



The Manifold Benefits of Gender Equality and (Responsible) Research & Innovation

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GENDER AND SCIENTIFIC BENEFITS

Interdisciplinarity & thematic diversity

- Mixed-gender publications are more interdisciplinary but less internationally collaborative than mono-gender publications, but female-only publications are the most internationally collaborative (Pan & Kalinaki, 2015).
- The likelihood of female researchers to focus on a broad range of topics is higher in subject areas with a balanced gender proportion than in male-dominant subject areas (Childs & Krook, 2008).

Better dissemination of research results and higher share of citations

- Female researchers do more frequently engage in science cafes, science festivals and researchers' nights as well as in partnerships with schools and/or teachers. They also communicate and disseminate the research results more frequently than male researchers (Bühner, Lindner, Berghäuser, Woolley, Mejlgaard, Wroblewski, & Meijer, 2017).
- Publications of mixed teams, i.e. with a high share of female authors, receive higher citation rates than homogenous teams; respectively, women have higher citation rates than men (Campbell, Mehtani, Dozier, & Rinehart, 2013; Tower, Plummer & Ridgewell 2007; Powell, Hassan, Dainty & Carter, 2009).

Social responsiveness and scientific excellence

- The presence of diversity balances biases, which thereby contributes to the generation of alternative perspectives and experiences for exploring new problems. In these ways, diversity contributes to significant scientific advances in critical fields such as medicine and helps to strengthen global competitiveness.

- *Gendered innovations*¹ enhance excellence in science, medicine, and engineering both in terms of knowledge and personnel (Schiebinger & Schraudner, 2011).
- *Gendered innovations* lead to gender-responsible science and technology, and seek to enhance the lives of women and men globally (Schiebinger & Schraudner, 2011).

GENDER AND ECONOMIC BENEFITS

Increased creativity and organizational innovation

- The likelihood of radical/disruptive innovation is higher when women are represented at management level (Díaz-García, González-Moreno, Jose Sáez-Martínez, 2013).
- Diverse teams are much more likely to consider and implement alternative approaches and uncommon ideas. Through their diverse viewpoints and ideas, diverse teams develop ideas and solutions that are more creative, which often leads faster to results and innovative products (Cosley, Forte, Ciolfi, & McDonald, 2015).
- Companies with a management team with a degree of diversity higher than the company-wide median achieved up to 10 percentage points higher turnover through innovation (Lorenzo, Voigt, Schetelig, Zawadzki, Welppe, & Brosi, 2017).
- Despite the low quantity of female inventors, the opposite is true for their quality: the percentage of cited patents is higher for women than for men (Frietsch, Bühner, & Helmich, 2016).
- Firms with more balanced gender composition are more likely to innovate compared to firms with high concentration in one gender (Østergaard, Timmermans, & Kristinsson, 2011).
- Gender diversity has been found to correlate with “radicalness” of innovation (Díaz-García, González-Moreno, & Sáez-Martínez, 2013) or to have a higher innovation potential (Østergaard et al., 2011).

Better strategic decision-making & overall competitiveness

- In corporate boards with not less than 30% women, board members' degree of involvement in the strategic process is significantly higher as the female

¹ The term “gendered innovations” is defined as the process that integrates sex and gender analysis into all phases of basic and applied research to assure excellence and quality in outcomes (Schiebinger & Schraudner, 2011).

representation leads to more civilized behaviour and more sensitivity to other perspectives (Torchia, Calabrò, & Huse, 2011).

- Prospective applicants can perceive organizations that display business values of equal career opportunities as more innovative and sustainable as they are responsive to pressing societal and institutional demands and developments (Backhaus, Stone, & Heiner, 2002).

Better financial performance

- The proportion of women and ethnic diversity in management in listed companies correlates positively with the company's economic indicators (McKinsey & Company, 2007).
- Economic benefits of gender diversity refer to better products through gendered product development but also to a higher turnover through more women in boards (McKinsey & Company, 2007).
- Among various other mediating variables, women in corporate boards exert a strong influence on board decision-making, which in turn positively affects a huge range of firm performance measures. Examples are: increased return on investment, higher shareholder value, profitability, market performance or better legal compliance (Bernardi & Threadgill 2010; Scholz, 2012).
- With the help of a more diversified talent pool, organizations can improve the quality of their human resource and in this way exploit resulting synergy effects to improve firm performance and generate a competitive advantage (Porter, 1985).

Positive employment effects & job satisfaction

- Gender diversity can result in higher employment, more jobs and increased gross domestic product (GDP) (EIGE 2017).
- Female employees' state of empowerment and motivation triggered by the presence of women in management results in higher retention rates and job satisfaction (Alvesson, 2013).

More effective recruiting and retention

- The absence of female managers increases women's propensity to leave the company for a more diverse and synergistic company. This particularly affects highly qualified women who do not feel sufficiently represented and valued (Rosin & Korabik, 1995).

- In contrast, organizations with a gender-diverse management or board are more effective in attracting and retaining women and minorities and lead to a higher share of women at all levels (Bernardi & Threadgill, 2010).
- Female representation throughout the corporate hierarchy has positive effects on staff turnover or absenteeism, which results in lower recruitment and induction costs.

Increased organizational attractiveness, brand image and reputation

- Companies that demonstrate openness towards a diverse workforce increase their attractiveness as employers, especially among the younger generation ("Generation Y") (Kienbaum, 2016, 2017).
- More women on boards lead to a higher probability to be listed on Fortune's Best companies to work for and Ethisphere's Most ethical companies (Bernardi & Threadgill, 2010).
- Gender-diverse companies are more effective in attracting high achievers since diversity in an organization's most powerful positions displays the absence of gender-based discrimination and presence of fair and transparent career opportunities. This has a particularly motivating effect on top talents with high career orientation (Sealy & Singh, 2009).

Better networking and access to customers and markets

- Diversity in the workforce makes it possible to better adapt to different customer groups or markets. By giving the customer groups interlocutors who "speak the same language", the company is also able to address and win new customers. Studies show that as soon as a person in the team has a similar characteristic (e.g. similar professional biography or region of origin) to the client, the whole team understands the client's needs better (Hewlett, Marshall, & Sherbin, 2013).
- More women on boards lead to a better access to markets ("women are a huge market force, and understanding the female perspective is essential in generating goods and services that meet consumer wants and needs") (Bernardi & Threadgill, 2010).
- More women on boards lead to a broader range of knowledge and professional contacts (Bernardi & Threadgill, 2010).

Stronger adherence to ethics and rules of conduct

- More women on boards lead to a reduction of unethical decisions and reduces a company's risk of reputational damage (Bernardi & Threadgill, 2010).
- More women on boards lead to less corporate corruption (Bernardi & Threadgill, 2010).
- More women on boards lead to a consideration of the needs of a wider range of stakeholders (Bernardi & Threadgill, 2010).
- More women on boards lead to a higher probability to have company codes of conduct and, respectively, conflict of interest guidelines (Bernardi & Threadgill, 2010).

GENDER AND SOCIETAL BENEFITS

Combating gender discrimination through symbolic commitment to equality

- Gender diversity in leadership positions sets a sign of high symbolic value and helps combat gender stereotyping as it normalizes the presence of women in a company's most powerful positions (Terjesen, Sealy, & Singh, 2009).
- Organizations with an all-male management signal the prevalence of gender-based stereotyping and pro-male biased recruiting and promotion practices (Iseke & Pull, 2017). In contrast, women's advancement to these positions signals to various stakeholders such as customers, investors or future employees that all individuals are treated equally in that company (Iseke & Pull, 2017).
- Women in positions of high power and legitimacy - particularly in male-dominant sectors - send a stronger and more convincing signal of equality, appreciation and leadership commitment since their advancement is seen as rather exceptional and different from common pro-male business practice (Iseke & Pull, 2017).
- The presence of female directors makes it hard for stakeholders to accuse a company of gender inequality or biased recruiting and promotion practices (Terjesen et al., 2009).

Empowerment and confidence

- Female employees feel motivated and inspired by the presence of female managers or directors since they serve as role models and outstanding examples who reflect the possibility to excel and succeed without facing gender-based discrimination (Lockwood, 2006).

- Women who have already climbed the career ladder can function as a bridge in other women's career and accompany them as mentors, considering that mentoring has been shown to correlate with career advancement (Ragins & McFarlin, 1990).

More corporate social responsibility

- The presence of more women in the boardroom has been shown to improve a company's reputation resulting from improved corporate social responsibility (CSR) (Bear, Rahman, & Post, 2010).
- The number of women in (top positions of) companies influences corporate social responsibility strategies (Bernardi & Threadgill 2010, Soares, Marquis, & Lee, 2011).
- A higher number of female directors has a significant positive effect on CSR as they improve critical board processes and bring besides unique perspectives and a higher sensitivity for CSR (Williams, 2003).
- "Companies with a significant number of women at the top are better practitioners of CSR and sustainability than other firms and are delivering big wins for business and society" (Babcock, 2012).
- The presence of female directors signals to stakeholders that the company is committed to the advancement of women, which is interpreted as a socially responsible action (Bilimoria, 2000).
- Companies with a higher share of women on their boards are more socially responsible, with responsibility measured as a multi-dimensional construct consisting of charitable giving, community involvement and outside recognition of employees' benefits (Bernardi & Threadgill, 2010).
- Companies with a higher share of women on their boards have been shown to be more likely to sponsor or create charity organisations and have a formal employee volunteer programme and stronger self-commitment towards charitable giving (Bernardi & Threadgill, 2010).
- Gendered leadership leads to an improved environmental CSR (Soares et al., 2011).
- Gendered leadership is interrelated with an improved quality of CSR initiatives and different definition of fairness (Soares et al., 2011).
- Companies with a higher share of women on their boards implemented more policies towards female employees (Soares et al., 2011).

More supportive and philanthropic behaviour

- Women support female colleagues, encourage gender-balanced teams and consider gender aspects in their research design more frequently than men (Bührer et al., 2017).
- Companies with more female directors and corporate officers show significant higher amount of philanthropic contributions (Soares et al., 2011).

GENDER AND ENVIRONMENTAL BENEFITS

More sustainability initiatives

- Gender diversity is an important driver for a firm's environmental sustainability initiatives and the promotion of sustainability in general (Kassinis, Panayiotou, Dimou, & Katsifaraki, 2016).
- Gender diversity on boards is associated with higher environmental ratings (Post, Rahman, & Rubow, 2011).
- Gender and education are the most important predictors for sustainable behaviour, at least more important than income (De Silva & Pownall, 2014).

Higher environmental consciousness in consumption

- Gender has a strong influence on sustainable consumption (OECD, 2008).
- Environmental consciousness is higher among women than among men (Zelezny, Chua, & Aldrich, 2000).
- Women have typically a higher inclination to change their consumer behaviour in favour of the environment, for example by buying products from companies which offer organic products or that support climate change initiatives (EIGE, 2012).
- Women are more likely to have a higher recognition of health issues and more highly developed risk perceptions, often acting on their internalised health and environment orientation; men tend to be more strongly oriented towards convenience and a 'consumption-is-annoying' attitude (Schultz & Stieess, 2009).
- Women's decisions on consumption are to a larger extent based on aspects of ethics and fairness; women feel a stronger need to adhere to social norms (e.g. slenderness) and control their eating habits more strictly, while men are able to follow their personal tastes and preferences and not follow strict gender body ideals (EIGE, 2012).
- Ideal images of masculinity or femininity are strongly associated with patterns of consumption and types of products consumed (e.g. meat and fast cars are

associated with masculinity and virility; mild, light, sweet products are associated with weakness and femininity)" (EIGE, 2012).

More eco-innovations

- A high share of highly qualified women and a gender diverse board composition are positively correlated to eco-innovation activities (Horbach & Jakob, 2017).
- Female employees can bring in their particular competencies to cope with the necessary changes induced by eco-innovations (shift in firms' organizational goals, practices and routines due to their complexity and systemic character) through emphasizing team-work and cohesion (Horbach et al., 2018).
- Female entrepreneurs are more interested in the realisation of non-economic goals compared to men (Estrin, Mickiewicz, & Stephan, 2013).

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