

The digital gender divide and inclusion strategies

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*A disappearing digital gender divide?*¹

'Why can't women be ... like men?', complains Professor Higgins in the musical *My fair lady*. This blunt, politically incorrect statement captures a widespread sentiment concerning the digital gender gap – that everything would be fine if only girls and women could engage with the new information and communication technologies (ICTs) like boys and men do. This is perhaps not surprising. Computers have appeared to be much more attractive to young men than to young women, and it has been claimed that many young women stay away from computers because they consider them to be a boyish or masculine thing. Perhaps for these reasons, there has been widespread pessimism about the possibility of closing the gender gap – not least in relation to efforts to increase the representation of women in computer specialisms, which has proved so resilient to policy intervention for so long.

In sharp contrast to this pessimism, it has become a commonplace to consider such women's issues a thing of the past, a concern that is no longer relevant in the 21st century. Some argues that the important factors in digital in/exclusion are individual differences in interests, tastes, competencies and skills – not gender. Often, where gender-related differences in access and use of ICTs are acknowledged, it is assumed that these will 'spontaneously' diminish over time.²

Undoubtedly, during the last decade or so, women's access to and use of the Internet has quickly caught up with that of men, as predicted by the diffusion argument. Katz and Rice (2002: 41pp) claim that in the US, the share of women users has even exceeded that of men. Although the accuracy of that assertion may be contested (Dholakia 2006), differences are small. The situation in Europe is very different, however. According to Eurostat surveys, the share of women in the age group of 16-74 accessing the Internet in 2006 remains less than that of men in all European countries, with differences between women and men in the magnitude of 10 to 15 percentage points.³ While the number of European women using the Internet is growing, there has been little reduction in the gender gap between 2003 and 2006. But does this mean we must embrace a pessimistic stance on the subject? Is the European Parliament Committee on Women's Rights and Equal Opportunities correct in concluding that 'Lack of access to the new technologies and digital illiteracy are increasingly becoming new forms of social exclusion which pose a direct threat to

¹ This paper is based on a chapter from a forthcoming book by Faulkner, W., Rommes, E. and K. H. Sørensen: *Technologies of Inclusion. Gender in the information Society*.

² See for example eEurope Advisory Group. 2005. *e-Inclusion: New challenges and policy recommendations* (Rapporteur: Daniel Kaplan), p. 13. (Downloaded 2007-04-4 from http://ec.europa.eu/information_society/eeurope/2005/doc/all_about/kaplan_report_einclusion_final_version.pdf).

³ http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996.39140985&_dad=portal&_schema=PORTAL&screen=detailref&language=en&product=Yearlies_new_population&root=Yearlies_new_population/C/C7/ecb12560 (downloaded 2007-04-02).

women’?⁴ Clearly, as the Committee concludes, there is a need for better analysis of the situation.

The persistence of gender gaps

Current European Union policies emphasise the vision of ‘An Information Society for All’.⁵ This is premised on the claim that the widespread use of new ICTs offers a wide range of potential benefits with huge significance for both society and the individual. These benefits include improvements in economic growth, individual welfare and self-expression, citizenship and democracy, social inclusion and empowerment, as well as diverse other benefits flowing from greater access to knowledge and information.⁶ Digital inclusion is frequently held out as providing a route to enhanced social, political and economic inclusion for socially marginal groups. In this context, the digitally excluded are seen as doubly disadvantaged: they miss out on the potential benefits of using ICTs and they are further marginalised because of this. At the same time, the production and use of knowledge (using advanced ICTs) is becoming increasingly important as the basis of what is commonly called the ‘new knowledge economy’, in a situation characterised by increasing global competition among nations and regions.

In short, digital inclusion is seen as vital to future progress and wellbeing. How, then, may we measure inclusion into the Information Society? What are relevant and valid indicators? Given the scholarly disagreements, these are difficult questions (see OECD 2005 for a comprehensive discussion). Pragmatically, however, available statistical information covers mainly four broad categories: (1) access to and use of the Internet, (2) computer skills, (3) higher education graduates in computing, and (4) the ICT workforce. Whilst these categories miss out much that we might value, they do at least provide some basis to judge whether or not we need to worry about a gender digital divide.

It is mostly surveys about Internet use that have been used to claim that the gender gap is closing.⁷ As we have already seen, the results of such surveys are not unambiguous. In terms of overall access to ICTs, it seems that the gender gap is being reduced, but if one looks in more detail at measures of Internet use, there are clear differences. Most importantly, men spend considerably more time using the net

⁴ *Report on Women in the New Information Society* (2003/2047(INI)), p. 12. (Downloaded at 2007-04-04 from <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A5-2003-0279+0+DOC+PDF+V0//EN&language=EN>).

⁵ See, e.g., Commission of the European Communities. 2004. *Challenges for the European Information Society beyond 2005*. (Downloaded at 2007-04-07 from http://ec.europa.eu/information_society/eeurope/i2010/docs/communications/new_chall_en_adopted.pdf). Cfr. also World Summit on the Information Society. 2005. *Tunis Agenda for the Information Society*. (Downloaded at 2007-04-07 from <http://www.itu.int/wsis/docs2/tunis/off/6rev1.pdf>).

⁶ See note 4.

⁷ See, e.g., *Benchmarking Social Inclusion in the Information Society in Europe and the US*. Report from the SIBIS project, 2003. (Downloaded at 2007-04-04 from http://www.empirica.biz/sibis/files/WP5_No6_Social_Inclusion_2.pdf).

than women and they do much more downloading of software (Dholakia 2006, OECD 2007).

Moving on to statistics about computer skills, we encounter more marked gender gaps. Table 1 shows the percentage of the population across the European Union and in selected European countries that report themselves as having a high level of computer skills, grouped according to age and gender. 'High level of computer skills' here includes having done 5 or 6 of the following activities:

- used a mouse to launch programs such as an Internet browser or word processor
- copied or moved a file or folder
- used copy or cut and paste tools to duplicate or move information on screen
- used basic arithmetic formulae to add, subtract, multiply or divide figures in a spreadsheet
- compressed files
- written a computer program using a specialised programming language.

Table 1: Percentage of population with a high level of computer skills, according to sex and age, 2006

Country	Age 16 – 24		Age 25 – 54		Age 55 – 74	
	Men	Women	Men	Women	Men	Women
Germany	59	29	42	21	16	4
Ireland	24	24	26	18	6	3
Italy	39	25	28	13	7	1
Netherlands ^b	20	4	14	3	4	1
Norway	69	38	53	30	18	12
UK	51	35	40	22	18	6
EU (25 countries)	47	29	33	17	11	3

Source: Eurostat (downloaded on 2007-03-20 from http://epp.eurostat.ec.europa.eu/portal/page?_pageid=0_1136250_0_45572555&_dad=portal&_schema=PORTAL).

The findings are striking. As we can see from Table 1, there are major gender gaps across all countries and all age groups. We also observe a major age gap in this measure of digital in/exclusion, with a much lower share of high level of skills in the 55 to 74 year old age group than amongst the 16 to 24 year old age group. The same survey also confirms the unsurprising conclusion that age, along with education level and occupation, are the most significant factors shaping people's ICT skill levels, cutting across gender. There is also interesting evidence of differences by ethnic group (d'Haenens, 2002; Volman, Eck, Heemskerk, & Kuiper, 2003). Nonetheless, the statistical differences between women and men presented here seem robust, even if we assume that men overestimate and women underestimate skill levels. There are no reliable time series of such data. It may be the case that the gender gap with respect to computer skills is diminishing as it is with the use of some ICTs, but clearly the gender skills gap is large. It is not at all obvious that this gap will

⁸ Overall, the Dutch figures are conspicuously low compared to the other countries, suggesting methodological inconsistencies in the collection of data for the Netherlands.

be bridged 'spontaneously' by S-curve diffusion dynamics, especially since it remains so large in the under 25 years old age group.

When we look at statistics related to higher education, we find an even greater gender gap, which has not been bridged in most countries. It is a striking fact that women remain relatively absent from fields like computer science, software development, and the design of ICT products in most industrialised countries. Some evidence of this is given in Table 2. We see that the estimated proportion of women graduates in computing ranges from 9 to 34 per cent, with most countries around a quarter. We have added Australia and Korea to get a broader picture. Also, there are countries like Malaysia where the number of women computer science students is similar to that of men (Lagesen 2008).

Table 2: Percentage of women graduates in law, life sciences and computing, tertiary level, 2004

Country	Computing	Law	Life sciences
Australia	27	57	57
Germany	16	49	58
Ireland	34	64	64
Italy	23	59	68
Korea	34	38	52
Netherlands	9	62	59
Norway	18	51	60
UK (2003)	26	59	65
US	27	50	60

Source: OECD

To put this in perspective, the table compares the proportion of women with a tertiary level degree in computing with that in Law and the Life sciences, both of which used to be dominated by men students only a generation ago. As we can see, a radical change has occurred in these disciplines, yet in computing disciplines women remain a small minority, as they do in engineering and the physical sciences (European Commission 2006, OECD 2007). Of course, this minority status in education carries over into the labour market. Within the category of ICT specialists, the 2007 OECD report shows that the proportion of women amongst computing professionals in 2004 was less than 25 per cent in most countries, except Ireland where it was only slightly higher (p. 12). The report concludes that:

(T)he gender gap with regard to ICT continues. There are significant differences between women and men in ICT-related employment, with women having low shares of employment in ICT specialist occupations (e.g. software engineers, IT specialists), and among intensive users of ICTs they are most heavily represented in office and secretarial occupations rather than professional ones. These gaps tend to persist over time and in some cases increase, unlike the differences between women and men in other areas of employment except management posts (OECD 2007:41).

In sum, available statistical information does not support claims of a disappearing digital gender gap. As we have seen, there have been positive developments with respect to access to and use of the Internet, but there is a large difference between men and women in the amount of time spent using it. A surprising gender gap exists in computer skills, even amongst young people. And the gender gap in higher computing education and among ICT specialists is very substantial and apparently stable in most (Western) industrialised countries. The common interpretation of such figures is to conclude that women are victims of a diverse set of

exclusion processes or deficits. Thus, it is highly relevant to ask how these might be remedied. An overarching concern here is what we might mean by gender inclusion in the Information Society. And related to this, how should we understand the 'woman problem' in the Information Society? As a first step to answering these major questions, we turn now to unpack the concepts of 'gender' and 'the Information Society'.

Moving targets? Gender and the Information Society

Most commonly gender is used (and understood) as a binary concept, referring to presumed differences and inequalities between 'women' and 'men'. We have already encountered this use in the statistical information we analysed above. This model of gender assumes, first, that there are significant differences between the binary categories 'women' and 'men' and, second, that there is at the same time sameness within the two categories. Both assumptions are highly questionable empirically. Aggregate differences between 'women' and 'men', where they exist, typically mask huge differences amongst women and amongst men. This is readily seen in relation to indicators of digital inclusion. For example, there may be very little difference in the computer skills of women and men university students, but huge differences between male students and middle-aged male manual workers.

Our objection to thinking of gender as a binary is political as well as empirical. The binary model of gender leads inextricably to a whole series of stereotypes about how/what 'women' and 'men' are – stereotypes which therefore appear to essentialize, as if natural and unchangeable, singular readings of femininity and masculinity. Whilst many gender stereotypes may appear innocuous, even amusing, they frequently serve to reinforce if not justify inequalities between women and men (Lagesen 2003). The critique of the binary conception of gender, well founded though it is, nonetheless creates a problem for feminist scholarship and practice. How to provide and manage analytically an understanding of gender that allows one to see sameness and difference at the same time? How to retain gender as a scientific concept without (re)producing essentialist readings and stereotypes? How to acknowledge meaningfully the profound diversity of the categories 'women' and 'men', without lapsing into a liberalist perception that gender does not matter (cf we're all individuals)? On a policy level, these concerns translate into the challenge of promoting equal opportunities without assuming sameness, of supporting gender diversity without reproducing unwanted inequalities. Digital inclusion strategies which address women are not only framed by conceptions of gender and of the information society; they are also framed by different strands of thinking that exist about equal opportunities and how to work for gender equality.

Equal opportunities, category politics and gender mainstreaming

Two often contrasted approaches to gender equality work have since emerged since the 1970s: category politics and gender mainstreaming. Arguably, the arguments underpinning category politics emerged out of feminist and labour grassroots activism in the 1980s, but the term was coined by Carol Bacchi (1999). It highlights the need to develop policy instruments that address the problems encountered by recognisable social groups defined by gender, ethnicity, religious beliefs, etc. Category politics with respect to gender usually means developing

policies that address presumed binary differences between 'men' and 'women'. This does not sit well with feminist understandings of gender as fluid and diverse. Bacchi acknowledges this tension, but draws the conclusion that the use of category politics to support women is nonetheless useful and effective, quoting Patricia Williams (1991; 102): '[we need] to acknowledge the utility of such categories for certain purposes and the necessity of their breakdown on other occasions'.

Also, category politics is usually performed as an intervention to rectify processes that put women at a disadvantage, for example explicit or implicit discrimination or traditions of selective treatment. Thus, it is women as a category that is at the forefront of policymaking.

Gender mainstreaming has a different focus. It has been defined as:

[A] gender equality strategy that aims to transform organizational processes by eliminating gender biases in existing routines, involving the regular actors in this transformation process (...). Gender mainstreaming is regarded as an opportunity to counter the gender bias in regular policies, and to avoid the continuous reproduction of male norms in policy making (Benschop & Verloo 2006: 19).

Where category politics is concerned with women and the development of policies to help women overcoming gender-induced barriers, gender mainstreaming is concerned with gender and the need to do away with mechanisms that produce unwanted differences between men and women. In a sense, gender mainstreaming claims to work from the 'inside', to represent an effort of doing the long march through the institutions. Category politics is less patient, prioritizing to rectify unfairness rather than removing its causes (even if it wants to do both).

From this perspective, gender mainstreaming appears as a kind of feminist reformism. Thus, it is a contested concept (Walby 2005). Critics like Stratigaki (2005) claim that the strategy has been shaped by goals other than those of gender equality, and that in practice it has been used largely as an alibi for neutralizing positive actions emerging from category politics. Booth and Bennett (2002) lament the fuzziness of the concept, while Squires (2005) argues that gender mainstreaming holds some promise to be transformative, but that this depends on how it is interpreted. In any case, Benschop and Verloo (2006) conclude that the strategy demands a lot of work.

The SIGIS effort

The analysis is based on the outcome of a European study entitled "Strategies of Inclusion: Gender in the Information society" (SIGIS). SIGIS is the largest single research effort undertaken to date on the subject of gender and ICT, and a very comprehensive one at that. The project took place between 2003 and 2005. It involved more than 20 researchers from five European countries; Ireland, Italy, the Netherlands, Norway, and United Kingdom. It produced a total of 48 focused studies. Altogether 30 different initiatives to include women into the design or use of ICT were investigated; a further 18 'user studies' solicited the experiences and meanings of selected strategies and ICTs for men and women who were targeted. The inclusion strategies investigated were selected so as to provide diversity on a number of counts. First, they were initiated by a range of organisations: public sector, private sector and voluntary organisations. We were particularly interested to extend our gaze to market actors given prior indications that market actors might provide more promising inclusion initiatives than governmental ones. Second, in line with the ubiquitous character of ICT, the initiatives were targeted on people in diverse social

activities and settings: education, workplaces, communities, home and leisure spaces. Third, they targeted diverse social groups: school children, teenagers, young computer enthusiasts, university students, residents in remote rural communities, residents in deprived urban neighbourhoods, teachers, civil servants, ICT specialists, unemployed mothers.

Category politics: an example

Some digital inclusion strategies are geared to ‘everybody’ and some are ‘for women’ only or chiefly. The SIGIS project examined four rather different types of ‘for women’ strategies: women-only ICT training, women’s networks, women’s websites and ICT products designed for girls or women. Only in the first of these is access (in any practical sense) restricted to women only, but in all of these strategies the intention is to reach women. And all of these strategies involve the creation of what we would characterize as ‘women-centered spaces’. Our analysis indicates that this represents a major class of digital inclusion strategies, with important commonalities in spite of the obvious diversity. Most of these inclusion strategies aimed to provide opportunities for women to encounter and explore ICT together with other women. They all sought to convey an explicit concern for ‘women’ in the shaping of the teaching, communications, networks, or designs. In this sense, they all pursued a kind of category politics. Indeed, the starting point and central thread of our analysis is that ‘for women’ digital inclusion strategies may be recognized as an exercise of *category politics*, and that the main alternative to such strategies would be based on *gender mainstreaming* through gender-sensitive inclusion initiatives aiming at ‘everybody’.

Under what conditions are ‘for women’ an effective means of increasing the women’s inclusion in the Information Society? Or are ‘for everybody’ strategies generally preferable? To what extent is it possible, through the making of women-centered spaces, to overcome some of the weaknesses of category politics, especially the tendency to reproduce stereotypes or essentialize gender? And could women-centered spaces be made from gender mainstreaming ways of thinking?

Women-centred spaces and ICT?

In each of the four types women-centred ICT spaces studied – training, networks, websites, and ICT products – we consider: Why were women targeted, and which women? How the category ‘women’ understood and what was achieved through such category thinking? How was gender constructed in the strategy? What were the mechanisms and measures adopted? What was the overall impact of these strategies, both on women’s ICT practices and on the gender coding of ICTs? Are women-centered spaces (still) a necessary step towards greater gender equality and inclusion? Finally, to what extent are these women-centered spaces actually ‘feminizing’ ICT, and how effective is this as a means of getting more women to become users and designers of the technology?

Women-only ICT training: A stepping stone to inclusion

In this context, the category ‘women’ is clearly understood as a very specific sub-category of women; the whole package of measures is tailored to meet their particular needs. These women-centered spaces are especially effective in building

the confidence and self-esteem of those who lack this. Our analysis indicates three ways in which being 'women-only' contributes significantly to the success of such courses: (i) creating a non-competitive environment which encourages mutually supportive dynamics; (ii) generating positive role model effects within this 'community'; and (iii) nurturing a safe space in which women feel supported in their lives outside and can speak more easily about their circumstances than they would with men around. Significantly, all three elements are present in other women-centered spaces – to which we now turn.

Women's spaces on the Internet: A virtual room of one's own?

In the women-only training analyzed above, women meet physically. By contrast, the Internet offers the possibility of making virtual women-centered spaces – through web-pages, email-lists, chat-rooms, and the like. For our purposes, the defining feature of women-centered spaces on the Internet is that they are designed with women users in mind. They invite women to enhance their computer skills and develop their use of the Internet, and thus help to get more women included into the Information Society. So what strategies are being used to achieve such outcomes?

We find it significant that all of these women-centered websites were intended for sub-categories of women, rather than for all women. This demonstrates that category politics does not have to be based on all women; indeed, this may not be very effective as an inclusion strategy. Starting from the needs or interests of specific groups of women is [likely to be more] effective because it recognizes the gender diversity we stressed repeatedly in Chapters 1 and 2.

Thus, there is no doubt that the women-centered spaces on the Internet discussed in this section represent a quite successful inclusion strategy. They play an important role in motivating and supporting self-inclusion and self-learning among users of the websites, as well as engaging of women in shaping the technology through their participation in on-line forums. Significant numbers of women have been recruited and socialized into the Information Society by this route. The analysis presented in this section reveals that being women-centred has had a direct bearing on their success as inclusion strategies in two ways: first, through the effectiveness of the designers' efforts to motivate and support their users' journey onto the Internet (building as these did on an image of their target group); and second, through the fact that the spaces so created enabled the women users to shape the form and content of the websites, in ways which facilitated their further inclusion.

Networks for women in ICT: A safe haven from men?

Like the women-only ICT training courses described early, these networks were built on an explicit feminist politics. They grew out of the experiences of women who had entered ICT work and experienced the 'chilly climate for women'. Accordingly, the networks they formed typically had a twofold aim: they sought to fight gender discrimination in ICT occupations and organizations, and to empower women working in the sector to further their careers. Clearly, just like the other women-centred spaces we have investigated, these networks were targeted on – in this case created and run by – a very specific sub-category of women: women who work in ICT roles. Indeed, the motivation for these women to join is very strong.

Communities and community building are far more prominent and enduring in these networks than in the women-only training, where the participants only constitute a community for the duration of the course. There are (at least) two vital

aspects of this. First, the women who participate draw strength from and are empowered by these networks in all the ways we have described. And second, they themselves participate in shaping these networks since their organization is very bottom up and their ethic deeply participatory and egalitarian. Arguably community in these senses is even more significant in these networks than in the websites described above.

Designing for girls or women only

There are possibilities for inclusion strategies based on category politics to come from commercial actors. In this case, the strategies involved a feminisation of the product by providing content assumed to be attractive to 'modern women'. To what extent is such inclusion by feminisation also feasible for the design of other kinds of ICT products?

For at least two decades, the computer industry and the ICT sector have been criticized for making products and systems that are 'made by men for men'. Computer games have come to be seen as a prime example. To play such games has been considered as something only boys and young men would do because the games had been designed to cater for (presumed) masculine interests only. This has led to a demand for computer games to be developed for girls and women also (Cassel and Jenkins 1998). Anyone who has entered a toy store or viewing commercials for toys will know that such products are gendered more visibly in their packaging than any other products besides underwear and cosmetics. From this perspective, the demand for computer games and 'edutainment' for girls seems obvious. Accordingly, the SIGIS team conducted four studies about the design of computer games for girls and/or women.

A study of Philips' attempt to make an electronic product for girls aged 7-12, called KidCom, identified a somewhat different approach (Rommès et al. 2003) In their design endeavor, Philips pursued two main strategies. First, they put a lot of effort into developing a methodology that could provide reliable information about what girls in the chosen age group could be interested in. Second, they tried to reach girls by aiming at a common denominator of 'girlishness'. An important goal of the design process was to define in what ways girls actually 'are' different from boys. In terms of the design strategies, Philips combined reliance on stereotypes with an element of user inputs. Thus, gender differences between boys and girls were constructed from a number of sources: designers' own views and experiences, literature, expert advice and feedback designers got from children with whom they tested the concepts. As a result of these inputs, KidCom was designed as a communication device, rather than a game.

A very interesting finding of this study is that the design team behind KidCom discovered that girls did not want the 'pink look' the designers had suggested. Rather, they preferred darker colors and less childish shapes. Yet, the design team stayed with pink and 'round shapes', saying that they wanted to satisfy the parents. Thus, assumptions about what parents would prefer made the gendering of KidCom more traditional than it might otherwise have been. In the event, Philips decided not to put the product on the market, partly for technical reasons but also because it became too expensive as a time when the company was going through a cutback operation. Nonetheless, the design team behind KidCom appears to have succeeded in making a toy that was popular among its intended audience.

Nevertheless, attempting to tailor a product for girls/women can be quite difficult in practice. As the KidCom team's handling of the 'pink look' demonstrates, there is

no straightforward, clear-cut way to translate 'femininity' into design criteria, because in many contexts 'femininity' has very complex, ambiguous meanings.

Designing for women only, the category politics approach is clearly possible, but it is problematic. Quite apart from the practical difficulties noted immediately above, one runs the risk of reproducing traditional notions of what women or girls prefer and need. Where this happens, ICT is symbolically feminized but in a politically retrograde way.

These observations raise the question whether the design of ICT products for girls and women necessarily leads to the kind of doubly articulated inclusion – inclusion based on content of the activity and the community that is created – that seems to be an important feature of the other kinds of women-centered spaces described. This seems unlikely, on two counts. First, ICT products are not necessarily associated with communities of users; they do not create 'spaces' in this sense (women-centered or otherwise). True, many computer games are played in groups. However, many computer games are used in isolation, and many other ICT products simply do not invite community dynamics. Moreover – and this is the other reason why doubly articulated inclusion is unlikely to occur in the case of ICT products – there is little or no potential for interaction with the content of many ICT products. The women-centered websites succeeded in generating a productive dynamic in the relationship between content and community, not least because their users were involved in the actual provision of content. Such practices are difficult to establish with respect to electronic products, including computer games, simply because users are not able to participate in shaping the content in such an active way. It seems, then, that doubly articulated inclusion is only possible in women-centered spaces that involve communities and networking.

Conclusion

In all cases that were analyzed, digital inclusion did occur to some degree at least. But this does mean that the cyber feminist notion that claiming/labeling ICT, or particular ICT domains, as 'feminine' is an effective strategy for getting more women included in the Information Society. The main problem with this position lies, as we repeatedly have noted, in using categories like 'feminine' or 'women' in the singular. In reality, none of the women-centered initiatives we analyzed have women-in-general as their target group. They address particular women – women marginalized in the labor market, 'modern women', women with a specific illness, young girls, gamers, and so on. Thus, the construction of women-centered spaces usually represents an inclusion strategy that is, at least implicitly, informed by a more diverse conception of gender than the binary standard. Arguably, the making of women-centered spaces is mainly about providing a context in which groups of women find other women like themselves, with whom they may exchange experiences and learn – not because they belong to the large category of 'women', but because they belong to a more specific and identifiable group. This exemplifies how category politics in the area of gender and ICT may be made quite specific, without (in most cases) mobilising unhelpful gender stereotypes.

Two very important consequences flow from this observation. First, the things that motivate these groups of women to get recruited, will be quite specific and relevant to the group – skills to help me get a job, information about my illness, lifestyle hints, how to get on at work, what I like to do in my leisure time and so on. Second, the women-centered spaces so created involve some building of

communities; and the interactions within these communities – especially the mutual support, the valuable role models and the safety to talk about oneself – are a large part of what helps to sustain the socialization of participants into the Information Society. It is precisely this specificity of content, plus the important role of communities built around the content, which form the basis for the mutually reinforcing linking of content and community we have called doubly articulated inclusion. Arguably this is why this powerful dynamics is such a common feature of strategies involving the making of women-centered spaces.

Having said this, it is important to observe how often the strategy of providing women-centered spaces is often a transitional precursor to a more gender mainstreaming effort as anticipated by early second wave feminism. This is most apparent in the cases of women-only training and women's network enabling participants to progress in the mixed-sex labor market. In other cases, we saw hints that gender mainstreaming may be becoming a preferred strategy – or at least that mixed-sex spaces might also be helpful. Clearly, category politics involves risks above all with respect to stereotyping and the related problem of self-fulfilling prophecies. To present ideas about how women 'are' may easily produce a standardized notion of 'woman', which in turn may work to curb diversity, by producing normative pressures. The risk is reduced when the category is made more specific, like 'modern women' or 'marginalized women', but it does not go away – as we saw in the case of the web magazines appealing to quite stereotyped notions about what interests 'women' and about women's computer literacy.

Probably, in the long run, more open, less clear gender coding offers better possibilities and more room for women to act in diverse ways.

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