verses*. Picador USA, New York: St Martin’s Press.
- Robert, L., Munroe, A. and Kimball, R. (2006). Gender and age differences in same-sex aggregation and social behaviour: A four culture study. *Journal of Cross – Cultural Psychology*, 37(1), 16.
- Stanworth, C. (2000). Women and work in the information age. *Gender, Work and Organisation*, 7(1), 20 – 32.