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Good practices – smart practices? Reflections on gender equality initiatives in R&D organizations

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Abstract

In this paper, we have taken a closer look at good practice examples for the implementation of gender equality in R&D organizations in nine European countries. With the intention of achieving more gender equality in R&D, we aim to establish what works and what does not. Based on the entries of the GENDERA online database, we have been able to identify different factors of success, but also limitations both for methodological reasons and due to deficits in the implementation process. The paper argues that good practices are characterized by overcoming existing limitations in the implementation process and thus contributing to more gender equality in R&D.

Keywords: good practice, gender equality, implementation process

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1 Introduction

This paper¹ is a product of the GENDERA² project financed by the EC's Seventh Framework Program between November 2009 and April 2012. The main task of GENDERA was to facilitate the implementation of gender balance in science and stimulate the integration of the gender dimension into science policy throughout Europe through dialogue and exchange of experience at the national and European levels.

One of the most important tools used in the course of the GENDERA project was that of good practices: in order to learn from existing experiences in gender equality policies and activities and to go beyond the existing interventions, good practices are seen as an appropriate instrument for improving the situation. So far, a considerable range of gender equality policies have been implemented in the EU countries, but gender imbalance is still evident in many parts of national innovation systems, especially in decision-making and leadership positions.

Within GENDERA, these good practices were used in discussions with policymakers and stakeholders at the national and international level to identify specific national intervention gaps in order to develop recommendations for further policies. The good practice database was therefore designed as a tool to facilitate knowledge transfer between the GENDERA partners, but also into the interested science, technology and innovation community.

In this paper, we have taken a closer look at the content of the GENDERA good practice database, looking at the obstacles these interventions are facing and at the overall factors that make these interventions successful. These factors of success are to be taken into account in further policy design and in processes of implementation. We argue that knowing more about factors of success as well as about the limitations helps to avoid disappointment about the potential effectiveness of gender interventions.

The first part of this paper is based on a review of literature on best practice research and discusses methodological issues related to defining, assessing and selecting best practices.

In the second section, the criteria for selecting and assessing the GENDERA good practices are presented. This more descriptive section already gives an impression of the challenges in the selection process resulting from the heterogeneity of interventions concerning size, target group and national context, but also the limitations in the availability of detailed information.

The differences regarding innovation systems and gender regimes between the GENDERA countries are explored in section 3. It shows that the development of innovation systems is negatively correlated to the realization of gender equality in R&D. Although the higher innovation systems have developed sophisticated policies to address gender inequalities in R&D, they are still showing weak results – perhaps with the exception of Nordic/Scandinavian

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² Gender Debate in the European Research Area, see www.gendera.eu

countries. This section discusses the relationship between different national levels of innovation and gender equality as well as between different welfare/gender regimes.

Based on this conceptual framework, various barriers and related factors of success will be identified (see Section 4) as the core of this paper, followed by a description of limitations (see 5).

In the final discussion (see section 6), the need for a more precise definition of good practice as well as for a clear distinction between practice (as the process of implementation) and policy (as the design of interventions) becomes evident. Finally, necessary resources for a more successful implementation of gender equality interventions are discussed.

2 Defining and Selecting Best Practices

Best practice research is an approach which is widely used in applied fields, especially in the realm of public affairs, as it provides a link between research and policymaking (Bendixsen, de Guchteneire 2003, p. 677). It is particularly useful in those areas where “*people look for solutions for problems that appear to work*” (Myers et al. 2006, p. 368). But although it is a widely used concept, there is no general consensus on its terms and criteria. Myers et al. (2006) observe a “*lack of methodological consensus as to how to conduct best practices research*” (Myers et al. 2006, p. 368). Nevertheless, there are some principles and criteria on how to define and assess best practices.

The term best practice implies that an initiative has been successful, but in order to measure success, explicit criteria have to be established *ex ante*. It needs to be clear as to how success will be assessed. The term best practice is also relational, as it indicates that these practices are better than other practices or initiatives. But best practice does not define an absolute standard of successful initiatives, and therefore does not exclude the possibility that other initiatives will be more successful in the future. Therefore, Bendixsen and Guchteneire (2003) define the term best practice as related to “*successful initiatives or model projects that make an outstanding, sustainable, and innovative contribution to an issue at hand*” (Bendixsen, de Guchteneire 2003, p. 677). To define best practices, Bendixsen and Guchteneire (2003) suggest the following criteria:

Best practices have to be innovative, which means that they should develop “*new and creative solutions to common problems*” (Bendixsen, de Guchteneire 2003, p. 679). They should make a difference in that they have positive effects on the targeted problems or issues. These effects should be sustainable, which would mean, in the long term, eradicating the targeted problems. And finally, best practices should have the potential for replication in order to be able to inspire policies and initiatives elsewhere (Bendixsen, de Guchteneire 2003, p. 679). Besides defining criteria for best practices research, Bretschneider et al. (2005) specify three crucial methodological challenges: the issues of completeness of cases, of comparability of cases and the identification of causal chains. The issues of completeness of cases and of comparability of cases are interrelated in best practice research, as assessing these practices needs to compare all relevant cases. Only then will the research be able to identify what practices are best practices. A mapping of all relevant practices is therefore a prerequisite for best practice research.

Another shortcoming of best practice research is often related to the question of causal chains. To be assessed as a best practice, an initiative needs not only to be successful, but it also needs to be clear on how input and output are related. Best practices should contribute to a better understanding of cause and effect linkages and enable policymakers to design better interventions. Bretschneider et al. (2005) are skeptical about the possibility of identifying a consistent causal chain and feel that the identification of causal relations in complex social situations often remains vague and ambiguous. Nevertheless, best practice research needs to provide at least some empirical support for the success of these practices and how outcomes are related to inputs.

These challenges pose severe problems for the design of best practice research, as it is often lacking financial resources and is confronted with time pressure to deliver solutions to urgent problems. For these reasons, Myers et al. (2006) conclude that *“best practices research cannot justify itself on the basis of methodological purity, but must rather justify itself on the basis of usefulness to policy makers and other stakeholders. (...) Public affairs best practices research that arrives too late to inform the decision-making process is of little value regardless of its methodological purity.”* (Myers et al. 2006, p. 371)

Best practice research, therefore, has to deal with shortcomings and limitations which have mostly negative effects on the generalizability and reliability of its results. It is thus necessary to communicate the methodological approach and its limitations carefully and responsibly. Fully informed policymakers and stakeholders are able to judge and evaluate the results of best practice research more accurately and can draw more viable conclusions (Myers et al. 2006, p. 376).

In this respect, the inflationary use of the term best practice does not contribute to more confidence in the results of best practice research either. A responsible use of the term ‘best practice’ is therefore necessary, as not all practices meet the respective criteria and not every piece of research is able to assess the best of the best. Myers et al. (2006) have collected a list of alternative terms which might describe the collected and identified practices more accurately: *“(...) evidenced-based practices, outcomes-based, evidence-based analysis, promising practices, scientific practices, emerging practices, research-based practices, smart practices, superior approaches (...)”* (Myers et al. 2006, p. 373). In the course of our research, we were confronted with different shortcomings and limitations and have therefore changed the terminology from best to good practices. We will discuss our approach to good practices and its limitations in the following section.

3 Good Practice Research in GENDERA

The first part of the GENDERA project aimed to investigate good practice in gender equality in R&D organizations in the business enterprise sector, the higher education sector, the private non-profit sector and the governmental sector. When using the term good practice, we are referring to effective practices or practices that promise results. However, this definition is too wide to guide empirical research. It was therefore necessary to establish benchmarks and criteria for assessing good practice. Otherwise, views about whether practices are good, best or

ineffective would have remained essentially subjective and contingent. For our purposes, we have defined good practice based on five criteria which guided the collection and assessment process. The criteria we have developed concur widely with the proposal for best practice criteria by Bendixsen and de Guchteneire (2003):

- a. The central criterion was demonstrable success. An initiative could only be assessed as a good practice if the success of the measure could be demonstrated. Success was measured by comparing objectives and outcomes of each initiative. As we were investigating a wide range of different initiatives and measures, it was not possible to define a single indicator for success. Therefore, success could be assessed using different quantitative and qualitative data.
- b. Sustainability was our second criterion for good practices. Experiences with gender mainstreaming activities have shown that sustainability is often a crucial point. Certain initiatives show very promising results but lack a concept for sustainability or long term budget planning. Their effects are limited to the duration of the initiative and show only one-off results. Sustainability needs, therefore, to be incorporated into a good practice initiative.
- c. Initiatives which are not embedded in a wider organizational strategy of gender mainstreaming, diversity management or human resource development were considered as selective or limited initiatives. These initiatives only focus on a limited part, problem or group of the organization. In contrast, it seemed necessary for good practice initiatives to be embedded in a wider organizational strategy of gender mainstreaming, diversity management or human resources development in order to be part of a more systematic and structural approach.
- d. One main target of GENDERA was to initiate a mutual learning process within the consortium and between the national task forces. Therefore, it seemed necessary for the good practice initiatives to be transferable between different cultural, societal and political contexts. A measure which was considered to be virtually non-transferable had to fulfill all the other good practice criteria to be considered eligible.
- e. Innovation means novelty of certain elements or of the entire initiative. Innovation was considered relevant because we wanted to share and learn from those initiatives which introduce new elements, approaches or guidelines into gender equality activities. As novelty is a relational category, we decided that it should relate to each national context.

To be assessed as good practice, it was not necessary to meet all five criteria. The criterion of demonstrable success had to be evaluated positively. The four remaining criteria were optional. At least three of them had to be assessed positively. It was thus necessary to meet four out of five criteria with one obligatory criterion to be assessed as good practice. We decided to apply this very practicable approach in order to be able to collect practices from all countries and societal backgrounds.

Gender equality measures are implemented at different geographical levels, and institutions have different target groups and deploy various instruments to reach their objectives. The focus of the good practice research was placed on initiatives implemented in R&D organizations. These could be R&D corporations (SMEs and large corporations), non-university research institutions, or R&D institutions of the higher education and the governmental sector, such as universities or universities of applied sciences. These measures and initiatives were conducted

and realized mainly by R&D organizations. Cooperative projects with other R&D organizations, institutions or stakeholders were of course applicable. The investigation for good practices was limited to the 9 GENDERA countries.

The initiatives we have considered relevant for this investigation therefore promote gender equality in R&D organizations. They intervene on a structural or individual level, but they can also aim to raise gender awareness or enforce gender in research. The main focus of these initiatives lies on scientific/research personnel and the advancement of gender equality in R&D organizations in general. Good practice initiatives can focus on qualification, recruiting, retention, women in leadership or managerial positions, gender wage gap, work-life balance, working time regulations, promotion of gender awareness, working culture, gender in research and curricular, etc.

The scope of these good practices in terms of time, resources and objectives could be small or large. They could encompass a wide range of activities, measures and objectives or could be carefully targeted interventions focusing on specific issues, localities or target groups. It is therefore possible that initiatives considered as good practice could focus on more than one career stage or target group. Initiatives could be (co-)financed by external funding; they do not have to be financed solely by the R&D organization itself. As we focused on gender equality initiatives in R&D organizations, legal regulations including parental leave, equal opportunities etc. were not considered eligible as good practices. The same applies for (funding) programs initiated by governmental authorities.

To narrow down our investigation, we limited our research to those initiatives which ended or started after 1 May 2004. All initiatives which ended before 1 May 2004 were not targeted in this project. But those initiatives which started any time before 1 May 2004 and ended subsequently or are still in progress were considered for investigation. 1 May was the date of the fifth enlargement of the European Union and seemed to be a suitable time horizon for this project, in which all partners – except Israel – were then member states of the European Union. For ongoing initiatives, it was important to be able to assess them as principally successful in their current state. Therefore, it seemed necessary for an ongoing initiative to have been running for at least half a year (depending on the objectives and the type of initiative).

For investigating good practices, we have relied on the knowledge and networks of each national GENDERA partner, who are all experts in the field of women and science issues in general and for initiatives promoting gender equality in research organizations in national and international contexts. They have a wide knowledge of diverse initiatives and of the current situation in this field. They also have very well established connections in national and international networks and communities which they were able to utilize for their investigations. This knowledge formed the basis of the research on good practice. Considering the available resources, it was not deemed practical (or viable) to collect information on all initiatives on gender equality in research organizations in all countries of the GENDERA consortium (as suggested by Bretschneider et al. 2003). Therefore, the partners' expertise in each national context was taken as the starting point for the selection process.

Good/best practice research can be conducted using both quantitative and qualitative methods (see Bretschneider et al. 2005; Myers et al. 2006). We have decided to apply a more qualitative

approach. For the purpose of data collection, a questionnaire with a mixture of closed and open questions was designed and sent by each national partner to contact persons working for R&D organizations which implemented gender equality initiatives identified as possible good practices. On the basis of the information collected, the initiatives were assessed as good practice according to the criteria defined above. All good practices were critically reviewed by the leaders of the research team who screened the collected information and asked each national partner for additional or more detailed information where necessary. The information gathered was entered into a database which is publicly available online on the GENDERA website³.

Especially for the larger countries, however, it must be stressed that the selection of initiatives for GENDERA only represents a rather small share of all existing good practices. To give just one example, there are 387 higher education institutions (universities and universities of applied sciences) in Germany. Many have had gender equality offices in place for several years now. Given these quantities, it was – within the GENDERA project - impossible to consider all existing initiatives. In addition, the good practices were often selected with a view to highlighting different approaches rather than displaying them proportionally (in terms of issues covered, conducting organizations and so forth). Further restrictions result from the fact that not all targeted organizations agreed to participate and provide data on their gender equality initiatives. We have thus applied a practicable approach which puts the needs of policymakers and of the project before unrealizable research requirements. The limitations of our good practice research will be discussed in more detail at the end of the paper.

4 Differences between GENDERA countries: Innovation systems and gender equality

To obtain a better understanding of the different starting points and national backgrounds of all GENDERA partners, we have analyzed the differences and similarities between the nine GENDERA countries⁴ according to two dimensions (Holzinger, Schmidmayer 2010): the level of realization of gender equality and the development of innovation systems. The Innovation Union Scoreboard 2011 (Pro Inno Europe 2012) differentiates between the EU Member States according to their innovation performance. Germany and Israel are the only GENDERA countries in the group of innovation leaders which have the highest innovation performance. Slovenia and Austria belong to the group of innovation followers which “*show a performance close to that of the EU27 average*” (Pro Inno Europe 2012, p. 3). The remaining GENDERA countries fall into the category of moderate innovators. Although the European Innovation Scoreboard does not currently include an indicator for gender equality, there is some evidence that countries with a higher innovation performance have a lower participation of women researchers in R&D (European Commission 2009). A report published by the European Commission on benchmarking policy measures for gender equality in science (European

³ www.gendera.eu

⁴ The GENDERA consortium consisted of partners from nine different countries: Austria, Germany, Greece, Hungary, Israel, Italy, Slovakia, Slovenia and Spain.

Commission 2008a) has found a correlation between the development of innovation systems and the share of female researchers in R&D: countries with lower systems of innovation show higher proportions of women in R&D (Greece, Italy, Spain, Hungary and Slovakia) and higher systems of innovation are characterized by lower proportions of women (Germany, Austria, Israel and Slovenia). Higher innovation systems are characterized by bigger business enterprise sectors measured according to R&D expenditure and R&D personnel, whereas in lower innovation systems, the business enterprise sector is of less importance for these innovation systems. The size of the business enterprise sector is considered to be a good determinant of the proportion of female researchers:

“(...) it suggests that in countries where research is focused on the private sector, there are also relatively fewer women researchers than in countries where research is focused on the public sector.” (European Commission 2008a, p. 25)

But there are, of course, countries with higher innovation systems, such as Denmark, Norway, Iceland and to some extent Sweden, which show higher proportions of female researchers. The report by the European Commission suggests that these countries have developed effective policies to achieve gender equality in R&D (European Commission 2008a, p. 21). These are therefore labelled as good practice countries, or, in another report by the European Commission, as *“countries with good policies and good results”* (European Commission 2008b, p. 8). No GENDERA country belongs to this rather exclusive group of countries. The GENDERA countries with higher systems of innovation are rated as *“countries with good policies and weak results”* (European Commission 2008b, p. 8). GENDERA countries with lower innovation systems can be divided into *“countries with recently introduced good policy and strong family support”* and *“countries with weak policy and weak commitment”* (European Commission 2008b, p. 8). The latter group is characterized by high proportions of female researchers and of women in management positions, but these countries lack awareness for gender inequalities and gender equality is not at the top of their political agenda. This group consists of many post-communist countries such as Slovakia and Hungary. The group of countries that show a system of strong family support tends to include Mediterranean countries such as Spain and Italy.

The benchmarking report also suggests that the proportion of female researchers is linked to the overall employment rates of women and to the development of gender mainstreaming activities in general. A higher proportion of female researchers corresponds with higher employment rates of women on the one hand and with more developed gender mainstreaming activities on the other (European Commission 2008a, pp. 26 & 37). This suggests that the proportion of female scientists not only depends on the development of innovation systems and the size of the business enterprise sector, but is also related to a wider societal and political context of gender equality. This context is very much influenced by the structure of the welfare state and its gender regimes (Esping-Andersen 1990; Walby 2004) which *“does not only influence the employment rate of men and women, but also the division of work between market and household work, the mix of part-time and full-time work, occupational segmentation and lifetime earnings.”* (Biffl 2007, p. 9) Welfare state models have a significant impact on the gender-specific structure of the labour market and on gender equality in general (see Pascall, Lewis 2004; Lewis 1999; Pfau-Effinger 2005).

The nine GENDERA countries differ not only regarding the implementation of gender equality, measured by different gender equality indicators (see Holzinger, Schmidmayer 2010), but they can be distinguished according to different welfare state models (see Biffl 2007; Pascall 2008; Fenger 2007). The GENDERA countries can be grouped into three welfare state models: Austria and Germany belong to the group of countries with a Continental welfare state model, which is often also labelled as a conservative or corporate model. They show moderate results concerning the employment rate of women and a comparatively restricted availability of childcare facilities, especially for children up to the age of 3. The gender-specific division of labour is more visible and distinctive than in Scandinavian countries and the adult breadwinner model is more widespread. But there are tendencies that the male breadwinner model is becoming more moderate in Austria and Germany due to a high proportion of women working part-time. Italy, Greece and Spain show characteristics of the southern European welfare state model with a low participation of women in the labour market and family-centred provision of childcare, income support and unemployment insurance (Biffl 2007). Eastern European countries such as Hungary and Slovakia form a distinct group of welfare states which can be labelled as the post-communist European welfare state model (Fenger 2007). They comprise compounded characteristics of the corporatist and of the social-democratic model, but with fewer elements of the latter. Post-communist countries such as Hungary have a lower employment rate of women than Scandinavian countries (Glass, Fodor 2007). They are characterized by a moderate male breadwinner model, but also by tendencies towards public support for maternalism, which means extended breaks for women from paid work following childbirth. This results from a combination of different factors: high unemployment rates legitimizing the exclusion of women from paid employment, conservative social policies promoted by post-communist governments and new political and societal discussions about the role of women in these new societies (Glass, Fodor 2007, p. 343). Slovenia is an exception which shows more characteristics of the Scandinavian welfare state model and a tendency towards more gender equality and a dual earner model (Pascall 2008). It fits neither into the group of post-communist countries nor into the southern or continental welfare state model.

These societal and innovation-related differences between the GENDERA countries are reflected in the process of collecting good practices and hence in the good practice database, where the distribution of good practices is highly skewed between the countries.

5 Good practices: Barriers and factors of success

Overall, we have identified 64 good practices along different scientific career stages which focus on different target groups. The first of these career stages is pre-university, where initiatives attempt to increase pupils' and children's interest – especially that of girls – in science and technology and attempt to overcome societal and mental barriers such as gender-specific stereotypes etc. In the qualification career stage, initiatives are focused on students in higher education institutions up to a doctoral degree. The third career stage comprises initiatives addressing scientists at the point of career or professional entry. These are persons who will finish their scientific qualification soon (doctoral degree) and/or have recently entered or will be entering the labor market soon to embark on a scientific career. These are mainly post-docs and

junior scientists. The fourth career stage can be labeled professional experience, with respective initiatives focusing on support for already established (female) scientists such as career development, promotion, retention and work-life balance (Holzinger and Schmidmayer 2010).

Analyzing factors of success always means considering the obstacles which gender equality initiatives have to overcome in order to be successful. We therefore analyzed the obstacles which these good practices were facing first, and then turned to the factors of success, as we believe that the latter are an answer to the former. For some obstacles, we were able to identify corresponding factors of success, which means that these factors contributed to transcending barriers to implementation. In these cases, we have chosen an integrated form of presentation.

Lack of financial resources

The most frequently mentioned obstacle is a lack of financial resources often combined with short-term budgetary plans. These conditions impede sustainability and predictability and reduce the capacity for long-term planning. This is not only the most commonly mentioned but also the most fundamental obstacle which gender equality initiatives are facing. The lack of financial resources often leads to situations in which individuals committed to promoting gender equality work on a (partly) voluntary basis in order to allow initiatives to reduce costs. This has to be acknowledged and appreciated, but it can also have negative effects on the sustainability of these initiatives. The lack of resources becomes much more evident when these committed individuals leave the organization or do not want to continue to carry out unpaid/voluntary work anymore. As these initiatives are dependent on committed individuals and on their unpaid and often unrewarded efforts, it is nearly impossible to replace them adequately. Relying on committed individuals to substitute for a lack of financial resources is not a characteristic for sustainability and should not be labeled as a factor of success. The dependence of gender equality initiatives on the work of such committed individuals is considered as an obstacle by some initiatives, especially when changes within the project team or management occurred and have led to problems continuing the execution of these initiatives.

The provision of ample (financial) resources is obligatory for a sound implementation of gender equality initiatives and a fundamental requirement for their success. The resources should be provided on a long-term basis to enable more planning reliability. In the case of some initiatives, external funding by funding agencies, ministries or collaborators was successful in stimulating the implementation of gender equality initiatives or in providing additional resources to bridge budgetary gaps. If there are not enough financial resources available within an organization to set up an initiative, external funding can step in and provide seed money to stimulate implementation. If the initiative proves to be successful, it should then be integrated step by step into the regular organizational budget. Particularly in Austria, the provision of external funding by the FEMtech program for gender equality initiatives in R&D corporations has been quite successful.⁵

External funding not only stimulates the implementation of gender equality initiatives, it also increases their internal (and external) visibility and acceptance. The major problem of relying too much on external funding is that it increases the dependencies of gender equality initiatives.

⁵ For more information on the FEMtech program see www.femtech.at

The influence of external factors on the initiative, such as national budgetary plans and cuts, becomes more substantial. But when external funding of initiatives expires, the necessary shift towards using internal resources in order to continue with the initiatives often becomes problematic as well.

In our research, the availability of resources was very frequently mentioned as an obstacle to implementation, whereas it was quite seldom identified in the questionnaires as a factor of success. This leads us to the conclusion that funding is precarious for most gender equality initiatives, even for the ones considered as good practices. Good practices are successful although funding conditions are precarious.

Lack of Awareness

Another very common and important obstacle is the lack of awareness of gender inequalities in R&D in particular and in society in general. This is not only relevant in the planning phase, but also in the start-up and implementation phase. In most organizations, the management and the majority of employees do not consider gender equality initiatives to be relevant and meaningful for their (daily) work. Science, Technology and Innovation are perceived as gender neutral, and introducing standards for gender equality in R&D is considered as applying non-scientific rules and criteria to the sciences. Gender inequalities are therefore neglected or seen as a result of different performances from men and women:

“Another barrier was the belief that scientific institutions are neutral and subjected to meritocracy, and therefore gender inequality responds to a lower scientific performance of women within the institution.” (GENDERA Good Practice Database)

The lack of awareness for gender inequalities in R&D activates resistance and uncertainty towards gender equality initiatives. Especially in male dominated organizations and working cultures, these initiatives are met with skepticism and rejection:

“Gender based initiatives are not very well accepted above all from the staff of the university, that is mostly composed by men in the department of math, also from the administrative unit employees.” (GENDERA Good Practice Database)

The challenge for these initiatives is to overcome the lack of awareness and the conjunct resistance of colleagues and managers and to bring gender inequalities to the top of the agenda. We have identified several factors which address these obstacles.

An important factor of success in this context is a generally positive societal climate towards gender equality. It has positive effects on the awareness of gender inequalities and on the acceptance as well as on the appreciation of initiatives within the implementing organization. It prepares a fertile ground in which gender equality initiatives can be planted and are able to develop. This means that the societal context provides reasons for the legitimacy and necessity of gender equality initiatives and puts pressure on organizations and their management to introduce and support such initiatives. These external stimuli are important framework conditions for the implementation of gender equality initiatives.

But internal factors, such as increasing the visibility of gender equality initiatives, can also support their implementation. Lee et al. (2010b, p. 91) have identified the lack of visibility and

promotion of gender equality initiatives as an obstacle to their effective implementation. These policies need to be “adequately publicised and promoted” (Lee et al. 2010b, p. 91). The objectives, instruments and outcomes of these initiatives have to be communicated through different channels and means throughout the whole organization – not only to the target group(s). The communication efforts have to be permanent and continuous and should not be placed only at the beginning and at the end of initiatives.

These initiatives should not only be visible to all members of the organization, but should also connect with other relevant departments or activities within an organization and build (external) networks with other organizations, stakeholders etc. A good networking strategy contributes to an enhanced awareness (and commitment) for the initiative and its objectives. Prestigious (internal and external) partners raise the acceptance of the initiative and it will consequently be perceived as more relevant. Through cooperation and networks, experiences can be exchanged and additional resources (financial, knowledge, etc.) can be made available. Cooperation and networking strategies contribute to the success of gender equality initiatives.

Lack of Commitment

Apart from a lack of awareness for gender inequalities in R&D, the good practice initiatives often have to deal with a low commitment of management as well as colleagues to promoting gender equality. To raise the commitment for gender equality initiatives within an organization, it is very important to involve all management levels. The involvement secures their support for the objectives of gender equality initiatives and often raises the visibility and the acceptance of initiatives. It is very important that the commitment by the management⁶ is not only passive, meaning that they tolerate the activities, but also active. The GENDERA good practices have had similar experiences to the ones Bailyn (2003) reported for the MIT School of Science when a committee to investigate gender inequalities was established:

“Not all the Department Heads in the School were happy with this idea. And it took some time and some persuasion actually to get the committee going. One of the things the Dean insisted on was that the committee, besides one senior woman member from each department, would also have some men on it. The women were not in favour of this and asked that if men were to be on the committee, they should be powerful. The Dean agreed. In the end the men turned out to be very important. It was they who carried the credibility of the committee. And, since they knew how the system worked, they were an important source of information for the women, almost none of whom had ever been in an administrative or other central position in their departments.” (Bailyn 2003, p. 148)

Bailyn makes it clear that it is important to involve top level management in gender equality initiatives to enhance their credibility and visibility, but also to gain access to relevant sources of information. Lee et al. (2010b) also emphasize that gender equality initiatives are impeded by line managers who resist introducing flexible work policies in their departments. They make the point that it is not enough “to get managers on board and willing to ‘lead from the top’,

⁶ The management can be involved in different ways: advisory boards/committees, events, etc

organisations must not only win them around to the policy objectives, they must also train them in the techniques or procedures needed to realise those objectives” (Lee et al. 2010b, p. 92).

For the success of gender equality initiatives, it is not only important to involve and commit the management, but also to make the initiatives more inclusive, especially when they are targeted at organizational change. Inclusiveness of initiatives means that they should address as many employees as possible without regard for gender, age or ethnicity. Lee et al. (2010) summarize that *“effective good practice in this area needs the ‘buy in’ not only of key players like senior and line managers, who are in a position to lead by example and shape outcomes, but also of ‘rank and file’ staff in labs and offices, who may otherwise resist gender change.”* (Lee et al. 2010b, p. 96) Many GENDERA good practices mentioned that higher levels of inclusiveness reduced resistance from colleagues. Establishing incentives for buy-in or win-win situations will promote a broad participation (Lee et al. 2010a, p. 420). Additionally, a high level of inclusiveness can also help to avoid stigmatization and stereotyping of target groups (Cabrera 2009, p. 197). By contrast, the GENDERA database contains initiatives which focus on positive action initiatives to improve the skills and employability of young women entering an engineering career. These initiatives are limited mostly to women or girls to guarantee a safe learning environment and to focus on their specific needs and interests. So for these initiatives, full inclusiveness is not relevant.

Gender expertise and experiences

R&D organizations which have not introduced gender equality measures before the launch of the good practice initiative do not normally possess a lot of experience with implementing gender equality activities. They cannot rely on preexisting know-how, and therefore processes often become more complex and solutions are not readily available. To overcome this obstacle, some initiatives rely on external expertise to consult and accompany the implementation. The content of the consulting process is often a specific gender knowledge which is central for implementing gender equality initiatives. Independently of how gender expertise is incorporated into the good practice initiative, its availability is an important factor of success. Another way of gaining access to relevant experiences is through networks and collaborations. The main challenge when relying on external (gender) expertise is how to integrate this expertise into the organization to be available after the completion of the consulting process as well.

Bureaucracy and inefficiencies

The inefficiencies which are caused by high levels of bureaucracy are also mentioned by different initiatives as obstacles to a sound implementation. In the questionnaires, there is no evidence of how to avoid bureaucracy and inefficiency. However, this obstacle is closely related to (financial) management issues and funding arrangements, as it is often mentioned in this context. Strategies for reducing bureaucracy should already be considered in the planning phase. We were not able to identify a strategy to limit bureaucracy in the questionnaires on good practices. This would have required a much more detailed survey.

More factors of success

For the following factors of success, we did not find corresponding obstacles which were explicitly mentioned in the good practice questionnaires. But since we consider them as relevant

for good practices, we will discuss them briefly. The integration of gender equality initiatives into the standard operations and procedures of organizations is necessary to enhance their effectiveness and sustainability. Initiatives which are lacking integration into the core activities of organizations, and therefore remain on the sidelines, are very likely to dissolve without lasting effects, despite the fact that they might be implemented by very motivated and committed persons (see also Lee et al. 2010a, p. 422).

Another important factor of success is conducting accompanying, monitoring and evaluation procedures for quality assurance. Carrying out sound evaluations of gender equality initiatives is most relevant for their success. It enables the identification of problems and obstacles to their implementation in good time, but also makes impacts and success visible. For Lee et al., *“generating and disseminating systematic evidence about [implementation and impact of equality policies, F.H.] is obviously critical if organisations are to identify and learn from effective good practice”* (Lee et al. 2010b, p. 92). In their stocktaking report on policy towards gender equality in science and research, Müller et al. (2011) emphasize the importance of sound evaluations which need better *“theoretical foundations for operationalizing gender equality”* (Müller et al. 2011, p. 300).

6 Limitations

A description of these factors of success seems to be insufficient without mentioning limitations to their realization/implementation. These limitations are, on the one hand, based on the quality of implementation, meaning the extent to which factors of success could be realized and how this results in shortcomings concerning the quality and effectiveness of their implementation. As discussed in the paragraphs on availability of financial resources and funding, many GENDERA good practices were confronted with a scarcity of resources. Success was accomplished despite this quite frequently mentioned lack of resources.

On the other hand, limitations exist due to the structure of the GENDERA project. The most important limitation was in the selection process, where it was not possible to conduct a screening or mapping of *all* relevant initiatives to select good practices in the nine GENDERA countries. But the selection process was organized as expert-based research conducted by the national GENDERA partners. The collected practices therefore reflect the expertise and networks of the different GENDERA partners.

Limitations are also based on the method of data collection and resulted in quite different scales and scopes of the collected information, as the level of detail provided by the projects varied considerably between different initiatives. Although we have followed up on specific information which was not provided in the first round, it was not always possible to obtain all necessary and requested information. On the basis of the information provided, a critical assessment of the good practice was (sometimes) challenging.

Another shortcoming of our good practice collection is that the collected practices from all R&D sectors do not reflect their actual distribution. Good practices from the business enterprise sector are particularly scarce in our good practice database. It was thus impossible to analyze differences, commonalities and characteristics of various R&D sectors.

Finally, these limitations also had an impact on the wording in the GENDERA project: although we started our project with the aim of conducting *best practice research*, in the course of our work, we have refrained from referring to the collected practices as ‘best practices’ for two reasons. The first is that considering the above-mentioned methodological limitations and shortcomings, applying the term ‘best practice’ seemed an exaggeration. Instead, we applied the term ‘good practice’, as our approach (and resources) did not allow us to assess the best of the best. The term ‘good practice’, however, still implies that these initiatives and interventions showed innovative elements and substantial effects. Another term for ‘good practice’ which would fit our approach was suggested by Bardach, who talks about ‘smart practices’ when it is not possible to conduct extensive research that would be needed to document a claim of best practice (see Bardach n.d. or Myers et al. 2006, p. 368). These smart practices indeed still provide working solutions for specific problems.

Although all practices in the GENDERA database have proved to be successful, they differ in terms of the extent of their success. Some practices were more successful than others, were embedded in a more supportive environment and were implemented more thoroughly. Taking these differences and shortcomings of our practices into account, it seemed more realistic to apply the term ‘good practice’. Limitations in the way the factors of success have been implemented/realized were thus reasons to change the term ‘best practices’ (as used in the GENDERA proposal) to ‘good practices’.

7 Discussion and policy recommendations

In our good practice research, we have identified several obstacles to the implementation of gender equality initiatives and related factors of success. These factors are sufficient financial resources and long-term budget planning, high level of awareness for gender inequalities and high visibility of initiatives within the implementing R&D organizations, high commitment from all management levels and greater inclusiveness of initiatives. We have also identified evaluation and monitoring as another important factor of success. These factors are not context-specific, but are important for all initiatives to be successful and to achieve more gender equality in R&D.

The findings of our good practice collection and analysis are supported by relevant literature about issues of implementing gender equality initiatives in R&D (see Müller et al. 2011; Lee et al. 2010a; Lee et al. 2010b; Castano et al. 2010; Bailyn 2003) which has identified similar obstacles and factors of success. To achieve organizational change, Lee et al. (2010b) emphasize the importance of a strong commitment by management, the greater inclusiveness of initiatives to avoid resistance, the need for highly visible initiatives as well as for continuous monitoring and evaluation. Müller et al. (2011) also stress the importance of theoretically grounded evaluations. In her study on gender equality at MIT, Bailyn (2003) concludes that gender equality initiatives are often counteracted by middle management by not acting in compliance with their objectives or ignoring them altogether. It is therefore necessary to involve top management in the implementation of gender equality initiatives to raise the commitment

and compliance at all organizational levels, as well as to gain relevant organizational information through their involvement which would not otherwise be accessible (Bailyn 2003).

Lee et al. (2010) point out that in many R&D organizations, a compliance mentality has been established, which means that these organizations implement gender equality initiatives but lack the necessary commitment and willingness to achieve sustainable change. The business case arguments for gender equality have led these R&D organizations to take initial steps towards gender equality, but they often lack the tenacity to achieve substantial and sustainable change. Indeed, several GENDERA partners reported what can be described as ‘gender fatigue’ in their country, based on the experience of a broad range of gender equality initiatives with only little change being visible: *“In other words, they are tired of seeing gender discrimination and prefer to see a world that is gender egalitarian, where gender no longer matters”* (Kelan 2009: p. 198). The argument that a lot has already been done and nothing (much) changes makes the introduction of further initiatives appear unnecessary, so we need to look for the reasons for this limited change.

Through the analysis of the GENDERA good practices, we were able to develop a different understanding of the reasons why progress towards gender equality in R&D is limited. The main conclusion is simple but important: good practices are not characterized by ideal conditions or circumstances for their implementation, but rather have to deal with several obstacles and barriers which inhibit their impact and success. For this reason, the process of implementation of gender equality measures has to move into the focus of attention. Good results – meaning substantial and sustainable organizational changes towards more gender equality – follow from good policies⁷ on the one hand and from good practice on the other.

This emphasizes that not (only) the number of initiatives, but (also) the way they are implemented is important. Designing and developing ever more sophisticated policies and initiatives might not contribute to advancing gender equality any further, and will make the governance of gender equality more and more complex. It is therefore important and necessary to take a closer look at the obstacles and organizational practices that inhibit successful and sustainable implementation. Turning good policies into good practices may contribute more to the development of gender equality in R&D than adding more new elements to an already complex picture.

This naturally does not mean that policy innovations, which are increasing the number of new or improved tools, instruments and interventions, are insignificant: there are ascertainable differences regarding the implementation level of gender equality policies between the GENDERA countries and with the EU27 countries. As not all countries have reached the same level of policy implementation, it is of course necessary for those countries to catch up by relying on already existing policies or by inventing their own strategies and policies. But for these countries and their national R&D organizations, it is also important to take the challenges

⁷ This differentiation between policies and practices is based on two dimensions: the first dimension refers to the design and the content of initiatives. It addresses the questions regarding the right tools and instruments for accomplishing objectives and achieving change. Dimension one is therefore about good policies. In this context, we refer to ‘policies’ not (only) as political interventions, but as the design and intention of a (political) intervention. The second dimension means practice and focuses on the process of implementation. It deals with the question of necessary prerequisites for a successful implementation and how to cope with obstacles and barriers. This second dimension is thus about good practice. The two dimensions are, of course, interrelated and are separated here for analytical reasons.

of implementation seriously – success not only depends on the “right” policies but also on the “right” implementation in sustainable ways.

At the end of this paper, we would like to present some thoughts on different approaches to supporting the implementation of gender equality initiatives in R&D organizations. A first recommendation is to make public funding available for research organizations to implement gender equality initiatives. The provision of seed money makes the introduction of such initiatives more attractive and reduces the barriers caused by lack of funding. In the Austrian context, where such funding is provided by the FEMtech program,⁸ this has proven to be quite successful, especially for the companies in the business enterprise sector.

The establishment of resource centers is another important measure for supporting the implementation of gender equality initiatives in R&D organizations. These resource centers may support the implementation through different activities, such as raising awareness, knowledge transfer (knowledge on gender issues and policies), supporting analysis of inequality practices and organizational barriers in R&D organizations, and providing consultancy for R&D organizations on issues of implementation.

For better implementation, it is also necessary to gain a deeper understanding of how existing initiatives work and why they are not able to achieve their objectives. Therefore, continuous and in-depth monitoring and evaluations of initiatives are a necessity. Evaluations should not only focus on effectiveness and efficiency, but also on the process of implementation as well as on resistance and obstacles at the horizontal level.

As described in the previous chapters, the term best/good practice is used in different ways, as there are hardly any standards established and accepted. Therefore, it seems important to develop and establish standards for implementing “good practice” on gender equality in R&D organizations, taking differences between R&D organizations regarding sector, size etc. into account.

The last but fundamental recommendation concerns the general societal climate: it is necessary for policymakers and stakeholders to create a responsive societal environment and climate for the promotion of gender equality not only in R&D, but also in a wider context. They need to keep the gender equality target constantly on the societal and political agenda. This provides important support for the implementation of gender equality good practices.

⁸ For more information see www.femtech.at.

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