



RESEARCH IN INFORMATION SYSTEMS AND TECHNOLOGIES: AN
EMPIRICAL STUDY ABOUT GENDER ISSUES

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Women in European Communication Research: Representations, Practices, Difficulties, Achievements,
Objectives, Realities

ECREA 2010 - Hamburg, Germany – 14th, October 2010

Agenda



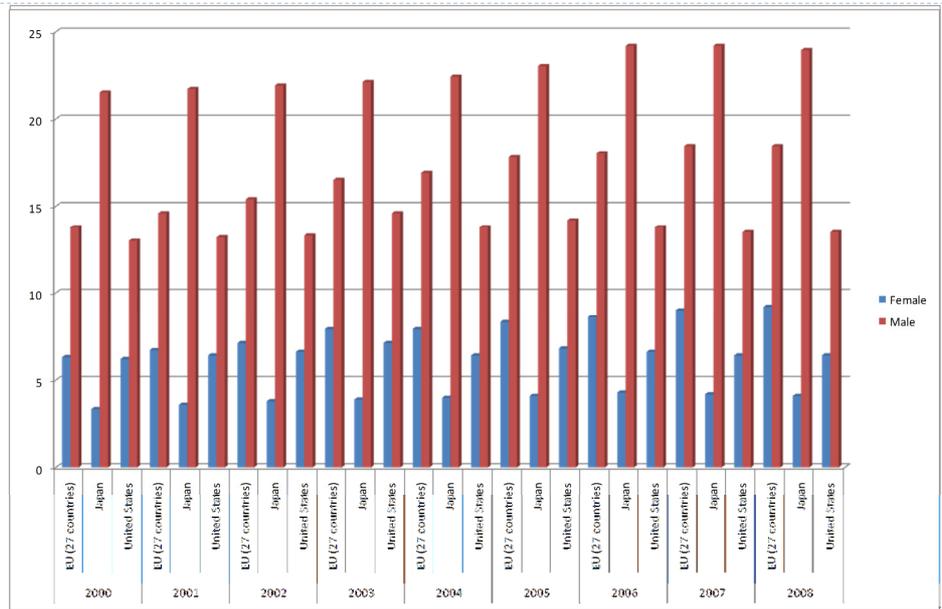
- ▶ Introduction
- ▶ Presentation of the Methodology
- ▶ The Results of the Study
- ▶ Limitations
- ▶ Conclusions and Ideas for Future Work

The agenda for my presentation is the following:

- Introduction
- Presentation of the Methodology
- The Results of the Study
- Limitations
- Conclusions and Ideas for Future Work

Along my academic life, being a female student in the information systems and technologies area, I always had the feeling of being a woman among men. This feeling persisted along my graduation studies, master studies, and has been strengthened during my doctoral studies. The numbers of female colleagues was always small, and have a tendency to decrease during my academic life. As a researcher I attended several conferences, and the same feeling was always there. I sometimes wondered if this was just a feeling or if it was real.

Total (EU, EUA, Japan) graduates (per 1 000 of population aged 20-29 years) in Science and Technology by gender from 2000 to 2008



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I decided to collect some data. This figure presents the graduations in the information systems and technologies area, from course year 1997-98 to 2006-07 in Portugal. Lack of time prevents me from moving further. Nevertheless, the intention to deepen into this issue arose. As a result, the decision of conducting the study presented in this study came up.

Methodology



- ▶ The study pretends to analyze the gender of researchers in the information systems and technologies area.
- ▶ Two-fold study:
 - ▶ Authors' gender of journals' papers that have blind review process
 - ▶ Gender of invited speakers in conferences.
- ▶ Concerning journals, two variables were considered:
 - ▶ First author's gender;
 - ▶ Proportion of female authors per paper.
- ▶ Concerning conferences, one variable was considered:
 - ▶ Proportion of female invited speakers.

The study pretends to analyze the gender of researchers in the information systems and technologies area. I decided to take a two-fold study. Authors' gender of journals' papers that have blind review process for article selection were considered, opposed to gender of invited speakers in conferences. The first step consisted in selecting the journals and conferences that could represent the area. The Association for Information Systems (AIS) is the worldwide recognized association in the area and was the source for that information (Association for Information Systems, 2008).

Concerning journals, two variables were considered:

- First author's gender;
- Proportion of female authors per paper.

Because of time issues, just the most important journal (MIS Quartely, 2009) was considered, and the years 2008 and 2009 were analyzed.

Concerning conferences, one variable was considered:

- Proportion of female invited speakers.

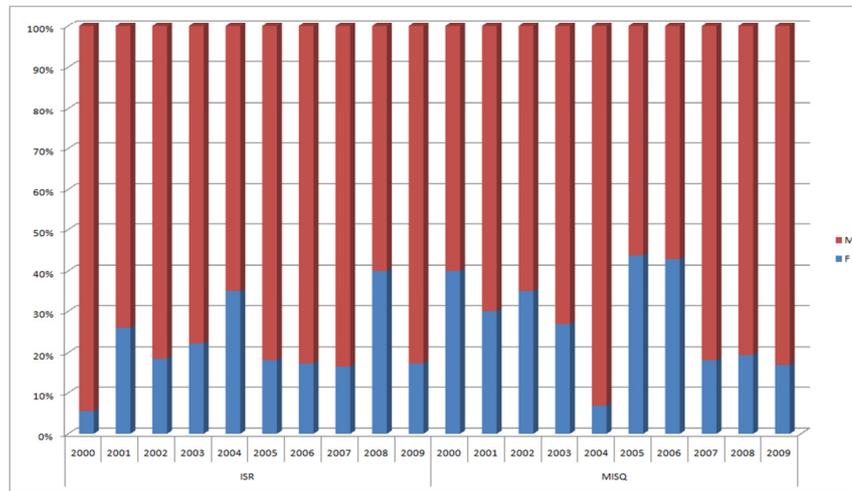
The considered conferences were ICIS2009 (International Conference on Information Systems, 2009), ICIS2008 (International Conference on Information Systems, 2008), ECIS2009 (European Conference on Information Systems, 2009), ECIS2008 (European Conference on Information Systems, 2008), AMCIS2009 (Americas Conference on Information Systems, 2009), AMCIS2008 (Americas Conference on Information Systems, 2008), MCIS2009 (Mediterranean Conference on Information Systems, 2009), MCIS2008 (Mediterranean Conference on Information Systems, 2008), PACIS2009 (Pacific Asia Conference on Information Systems, 2009) e PACIS2008 (Pacific Asia Conference on Information Systems, 2008). Considering that a comparison with "the proportion of female authors in each journal per paper" was pretended, just years 2008 and 2009 were analyzed.

Results of the Study



► First author's gender

33% have female as first authors.



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The results are presented considering 4 components, corresponding to each of the variables under study and corresponding to a comparison between two of the variables, namely, “proportion of female authors per paper” and “proportion of female invited speakers”.

First author's gender

From the analyzed papers only 19% have females as first authors. This represents a very low rate of female first authors. There are no differences between 2008 and 2009, but an issue is yet to be published in 2009 which could lead to some differences.

Proportion of female authors per paper

The mean for the proportion of female authors per paper is 25%. Only 8% of the analyzed papers have 100% of female authors. By contrast, 51% of the analyzed papers have 100% of male authors. Table 1 presents the distribution of the proportions of female authors per paper, comparing it with the distribution of the proportion of male authors per paper. This once more reveals very low rates for female authors.

Results of the Study



► Proportion of female authors per paper

- mean = 23%;
- 9% of the analyzed papers have 100% of female authors;
- 58% of the analyzed papers have 100% of male authors.

Proportion	Papers	
	Female	Male
0% - 25%	56%	8%
25% - 50%	35%	21%
50% - 75%	1%	19%
75% - 100%	8%	51%

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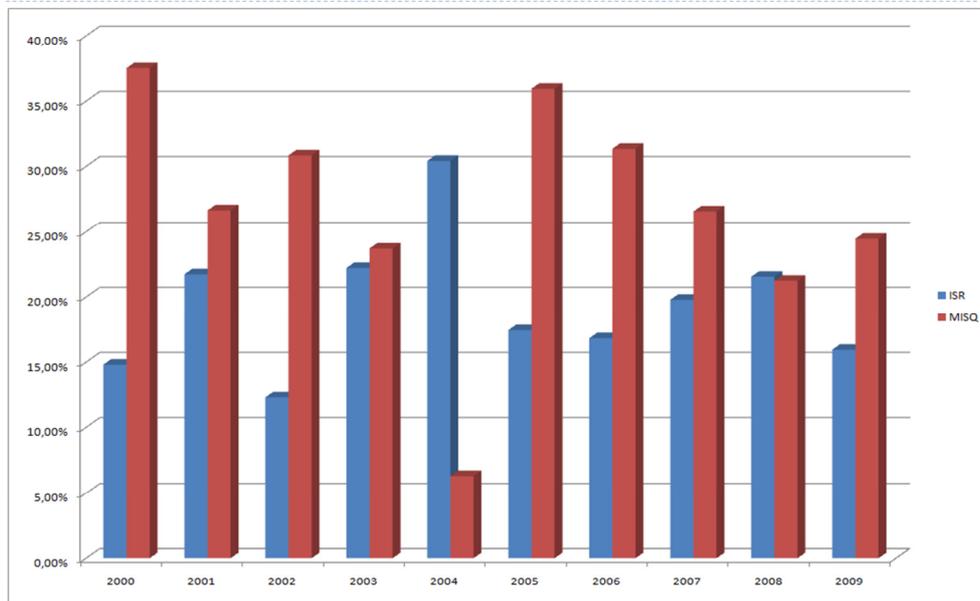
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Evolution from 2000 to 2009 of "Proportion of female authors per paper" by journal



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Results of the Study



▶ Proportion of female invited speakers

- ▶ mean = 11%
- ▶ 7 of the 22 analyzed conferences have female as invited speakers;
- ▶ 3 of the 22 analyzed conferences have more than one female as invited speaker;
- ▶ 1 of the conferences has only one invited speaker, which is a female.

Proportion of female invited speakers

The mean for the proportion of female invited speakers is 5%. Only 3 of the analyzed conferences have female as invited speakers, and even these with proportions of 12%, 14% and 20%.

Comparison of female in journals and female in conferences

Both variables “proportion of female authors per paper” and “proportion of female invited speakers” presents very low rates of female participation in research in the information systems and technologies area. But the variable “proportion of female invited speakers” is even lower.

Results of the Study



▶ **Comparison of female in journals, female in conferences, and female graduates**

- ▶ variable “proportion of female invited speakers” is lower than the other ones (half); -> discrimination
- ▶ Proportion of female graduates is similar to proportions concerning journal -> not discriminated along the “process”

Variable	Proportion
Proportion of Female as first author	33%
Female proportion per paper	23%
Proportion of female as invited speaker	11%
Proportion of female graduates	26%

Proportion of female invited speakers

The mean for the proportion of female invited speakers is 5%. Only 3 of the analyzed conferences have female as invited speakers, and even these with proportions of 12%, 14% and 20%.

Comparison of female in journals and female in conferences

Both variables “proportion of female authors per paper” and “proportion of female invited speakers” presents very low rates of female participation in research in the information systems and technologies area. But the variable “proportion of female invited speakers” is even lower.

Limitations



- ▶ Low number of analyzed
 - ▶ Journals,
 - ▶ Conferences.
- ▶ There are also few variables under study.

The major limitation of this study is related with the low number of analyzed journals, papers and conferences. There are also few variables under study. Despite the limitations, some conclusion can be obtained.

Conclusions and Ideas for Future Work



- ▶ This study strongly points out to a male domination in the field of information systems and technologies.
- ▶ A significant difference exists between “blind review” situations and “invitation” situations.
- ▶ Future research includes:
 - ▶ Analyses of a more significant number of journal and conferences, so that conclusions could be better grounded (including statistical tests);
 - ▶ Analyses of gender issues in journal editors, conference chairs and program committees, in order to study more variables that are also important;
 - ▶ Analyses of research methodologies;
 - ▶ Discover “why” female do not tend to choose technologies and male do.

Despite the limitations that have been already referred, this study strongly points out to a male domination in the field of information systems and technologies. This is more emphasized when invitation speakers are considered. A significant difference exists between “blind review” situations and “invitation” situations.

Future research includes:

- Analyses of journals and conferences of the area since, at least 2000, so that evolution over time can be studied;
- Analyses of a more significant number of journal and conferences, so that conclusions could be better grounded;
- Analyses of gender issues in journal editors, conference chairs and program committees, in order to study more variables that are also important;
- Comparison of this area with other scientific areas.

Questions...

