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This is the published version of a paper presented at *Gender, Work and Organization, 6th international interdisciplinary conference, Entrepreneurship, Innovation and Growth: Gender perspectives, 21-23rd June 2010, Keele University, Staffordshire, UK.*

Citation for the original published paper:

Hansson, A., Stridh, K., Blomkvist, M., Ulvenblad, P. (2010)

A gender perspective on national measures promoting innovation and entrepreneurship.

In:

N.B. When citing this work, cite the original published paper.

Permanent link to this version:

<http://urn.kb.se/resolve?urn=urn:nbn:se:hh:diva-14260>

Gender, Work and Organization
6th international interdisciplinary conference
Entrepreneurship, Innovation and Growth: Gender perspectives
Stream: gendered aspects of public policies and support schemes
directed towards innovation and growth

**A gender perspective on national measures promoting
innovation and entrepreneurship**

Authors:

Agneta Hansson, Assistant Professor, agneta.hansson@hh.se, Halmstad University, School of Health and Social Sciences, P O Box 823, SE-301 18 HALMSTAD, Sweden,

Kicki Stridh, Internationell Kompetens AB, stridh@interkomp.se, Brohuset 1025, SE-260 70 Ljungbyhed

Marita Blomkvist, Assistant Professor, Marita.Blomkvist@hh.se, Halmstad University, School of Business and Engineering

Pia Ulvenblad, Assistant Professor, Pia.Ulvenblad@hh.se, Halmstad University, School of Business and Engineering

Summary

Public programs and measures aimed to support business, innovation and entrepreneurship in Sweden are by tradition targeted manufacturing companies in order to develop technology and to make industry more competitive. Such initiatives are following a gender blind norm, in the way they define their fields of action, and also in how they are presented, for example regarding language and psychological accessibility. Research shows that women don't feel themselves addressed by these initiatives or that it concerns their companies.

We think that a deeper understanding about why women are not reached, or attracted, by official measures taken to support business growth, can guide us in developing new models, methods and tools to stimulate and facilitate a climate for growth of women's entrepreneurship and long-term improve the conditions for women to create, run and develop their enterprises. We exemplify this through cases from three national R&D programmes financed by VINNOVA (The Swedish Governmental Agency for Innovation Systems) and KK-Stiftelsen (the Swedish Knowledge Foundation), both governmental authorities and research funders that aims to promote growth and prosperity throughout Sweden.

In the paper we discuss official efforts aimed to support business development and growth. In what way are they gender marked? What structures are active on different levels? What is the consistence between ambitions from the program managers and how presentation of the programs is received by the target groups? Who are reached and who participates?

Background

Public programs and measures aimed to support business, innovation and entrepreneurship in Sweden are by tradition targeted manufacturing companies in order to develop technology and to make industry more competitive. Heavy basic industry is regularly watched by media, and the image of successful technology driven industry still exists as a metaphor for economic growth. The conditions that two out of three Swedish enterprises have no one but the owner employed, that 99 % of all companies have less than 50 employees, that more than 80 % of all companies are found within the service sector and that 25 % of all entrepreneurs are women doesn't seem to matter public authorities when advertising initiatives supporting business growth. Such initiatives are following a gender blind norm, both regarding the way it is presented to the applicants and public, for example regarding language and psychological accessibility, and regarding the development fields pointed out. Research shows that women don't feel themselves addressed by these initiatives or that it concerns their companies.

In this paper we use a gender perspective to study some public Swedish efforts aimed at supporting business development and growth. In what way are they gender marked? What structures are active on different levels? What is the consistence between ambitions from the program managers and how the presentation of the programs is received by the target groups? Who is reached and who participates?

We exemplify this through cases from three national R&D programmes financed by VINNOVA (The Swedish Governmental Agency for Innovation Systems) and KK-Stiftelsen (the Swedish Knowledge Foundation), both governmental authorities and research funders that aims to promote growth and prosperity throughout Sweden.

The first case is

- *KrAftverk Halland* a project within the national “KrAft¹ programme” in Sweden, financed by KK-Stiftelsen (Knowledge Foundation).

The other two cases are financed by VINNOVA:

- Academic Entrepreneurship: Can incubators and Schools of Entrepreneurship improve female business start-up? a project within the VINNOVA program “Research on Women’s Entrepreneurship” and
- *Applied Gender Research for Strong Research and Innovation Milieus (TIGER)*, is a VI NNOVA programme whose purpose is to integrate gender and equality aspects into R&D projects in areas supported by other programmes.

Addressing support initiatives – an important field for research

Research show that women don't feel themselves addressed by initiatives to support innovation and entrepreneurship and that they don't see that these initiatives concern their companies (*NUTEK, 2001; Report, krAftverk Halland, 2005; NUTEK, R 2007:34*). Research on women and entrepreneurship in Sweden today often seeks its empirical material not in individual

¹ The acronym krAft (which is Swedish for “power”) should be decoded as “K” for Competence/Knowledge, “R” for Reflection, “Af” for Business Development and “T” for Growth. The acronym mirrors the belief that business development in SMEs is not primarily about simple knowledge transfer. (krAft website 2003) www.kraftprov.nu

cases, but more often works with structural perspectives. Pioneers in this research direction in Sweden are Holmberg and Sundin (1989), who opened up a field of gender perspectives on women and entrepreneurship in their studies financed by the governmental agency NUTEK (National Board for Industrial and Technological Development).

Among the conclusions of the research in this field is that key concepts in the field of entrepreneurship are loaded with male connotations. The entrepreneur is a male hero and entrepreneurial thinking is an ideal. There is need for change of our thinking around entrepreneurship. This point of departure, analyses of concepts and ideas, is embedded in gender theory, and a gender perspective in entrepreneurship research turns the picture around.

That is the conclusion by Karin Berglund, who in several studies has looked into how entrepreneurs and entrepreneur support financiers think about entrepreneurship. One of the studies (2007) takes its empiric from the ten most quoted articles in the leading *Journal of Business Venturing*. Berglund finds three visible suppositions on entrepreneurship:

*“The entrepreneur is portrayed as a very special and important person for entrepreneurial processes to appear. The myth about the hero, the great conqueror, is apparent and instead of perceiving this problematic image it was laid down through the analyses.”*² (ibid)

Berglund focuses how our ordinary conceptions of entrepreneurship block our view of other, alternative, ways of understanding and interpret reality. She sees the production of those other images as an important task for entrepreneurial research.

Perhaps our conception of the entrepreneur is even more obvious when we look into the field of innovation. A recent doctoral thesis on women’s participation in innovation (Nyberg 2009) reports how connotations on key concepts such as inventor and technology are obstacles for growth, by excluding women’s resources:

“That concepts like ‘the inventor’ or ‘technology’ emerge as related to men and what men do reflects a narrow understanding of invention that the female inventors adjust in order to make space for themselves as inventors and for their invention as technology. The image of invention that is assembled challenges stereotypical notions of gender as well as of technology and reveals a gender imbalance that may be understood not only as an inefficiency of our national innovation system but also as a hitherto unexploited innovative opportunity.”(ibid)

We find similar conclusions in a study of the main Swedish governmental innovation support body, VINNOVA. Four researchers focussed gender perspectives during a three year period within VINNOVA, working to initiate, create and supervise processes for research, change and learning. (Gunnarsson, Westberg et al, 2007).

VINNOVA (The Swedish Governmental Agency for Innovation Systems) is a state authority with government’s assignment to promote growth and prosperity throughout Sweden. VINNOVA links innovations to research and development, and fund needs-driven research required by a competitive business and industrial sector and society. The researchers studied ideals and norms within the organization. The researchers analyzed, together with the employees, how the

² Translations of the quotations from Swedish texts are our own

organization, internally and externally, through images, language, symbols, metaphors and prestige allotment stated what was important in the work of the organization:

“To illustrate processes that were expected to create growth, metaphors from male gender marked areas were often used, such as from sports and technology. A person could be described as a ‘motor’ in a project, and the conditions for a sector could be described as having ‘a good lineup’. /---/ These specific uses of metaphors means that growth is implicit linked to things that are connoted to male areas and male culture. One of the central persons in the organization paper VINNOVAnytt is the entrepreneur, whose characteristics form an ideal for the work of the organization. The ideal characteristics of the entrepreneur have strong male connotations, supposed to be a man, to be decisive – despite insecurities, to see possibilities, to have a strong will, to anticipate, being capable and innovative”. (ibid p 58-59).

These kind of conclusions show that it is reasonable and important to study how governmental programmes for support of entrepreneurship and innovation are designed, when they aim at national growth and welfare by development of entrepreneurship. It is essential that this support is designed so that women are not excluded. The main governmental organizations for support, VINNOVA and Tillväxtverket (Swedish Agency for Economic and Regional Growth), do have steering documents where equal opportunity objectives are given clearly and distinctly.

What can we observe then in those programmes? There are two approaches that seem genuinely fruitful: distribution of resources and use of rhetoric. The first factor is quantitative, the other qualitative.

Distribution of resources

There are many studies that show quantitative distribution of resources. They see to what and how much of governmental support and resources that is provided to women and men, respectively. Here are some national figures on governmental capital support, in a study of from a gender perspective, finding that women are disadvantaged when it comes to how the quantity of supports and also to the distribution of total amounts of grants:

“We can see a pattern where the distribution between women and men is similar, independent of which of those indicators we study, but that women’s part of the total granted amount often is smaller. This indicates that women in average applies for and/or are granted lower amounts of financial support compared to men.” (Nutek 2007:34, p.1-2).

This study also shows a difference between women and men when it comes to different kinds of support. Women don’t get grants for product development and seed capital in the same extent as men:

“The overall conclusion is that women to a much lesser degree than men are receiving governmental capital to their businesses. Women are in the majority in only one of the programmes in our study; one where micro loans are granted to enterprises owned by women to at least 50 %. Another main conclusion is that the number of women differs a great deal between different kind of financial support. The unbalance is especially great when it comes to financial support to product development and R&D, and also seed capital at early stages.” (ibid, p 1)

Use of rhetoric

We talk about entrepreneurs and “women entrepreneurs”, and we list the characteristics of the entrepreneur (traditionally male qualities). This is an interesting field for research, and new tools are used to elucidate and study what the words, the images and the realia of support programmes

communicate. Many researchers of entrepreneurship have followed Barbara Czarniawska (1997 and more), and explore narrative methods to fold up the gendered myths of entrepreneurship. The deconstruction of images serves many purposes: not least it is essential to notice the creative force of images and concepts. Czarniawska points at the dynamic content of narratives, and sees how they contain change and creation of context and identity:

“The double role of the Self as a creator and created is beautifully rendered in the notion of the Self as storyteller / ... / We create ourselves projecting our identities against accessible plots, as it were, but every day performance changes, augments, distorts, or enriches the existing repertoire.” (ibid)

Stories of entrepreneurship can be studied. Alternative stories can be created and told to support change (Hansson & Stridh 2008). Analyses of these kinds have been points of departure for us, when we have been involved in initiatives to support women entrepreneurship and innovation, and our cases below aim at giving illustrations and reflections on how such programmes address women and men.

Case: KrAftverk Halland

KrAft³ was a national program for strategic business development in small and medium sized companies (SMEs), working 2000 – 2006, initiated by the Swedish Knowledge Foundation as an attempt to enhance cooperation between universities and SMEs. The acronym krAft mirrors the belief that strategic business development in SME:s is not primarily about simple knowledge transfer, but that knowledge develops in the minds of people when they reflect on their present situation. In all, about 700 SME:s and public organizations participated in more than 100 krAft network groups all over Sweden with the aim to develop their organization but also to open up links to universities in their region. Totally 19 universities and university colleges were involved in the program (Stridh and Swärdh 2006, Norbäck et al 2006).

Halmstad University was one of the universities involved, and we (Hansson and Stridh) were during three years engaged as respectively project leader and network tutor for five krAft groups of female leaders from small and medium sized companies as the public sector, three groups in 2002-03, and another two in 2003-05. Our overall name for this engagement was KrAftverk Halland (“Power Plant Halland”), which stands for our part of this project as a whole. We focused leadership and strategic business development from a gender perspective, and we were reflecting on the programme itself from a gender perspective.

30 women managers in SMEs participated in the first three krAft groups. They were designed to be “women only”, which was a need we found when we adapted a gender perspective to this competence raising measure. We recruited women that were managers in traditionally male branches, and they were used to daily interaction with “men only” in their daily business. They created “their own room” in the network, arenas where they could share and exchange experiences with other women in situations similar to their own.

During our sessions questions were raised on how public sector, where it is more common with women managers, handled leadership, staff problems etc. This gave us ideas to a new set of

³ The acronym krAft (which is Swedish for "power") should be decoded as "K" for competence/knowledge, "R" for reflection, "A" for business development and "T" for growth.

krAft networks, where we recruited participants from both private and public sector, in order to change experiences from different cultures. In this second half of KrAftverk Halland two groups of totally 20 women managers representing private (10) and public (10) organizations formed two networks that met monthly during 2004 – 2005. The common development theme for the meetings was leadership.

The krAft programme was built upon the idea that if you can engage managers in working with their own business development they will also improve their managerial, leadership and teamwork skills. The program was based on an action-oriented approach and the process was characterized by mutual exchange between practitioner and researcher. When we entered the national krAft-program it had not succeeded to reach female participants from enterprises and organizations. We asked why? We were told that women hadn't showed their interest and probably were not interested in developing their organizations. By entering the program we wanted to challenge this. We assumed that even if the program supposed to be gender neutral there could be some sort of structural gender bias in the original krAft design, which made it difficult for women to enter the programme.

We started our recruitment process to reach and involve female managers in SMEs, and we could immediately identify gender marked obstacles for their participation. First issue of recruitment was to actually find the women managers, as they were often not registered as business leaders. Next step was to get them interested and make them feel welcome to participate. During the recruitment phase we found that we had to make some deviations in the model from the (male normed) structure of the program, as it became apparent that the requirements and conditions originally demanded for joining the program in many ways was counterproductive in order to get women as participants (Stridh m fl 2003, Hofmaier & Hansson m fl, 2007).

The results from our recruitment process were that we found inbuilt obstacles in the krAft network model that prevented female leaders from entering: the costs for participation (1) and the idea of having two top leaders from each organization (2).

We found that women led companies often were very small and couldn't both set time in form of working hours and a sum of 4000 Euros to participate in a krAft group. From the national management of the krAft-program we were allowed in the regional krAftverk Halland project to experiment with some deviation from the ordinary krAft model. These are some of the changes we designed:

1. The participants didn't have to pay the fee of 4000 Euros. We could add contributing money from ESF,
2. We could abolish the demand for two participants from the same organisation
3. Some women managers from the public sector were allowed to participate (in the second part of the project).

Outcome and results of the krAftverk Halland project, relating to the perspectives on programme level, were that:

- we could show how national programs aiming at support of industry and regional growth may not reach women as a target group if the gender focus is not present from the beginning,
- results in form of how gender awareness can be generated through a democratic dialogue in a setting of confidence and mutual trust between actors,
- we could support practical interventions for the financing organizations.

We saw that deeper understanding about why women are not reached, or attracted, by official measures taken to support business growth, could be a guide to development of new models, methods and tools to stimulate and facilitate a climate for growth of women's entrepreneurship. It could also be a long-term improvement of the conditions for women to create, run and develop their enterprises.

Our gender perspective also helped us to notice the logic of the gender contracts – the relative subordination of women, and that women and men are separated from each other (Hirdman 1990). The managers in the group gave lots of examples from their daily practices about how men in many different ways use their power towards women, which of course creates frustration.

We could also notice that the *KrAft* programme, despite its interactive design with strong emphasis on process oriented learning, was strongly male marked and dominated, as well as within the programme management, but also concerning participant recruitment from the SMEs. There were no role models for women in the programme. We could contribute to change of this trend by our *KrAftverk* Halland.

Case 2: Academic Entrepreneurship: Can incubators and Schools of Entrepreneurship improve female business start-up?

In 2008, VINNOVA (The Swedish Governmental Agency for Innovation Systems) invited researchers to submit applications for funding for research projects under the programme *Research on Women's Entrepreneurship*. The call for applications was part of the government's measures to promote entrepreneurship among women. The government's measures also include the more practically-oriented programmes "Promoting Women's Entrepreneurship" and statistical analyses of entrepreneurship among women. The intention behind the call was to generate new research-based knowledge that, in the long term, can increase employment and growth in the Swedish economy. The programme is running until spring 2011 (VI 2008:23).

From Halmstad University we applied to the above programme for a project on academic entrepreneurship. We (Hansson, Blomkvist and Ulvenblad are engaged in the project) wanted to analyze different structural conditions affecting female business start-ups in the university setting, such as university incubators and schools of entrepreneurship.

The purpose of the project is to develop new knowledge to be used for the improvement of female academic entrepreneurship. We hope that our findings will influence actors and organizations involved in new firm support, university incubators and schools of entrepreneurship to better aid and support new businesses of this kind.

Government, not only in Sweden but also in other developed nations, are stimulating incubator and science park development in order to support the academic entrepreneurship: entrepreneurship that grows out of activities in relation to universities. In Sweden incubators developed through the establishment of science parks during the 1970s and Sweden was one of the first 13 countries to establish science parks before 1980 (Lindholm-Dahlstrand 1999). Incubators are seen as one important source for developing new small businesses in general and fostering high-technology businesses in particular (Lindholm-Dahlstrand & Klofsten 2002). New businesses are also expected to be contributors to employment creation and wealth development in society (Acs, Arenius, Hay & Minniti 2004). Today we realize that there is a considerable majority of male business start-ups in existing incubators, even though women are a clear majority of university graduates. If women, as half of the potential entrepreneurs, chose to not

enter these organizations, or if they are not welcomed, the society will in the long run risk to lose a great deal of further economic growth through new innovative businesses.

A study of Swedish business incubators web sites

In order to try to understand why women don't seem to be interested in entering the university linked incubators we have in the project studied how Swedish incubators present themselves on their websites. The purpose of the study was to show the picture of the incubator organization in the way it was presented to presumptive new entrepreneurs and target groups as well as other stakeholders. By analyzing Swedish incubators' websites from different perspectives, the study has focused on how gender seems to be structured in incubators' organizations (Blomkvist, Hansson & Ulvenblad 2010). The empirical data of the study is based on information reported on websites from 44 Swedish incubators working with the explicit start-up phase (the total amount at the time when data was collected during autumn 2009). The results reveal that there is a male dominance in the incubators' organizations. The criteria for becoming an entrepreneur in the incubator such as characteristics are subtle and we can assume that there are invisible obstacles that prevent female entrepreneurs from entering the incubator.

In our analysis we were inspired by the gender study on VINNOVA's own organization made by Gunnarsson, Westberg, Andersson and Balkmar (2007) (referred to above) based on Acker's (1990, 1992, 2006) thinking on organizations as gendered and her understanding of gender, not as a personal, individual and social role, but as a social construction (Acker 1992). In her "doing gender perspective" Acker talks about the gender we *do*, instead of the gender we *are* and means that gender is embedded in the processes that constitutes the way we organize our lives and our institutions and that inequalities between men and women are continually reproduced through our interactions to keep organizations going.

Acker focuses on four different processes through which the construction of gender in organizing settings can be discovered and analyzed which has inspired Scandinavian gender researchers to develop a model that functions both as theory and method (Andersson, Amundsdotter & Svensson 2008, 2009; Gunnarsson, Westberg, et al 2007). The four processes (i) *gender division* (ii) *symbols and images* (iii) *interaction between individuals* and (iv) *identity and personal constructs*. In our analysis we have taken the entry through these four processes.

Gender division

Incorporated in the gender division are the people who do things to keep the organization going. In the incubator this includes the management structure in terms of board representation, in terms of personnel working with the actual incubator practice as well as the tenants, incubator businesses in the incubator.

The result shows that board representation in incubators is clearly dominated by men for the incubators who have chosen (33 of 44 incubators) to report about the board structure on the website. That is valid for both board representation, chairman of the board and the managing director. One of the 33 studied incubators had only male board members.

The incubator management structure also involves the personnel working in the incubator. It was possible to identify information about personnel for 40 of the 44 incubators. In 31 of the incubators it was possible to identify the incubator manager. Business coaches and business advisors are important in leading the new entrepreneurs and are as such important in the management structure and where thus categorized as a certain group (Rosa & Dawson, 2006). 31

incubators presented information of the personnel in a way that we could identify people who worked as business coach/adviser. All other people working for the incubator were classified as administrative personnel. This group of personnel were working with economy, marketing and other coordinating tasks for the incubator. 24 incubators reported information about administrative personnel. The mean numbers of personnel who are working in an incubator are 6 persons and almost half of them are female. However, the structure of work tasks differs. Men are dominating working with tenants as business coach/adviser and women are dominating working with administrative tasks for the incubator.

35 incubators in the study presented information about incubator businesses on the website. The total sum of incubator businesses identified were 430. In average each of these incubators reported information about 12 incubator businesses. Only 15% of the entrepreneurs identified in the incubator businesses presented on the web sites were women. Only male entrepreneurs were identified in 22 of 35 incubators websites.

Taken together, our analysis reveals that men dominate the incubator structure as well in management as among the tenants/incubator businesses.

Symbols and images

Incubators in Sweden have web sites that include in average 15 web pages. These web pages contain information about the incubator management, incubator best practice and incubator business. The information is presented in text and pictures. Information presented about an organization can justify, legitimate and even glamorize the persistent gender division (Acker, 1992).

In order to describe and analyze incubators' gender structure we identified all pictures, symbols and images presented on the websites and classified them in three groups; female focus, male focus and gender unspoken focus. In total we could identify 677 pictures on the 44 websites analyzed. The mean number of pictures we found from an incubator website was 15. The form of pictures varied. A majority of the incubators presented photos of the board members and the incubator staff. 16% of the pictures had a female focus, for example photos of women, and 40% had a male focus. 44% of the pictures had no unspoken gender focus.

We found photos of the business incubator premises, of the incubator entrepreneurs, of the incubator alumni entrepreneurs as well as pictures on meetings between business coach/advisor and entrepreneurs or meetings between entrepreneurs. Further we found images illustrating personnel working in the incubator and entrepreneurs in the incubator businesses. For example, one incubator illustrated an image of the incubator as a sum of several illustrations of men in business suits. This illustration was in form of an animated banner, shown on each web page of the incubator. Another example of repeated illustration was a photo of a men's business suit with the business card text "a lead company". The headline of the picture was "dressed for success". The slogan "a lead company" was further a symbol presented on most of the web pages of this incubator. A picture of a shoe and a part of a men's business suit was a third example we identified in our analysis. One illustration, also focusing men as entrepreneurs, was a symbol of people networking. Eight hands and arms were connected to each other in a symbolic check pattern. All the (hairy) hands and arms belonged to men.

We also analyzed the text presented on the incubator web sites in purpose to identify if we could find any message connected to gender. Here we found five examples, all focused on activities for female entrepreneurs. For example, one presentation where focused on a female

meeting place where especially innovative girls were highlighted. Another incubator had special information about a project for female students. Two other incubators informed about female networks. Finally, one incubator reported a special mentor program for women.

To sum up this analysis, where we have focused on the explicit symbols and images on the website, we have found that an entrepreneur is symbolized by a business man in a business suit – “dressed for success”.

Interaction between individuals

Interaction between individuals is processes that reproduce gendered organizations. Interaction can be held by women and men, women and women, men and men. But it can also be held at various levels of hierarchy, policies that create divisions that are developed and different forms of images of gender that are created or affirmed. For example can this be interaction between coach/advisor and entrepreneur. Interaction is the overall work and all the activities that occur in an organization. It is subtle and can hardly be studied through web sites. However, three of the incubators in this study presented a movie/web TV on their web site where we hoped to be able to analyze gender in interaction. All three incubators had a web TV presentation that informed about the overall activities in the incubator. The manager (male) was the presenter in the first incubator we analyzed. In the second incubator, the manager (female) and three tenants (all male) informed, one after one, about the activities the incubator. The third presentation had a broad variation of forms of presentations. The manager, coach/advisor, people from business network (lawyer, accountant, patent attorney etc) and tenants were presenting information about their work in the incubator and their perception of the incubator, one after one. Also, the presentation included several overviews of actual meetings in the incubator, for example from a breakfast meeting. All in all, the individuals in the presentation where both female and male and the interactions between individuals we could observe varied.

We hoped to find interaction between individuals to study when we analyzed the short movie/web TV on the incubators web sites. Our findings reveals that the presentations were rather individual than in form of interaction between individuals.

Identity and personal constructs

Identity and personal constructs refer, in our study, to how the ideal incubator entrepreneur is expected to behave. In all organizations and structures there are implicit expected attitudes that individuals of the organization have to accept and to integrate in their way of performing. Here we have reflected in what way this ideal of the incubator entrepreneur is gender marked. We have analyzed information on what kind of entrepreneurs the incubators invite to entry the incubator. What are their criteria for selection? We have also analyzed how the role models for new entrepreneurs, in form of entrepreneurs in alumni businesses and success stories, are presented.

In 34 of the 44 incubators we could identify information about the preferred target group of entrepreneurs. There is a broad variety of focus on desired target groups. For example one incubator where only looking for *young* entrepreneurs while some others were looking for entrepreneurs *focusing on regional development and growth*. Some were especially looking for *team* of entrepreneurs or (not always outspoken) other characteristics that the incubator coach/advisor judge as positive for the incubator. The coach/advisor is the person who is considered competent to make the autocratic decision on who will be the future incubator entrepreneur.

A majority of the incubators (22) were focused on a certain industry, where technology dominated (8 of 22). Other incubators were searching for incubator businesses in the area of music and event industry (5), life science (4), art form and design industry (3) and digital media and design (2). 17 (39%) incubators of totally 44 identified incubators presented information about alumni incubators on their websites and 10 (23%) reported “success stories” about former entrepreneurs in the incubator. The total sum of alumni incubator businesses were 398 and the total sum of success stories were 53. Male entrepreneurs dominate among former entrepreneurs both in alumni representation and regarding success stories.

Taken together, identity and personal construct is mainly based on a qualitative analysis. The desired industry and focus on firm activity presented as target group is clear. However, other criteria for the entrepreneur such as characteristics are more subtle. If the coach/advisor is not conscious about gender we assume that hidden gender structures can prevent female entrepreneurs from entering the incubator.

Findings and implications

Our study reveals that there is a male dominance explicitly reported from the incubators’ organizations. First, board representation in incubators is clearly dominated by men. That is valid for both board representation, chairman of the board and the managing director. Second, although almost half of the personnel working for the incubators are female there is a male dominance among the coach/advisers working with tenants. These coach/advisers are also important in the tenant selection process.

When it comes to administrative tasks for the incubator these are clearly dominated by women. Third, the tenants in the incubators have a male dominance. The fact that women are underrepresented in both the incubators boards as well as in contacts with tenants as coach and advisor is in line with other studies of incubator management (Hannon, 2003; Rosa&Dawson, 2006). Also, only 15% of the entrepreneurs identified in the incubator businesses presented on the web sites were women.

Compared to other studies focusing on female university spinouts in England the figure is 12% (Rosa & Dawson, 2006) and studies focusing women starting ventures in general the figure is more than 30% (Acs, et al., 2005). Fourth, the pictures presented on the web sites are represented by a dominance of pictures with male focus. Our findings are similar to the stereotyped picture of the entrepreneur as male found in other studies (Ahl, 2006; Gupta et al. 2009). The traditional gender segregation pattern, both vertical and horizontal, is manifested.

Our analysis manifests that the figures for alumni businesses reported is clearly dominated by male entrepreneurs. This is also true for the reported success stories. However, there were only a handful of the incubators which reported this information. Further, the selection criterion for becoming an entrepreneur in the incubator was subtle. The selection criteria varied from distinct industry to personal characteristics for the entrepreneur judged by the coach/adviser.

It can be assumed that the way in which the incubators present themselves may prevent women for feeling invited or welcomed and that there are “hidden” gender structures functioning as “glass walls” that prevent female entrepreneurs from entering the incubator. It can also be assumed that those women, who in fact have already entered an incubator, due to lack of role models and mentors for female business starters, may encounter the “glass ceiling” (Mattis, 2004).

One can always doubt the relevance of data captured from websites. However, the data that we present is the information that the incubator managers have chosen to use to inform society, new entrepreneurs as target groups and presumptive stakeholders about their organizations. What we have presented is 'images of incubators' presented on their websites which are important tools to reach new target groups. The use of internet as a channel for information is frequent today and has advantages as it is flexible and easily can reach global.

Case 3: Applied Gender Research for Strong Research and Innovation Milieus (TIGER)

Gender mainstreaming is the main governmental strategy in Swedish policy to achieve the gender equality policy objectives. Gender mainstreaming means that decisions in all policy areas should have a clear gender equality perspective, and that all public funded authorities and agencies essentially have to follow this policy. As we have shown above this is far from reality in Sweden today, even though the country compared to other western societies are quite high ranked as far as gender equality is concerned.

VINNOVA was founded in 2001 as a State authority with the aim to promote growth and prosperity throughout Sweden with a particular area of responsibility comprising innovations linked to research and development. The vision stated on the website says that "VINNOVA makes a clear contribution to Sweden's development as a leading growth country". When the internal gender study was made within the agency (see Gunnarsson et al 2007) it was obvious how strong the traditional male norm affected the organization. When this was made clear to the lead management it was decided that something had to be done in order to break this norm.

A change in policy is manifested and in official documents it is now stated that VINNOVA works actively to integrate a gender equality perspective into all its programmes (mainstreaming) and, at the same time, is working on a special gender equality project in order to develop programmes that can strengthen the innovation system.

The programme *Needs-Driven Gender Research for Innovation* became part of VINNOVA's strategy aimed at strengthening the agency's opportunities to develop its operation in terms of gender perspective and equality aspects, whilst working for an equal society. This programme can be seen as an umbrella for different gender equality initiatives. Since 2004 VINNOVA has supported five such programmes of which two is still running. Each programme has funded between 10 – 15 projects of which the results are published in various anthologies and reports. This initiative has followed a clear and aware strategy where the new calls have been based on results from former programmes. The programmes are;

What happened next? – Long-term impacts of equality initiatives during the 1980s and 90s, aimed at safeguarding experiences from past initiatives especially in regard to achieving long-termism in the efforts.

Gender perspective on innovation systems and equality – research and development projects for sustainable growth with the dual aims of developing and strengthening gender research for equality and growth and strengthening VINNOVA's chances of developing its operation in terms of gender perspective and equality aspects.

BEGINN. Programme aimed at supporting the development of the competence area of integrating gender perspectives for equality and growth and promoting the emergence of

actors within the field using such means as R&D projects, research schools and strong milieus.

Applied Gender Research for Strong Research and Innovation Milieus (TIGER) is another part of the strategy whose purpose is to integrate knowledge gained from calls for proposals in R&D projects in areas supported by VINNOVA under other programmes.

Research on Women's Entrepreneurship (2008-2011) is a call for proposals aimed at generating new research – based knowledge that can be used to improve the conditions for women to start, run and develop companies.⁴

Applied Gender Research for Strong Research and Innovation Milieus (TIGER)

In 2008 VINNOVA advertised the call *Applied Gender Research for Strong Research and Innovation Milieus* (TIGER) inviting strong innovative research environments that were already long-termed funded by VINNOVA or other research financers with the aim to promote growth and prosperity.

Ten projects were accepted which all aimed at a deeper change work by integrating gender awareness in the research environment in order to strengthen the environment and make it over all more competitive. Many of the TIGER projects are accomplished within regional innovation systems in Sweden and often concern groups of industries that primarily employ men.

We are involved in two of these projects;

- Gender equality in the Skane Food Innovation Network (Hansson and Stridh) and
- Gender Perspective on Embedded Intelligent Systems –Application in Healthcare Technology (Hansson)

Both these projects represents special gender equality initiatives aimed at strong traditional male settings and even though the managers are open minded and genuine interested in integrating gender into the innovation systems, we, as gender researchers, encounter problems and resistance. To a great extent we relate these problems and resistance to the interaction between different actors and their/our lack of understanding each other's conditions, background, scientific approach etc. We realize that this resistance has a great potential to generate new knowledge and understanding between the actors involved, but also that it delays and obstructs the processes.

Project: Gender equality in the Skane Food Innovation Network

This project is about to integrate a gender perspective into the food process industry in the Skane region. In the beginning of the 1990s, several agents in Skane with interest in the food industry business gathered as Sweden entered the European Union. It became evident that

⁴ A presentation of the projects appears in the publication, Research on Women's Entrepreneurship (VI 2008:23).

something had to be done in order to face global competition. The Skane Food Innovation Network (SFIN) was established and in 2003 the network took part in the VINNOVA call “VinnVäxt” and received 100 000 billion Swedish Kronor during a ten year period for a project aiming at developing the Swedish food process industry. In that call, the SFIN also agreed to work with gender equality. The food industry is very conservative with traditional and old fashioned views on gender which tends to classify men and women in traditional positions and roles. To be competitive on the global market the food industry has to pay attention to gender and gender equality.

However, working with gender equality demands knowledge on gendered power relations, construction of cultural understandings of femininity and masculinity as well as of how these power relations are constructed, maintained and reproduced. In 2007 a second call on applied gender equality in innovation networks were launched. SFIN was successful in that call and the project, Gender Equality in the SFIN was able to begin its work in 2008.

SFIN is a triple helix organization; the board as well as the steering committee is represented by the academy, industry and society. It is organized as a network /community and the steering committee is both acting and reacting on innovation projects. SFIS also has its own project managers who work together with organizations and businesses to develop or improve routines and create knowledge.

Through the project we attempt to implement gender equality as crucial quality criteria for members in the Skåne Food Innovation Network in developing new processes, products, services and innovations. This attempt also identifies challenging situations according to qualitative change within innovation systems (Pettersson 2008) and organizations on who or what is to be considered as innovative and what turn-points might be identified as strengthening or weakening the organization from of a gender equality and thereby quality perspective. It is necessary that this research-driven project is oriented towards business and benefits for the stakeholders, namely the industry.

Gender mainstreaming a network? Some method implications

In SFIN one main object is to create arenas for learning, development and innovation based on strategic importance. One strategic issue is gender. Gender is thought of as fundamental in making qualitative differences in asking questions according to problem definition. Gender is also valued as crucial according to development and innovation.

There are built in difficulties in trying to gender mainstream a network. In our project we decided early to focus on the steering committee (SC). Our idea was/is to create a learning environment according to gender and gender equality issues and analysis, where every day work by the SC can be influenced by gender equality awareness. The first important step was to create an awareness of what is being done, in what way, why and by whom, out of a gender perspective to help the SC to put demands on working partners within the network. We here use an interactive approach where we together with representatives from the innovation system and Triple Helix partners use models and methods based on learning and reflection (Berge & Ve 2000, Gunnarsson, Johannisson & Stjernberg 2008, Hansson 2003).

As a result of the project we expect to be able to influence how a network, or innovation system, like the SFIN, can develop processes and services which support better gender equality in a science and technology environment, traditionally described as male.

Project: Gender Perspective on Embedded Intelligent Systems –Application in Healthcare Technology

Embedded Intelligent Systems (EIS) is the joint research field of the four collaborating laboratories at the School of Information Science, Computer and Electrical Engineering (IDE) at Halmstad University. The research of the four labs is integrated into a strong concerted research environment within embedded systems (EIS) – with a perspective reaching from the enabling technology via new system solutions and intelligent applications to end user aspects and business models. It is an expanding research area with many applications, not least ones that exist in everyday life.

EIS is an important research environment contributing to the regional Triple Helix innovation system Healthcare Technology which the region has pointed out as a prioritised development sector. With its strong connections to both established and new, expanding firms hived off from the university, the research environment is active in the Healthcare Technology Alliance, a network of around sixty companies, counties and health care providers in south-western Sweden with the aim of developing the region into a leading arena for the development of health technology products and services. Several projects together with these participants concern both research and technology transfer.

An integrated gender and gender equality perspective in innovations within the health technology area is necessary in order to be able to meet the needs of an ageing population with quality innovations. The relevancy of a gender perspective is clear in relation to the fact that about 70% of all those older than 75 years are women. Older women are on average cared for in hospital twice as long as men, partly due to differing disease panoramas, but also because men are more often cared for in the home by a woman while the women who live longer more often live alone. With the expansion of home-help and home nursing new needs follow and it is likely that a gender perspective will become necessary for the development of products and services that can make daily life easier for the elderly. The gender perspective also has relevance from the point of view of care staff. New technology is developed for application within the health and care sector where the larger professional groups consist mainly of women. The technology, most often designed by men, is used by women. With this in mind it is clear that an important aspect of good innovations is that the end users are involved in the innovation process.

Based on an awareness of the need for a more articulated gender perspective within the research environment, in order to meet the needs expressed above, an application for a gender inclusive R&D project was handed in to the VINNOVA programme *Applied Gender Research in Strong Research and Innovation Environments*. The G-EIS project (Gender Perspective on Embedded Intelligent Systems – Application in Healthcare Technology) was approved and started in 2009. The project involves researchers from the EIS research environment as well as representatives from companies and the public sector.

Research focus

Technology is traditionally considered a male area of work and this is reflected in the sex distribution within the research environment EIS. Among the enrolled students at the department, the discrepancy is even larger than among the staff (which in fact has a better sex distribution than most other equivalent environments). A pilot study shows that there is a need to problematise the science of technology and its application in relation to gender and gender equality, and to carry out development work for a more gender equal and gender aware work and

research environment. In addition, health care is an area concerned with both technology development and gender aspects. Technology can be used to facilitate both being able to stay in one's own home and the often heavy and complex work of health care. The end users are regarded as possessing untapped knowledge that can help researchers produce more user-friendly products.

Research on intelligent products within the health technology area requires an understanding of the machine-human interaction. This can only be achieved in a meeting of perspectives from the natural sciences and the social sciences. Gender awareness may be used as a means to reaching a broader understanding of the complexities of the issues.

Methodology

The project has a qualitative action research approach and is oriented toward development. With a relatively open approach we expect the project to be innovative regarding how a gender perspective can be applied and have an impact on a computer technological environment and on an innovation system based on the theme healthcare technology.

The aim is to integrate a gender and gender equality perspective not only in the research environment of EIS and its research partners, but also in the whole chain from the recruitment of students to the consumers of the innovation system's products and services. The project team is a combination of staff from EIS and gender researchers. Several Ph.D. students or younger researchers together with an entrepreneur and a regional civil servant function as "change agents" – they receive training in gender equality and research aspects of gender equality in their respective labs and organisations. Here we use the four dimensions of Joan Acker's (1992) theory of gendered organisations to structure both the learning process and the implementation of new knowledge.

Different cultures

The project participants are on the whole agreed on the need for a gender perspective in the R&I environment, but struggle with the meeting of two epistemologically opposed theories of science. The understanding within gender studies that research and production both create reality, and are informed by it, is not always accepted within the areas of natural science. Engineering and other technological sciences not only consider aspects of science to be separate from reality, but also seek positivistic proof in research, something not always possible in the more qualitative research of the social sciences. Researching how these two perspectives meet within this specific project is the topic of this paper.

Discussion

In this paper we have tried to establish that official efforts to support business development, innovation and growth, generally are strongly gender marked so that women don't feel invited. We have also tried to point out efforts made to change this approach in designing and working with entrepreneurial support programmes.

Questions that we have wanted to raise are such as

- What structures are active on different levels?
- What is the consistence between ambitions from the program managers and how presentation of the programs is received by the target groups?
- Who are reached and who participate?

In our study we point out that financiers of entrepreneurial and innovation support can find established know-how in how to design and direct programmes for support by using gender perspectives in analyses, to make programmes comfortable and accessible for both women and men. Fruitful approaches in this work is to analyse how resources are distributed between women and men, but also to use qualitative analyses to reflect on the very concepts of entrepreneurs and entrepreneurship. We find especially that theory and practice around how to study traditionally inbuilt images with male connotations can be developed further to find ways to handle the structural disadvantages for women entrepreneurs when it comes to support for their business. In this way we want to switch the focus from the individual entrepreneur/innovator to a focus on structures that support and hold back individuals.

References

- Acker, J. (1992). Gendering organizational theory. In A. J. Mills & P. Tancred (Eds.) *endering organizational theory* (249-261). Thousand Oaks, CA: SAGE.
- Acs, Z. J., Arenius, P., Hay, M., & Minniti, M. (2004). *Global entrepreneurship monitor 2004 Executive Report*. Wellesley, MA and London: Babson College and London Business School. Retrieved on 20 August, 2008, from <http://www.gemconsortium.org/document.aspx?id=364>.
- Ahl, H. (2006). Why research on women entrepreneurs needs new directions. *Entrepreneurship, Theory & Practice*, 30, 595-622.
- Andersson, M., Amundsdotter, E. & Svensson, M. (2008). *En färdplan för ett aktivt genusarbete*. Aktionsorienterad genusforskning. Stockholm University.
- Andersson, M., Amundsdotter, E. & Svensson, M. (2009). *Mellanchefen en maktpotential*. Aktionsorienterad genusforskning. Stockholm University.
- Berglund, K (2007) Kvinnors Företagande. En internationell forskningsöversikt. Arbetsrapport R 2007:007, ITPS.
- Berglund, K, and Lindgren, M (2009). *Practicing otherness: Recapturing space of action through identity construction processes*. Conference paper to 20th NFF Conference, Åbo, Finland.
- Blomkvist M, Hansson A & Ulvenblad P (2010). Is there a structural “glass ceiling” hindering women on the business incubator arena? – A study of Swedish business incubators web sites. Paper presented at Diana International 2010 Research Conference, August 3-4, 2010, Banff, Canada.
- Byrman, G (2006) Det förbisedda jämställdhetsdirektivet. Text- och genusanalys av tre utlysningstexter från VINNOVA. VINNOVA Rapport VR 2006:01.
- Czarniawska, B (1997), *Narrating the Organization. Dramas of Institutional Identity*, The University of Chicago Press, Chicago, IL.
- Fürst Hörte, G & Hansson, A (2006) Projekthanteringskompetens nödvändigt för långsiktigt arbete. I Sundin, E & Göransson, U (red) *Vad hände sen? Långsiktiga effekter av jämställdhetsåtgärder under 1980- och 90-talen*. VINNOVA Rapport 2006:08.
- Gubta, V.K., Turban, D.B., Wasti, S.A. & Sikdar, A. (2009). The role of gender stereotypes in perceptions of entrepreneurs and intentions to become an entrepreneur. *Entrepreneurship, Theory & Practice*, 33, 397-417.

Gunnarsson, E, Westberg, H, m fl (2007) "Learning by fighting?" Jämställdhet och genusvetenskap I VINNOVAs organization och verksamhetsområde. *Arbetsliv i omvandling*, 2007:14.

Hannon, P. H. (2003). A conceptual development framework for management and leadership learning in the UK incubator sector. *Education & Training*, 45, 8/9, 449-460.

Hansson, A. (2003): Praktiskt taget. Aktionsforskning som teori och praktik – i spåren efter LOM. Diss. Gothenburg University.

Hansson, A & Stridh, K (2008) Statligt företagsfrämjande ur ett genusperspektiv. I Larsson. P, Göransson, U & Lagerholm, M (eds.) Sesam öppna dig! Forskarperspektiv på kvinnors företagande. VINNOVA Rapport 2008:20

Hirdman, Y (1990) 'Genussystemet', in Demokrati och makt i Sverige, SOU 1990:44, Stockholm: Statens offentliga utredningar, pp. 73–116.

Hofmaier, B, Hansson, A, m fl (2007) Lärande, ledarskap och jämställdhet i regionala innovationssystem. Slutrapport. Höskolan i Halmstad. Halmstad.

Holmquist, C & Sundin, E (2002). Företagarskan. Om kvinnor och entreprenörskap, SNS förlag.

Johannisson, B Gunnarsson, E och Stjernberg, T. (red.) (2008): *Gemensamt kunskapande – den interaktiva forskningens praktik*. Växjö University Press.

Lindberg, M (2010). *Doing gender in Sweden's innovation policy: When transforming academic theory into regional practice*. To be presented at conference Sustainable Regional Growth and Development in the Creative Knowledge Economy, Aug 2010, Jönköping, Sweden, and Triple Helix VIII, Oct 2010, Madrid, Spain.

Norbäck, L E, Olsson, L-E, and Odenrick, P (2006). Homo Pracademicus. Om att lära om – om sig själv och sin verksamhet. Bilda förlag.

Lindberg, M (2006). Gender theory in promoting small business entrepreneurship in a context of "cluster" and "innovation systems": experiences from northern Sweden. In 14h Nordic conference on small business research: 11-13 May 2006, Stockholm, Sweden.

Lindberg, M (2007). Deconstructing gender and innovation : four regional networks challenging Sweden's innovation policy. In Past, present, future, Umeå university.

Lindholm Dahlstrand, Å., & Klofsten, M. (2002). Growth and innovation support in Swedish science parks and incubators. In R. Oakey, W. Durning, & S. Kauser (Eds.) *New technology based firms at the new millennium II* (pp 31-46). Oxford: Pergamon, Elsevier Science.

Lindholm Dahlstrand, Å. (1999). British and Swedish science parks and incubators for smalltechnology-based firm. In R. Oakey & W. Durning (Eds.) *New technology based firms in the1990s: Volume 6*. Oxford: Pergamon, Elsevier Science.

Mattis, M. C. (2004). Women entrepreneurs: Out from the glass ceiling. *Women in Management Review*, 3, 154-163.

NUTEK (2001): På tillväxt. Kvinnors idéer om innovation

NUTEK R 2007:34: Utfall och styrning av statliga insatser för kapitalförsörjning ur ett könsperspektiv.

Nyberg, Ann-Christin (2009). Making Ideas Matter. Gender, Technology and Womens's innovation. Luleå University, dissertation

Nyberg, A-C. (2001), Kön och teknik i förändring – Svenska kvinnors patenterade uppfinningar 1885 – 1998, Lic-avhandling, Tema Teknik och förändring, Linköpings universitet, Tema T Rapport 36.

Pettersson, K. (2008): Men and Male as the Norm? A Gender Perspective on Innovation Policies in Denmark, Finland and Sweden. Nordregio.

Rosa, P., & Dawson, A.(2006). Gender and the commercialization of university science: Academic founders of spinout companies. *Entrepreneurship & Regional Development*, 18, 341-366.

Stridh m fl (2003) Kraftnätverk för strategisk affärsutveckling. Kvinnliga ledare i mansdominerade branscher formar själva sin utbildning. Högskolan i Halmstad. Conference paper to HSS03, Karlskrona.

Stridh, K, and Swärdh, M (2006). Krafttag. *Små företag samlar tankarna och gör bättre affärer*. Bilda förlag.

Stridh, Kicki, ed (2009). Kvinnors företagande – från icke-fråga till självklarhet. En bok om att främja kvinnors företagande. Tillväxtverket info 0067, Stockholm.

Sundin, E & Holmquist, C (1989). Kvinnor som företagare, osynlighet, mångfald, anpassning – en studie, Liber förlag, Malmö.

Swärdh, Mia & Stridh, Kicki (2005) Slutrapport kraftverk Halland

VINNOVA INFORMATION 2008:23. Research on women's entrepreneurship. A presentation of the ten projects funded by the programme.