

Innovation By Design: The Case for Investing in Women



ANITA BORG
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The Case for Investing in Women

INTRODUCTION

The call for more women in the workforce isn't new.

Since the 1960's, business leaders and researchers have suggested that expanding opportunities for women in the workplace would yield positive results.

Today, there is a new impetus for the conversation. Over the course of fifty years, the debate around gender diversity has shifted from issues of fairness and equality to a focus on how more women at all levels leads to increased organizational performance and competitiveness. Time brings the advantage of perspective – the ability for researchers to verify and expand on ideas people suspected were true, but could not yet prove.

A wealth of research over the last decade has proven that companies benefit when they actively recruit, develop, and advance women. Study after study demonstrates that innovation-driven enterprises that strive for inclusion are better positioned to capture exceptional talent, reduce turnover costs, enhance organizational performance, and build a robust pipeline for developing leaders.

In this paper, we summarize these research findings and insights, presenting the key advantages organizations can expect to gain by improving the balance of women in the workforce. These advantages are:

- **Improved Operational and Financial Performance.** Women have tremendous purchasing power. Organizations who employ more women in key roles are better equipped to meet the needs of the broader market, because women know what women want.
- **Increased Innovation.** For many companies, innovation is a strategic imperative. Research shows that women bring valuable perspectives and approaches to the ideation process, resulting in more innovative solutions to complex problems.
- **Better Problem Solving and Group Performance.** Knowledge work is performed in teams. Studies show that diverse groups solve problems more effectively than homogenous ones, raising overall performance and giving teams that include women a distinct competitive edge.
- **Enhanced Company Reputation.** Demand for technical talent is fierce. Companies who develop women in roles at every level are able to attract more qualified applicants, sending positive signals to the labor market and improving their reputations.

“The data show how important diversity is to the success of teams and decision making. All of us on the Board got involved in ABI because we see this as vitally important for innovation, for competitiveness and for business success. Advancing women isn't a corporate social responsibility imperative, it's a competitive imperative.”

– Mark Bregman, CTO, Neustar and ABI Board Trustee



Business Advantage

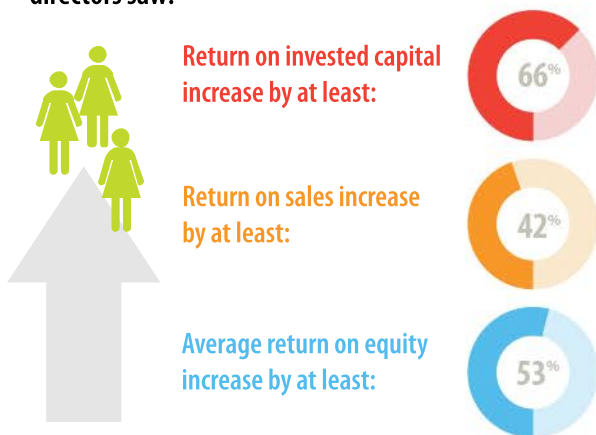
Improved Operational & Financial Performance

The wisdom of representing the market in the workforce

Women in the United States possess purchasing power in excess of an estimated \$5 trillion. Globally, that purchasing power is estimated at US\$20 trillion of total consumer spending. Women actively use that power to purchase half of all computers, half of all cars, and more than 80 percent of all consumer goods.

Increase women, increase ROI.

Fortune 500 companies that had at least three women directors saw:



Since women are responsible for a majority of household spending decisions, it follows that a diverse workforce may provide better insight into consumer preferences. This understanding can be translated into new or improved products and services, which leads to growth in market share or expansion into new markets. Simply put, women know what women want.

Numerous studies demonstrate that companies that place a priority on hiring women manifest higher organizational and financial performance. The link is clear: Organizations with more women in key roles are better equipped to create products and services that meet the needs of the market – which has a direct positive impact on the bottom line.

For several years, McKinsey & Company has conducted extensive research on the relationship between business outcomes and the number of women in leadership roles. McKinsey's findings, published annually in a series titled *Women Matter*, provide evidence that companies with larger numbers of women at senior management levels demonstrate better organizational and financial performance. A 2010 McKinsey global survey of a broad cross-section of business executives reveals that 72% of respondents believe there is a direct connection between a company's gender diversity and its financial success. The totality of McKinsey's research provides considerable support for this linkage, and presents a compelling argument for greater gender diversity within corporations.

“Correlation is not necessarily cause, but the correlation between organizational excellence and women’s participation in management bodies is nonetheless striking.”

– from McKinsey & Company in *Women Matter: Gender Diversity, a Corporate Performance Driver*, 2007

Key Findings

High-performing companies have women in senior management

Cristian Dezsö at the University of Maryland, and David Ross at Columbia University Business School applied Standard & Poor's ExecuComp data to the top 1,500 US firms from 1992 to 2006. They examined the relationship between firm quality as measured by Tobin's Q (the market value of a company divided by the replacement value of its assets) and female participation in senior management.

Based on this data, Dezsö and Ross concluded that firms that promote women to senior management positions enjoy superior economic performance, especially companies that are focused on innovation. Women, they say, bring a complementary set of interpersonal management skills, such as inclusiveness, and represent other employee voices.

Business performance improves with a more diverse workforce

Cedric Herring, Professor of Sociology and Public Policy at the University of Illinois at Chicago, studied the value in diversity theory by exploring the relationship between racial and gender diversity and several indicators of business performance. These indicators included sales revenue, number of customers, relative market share, and relative profitability. Using data from the 1996-1997 National Organizations, Herring analyzed data for a nationally representative sample of 506 for-profit establishments. His research concludes that diversity, both racial and gender, is linked to positive outcomes in business performance (2009).

More women in leadership roles improves the bottom line

Catalyst studied the link between gender diversity in senior management and company financial performance in Fortune 500 companies, finding that women in leadership roles increased Return on Equity (ROE) by 35% and Total Return to Shareholders (TRS) by 34%. Other conclusions from their 2004 report, *The Bottom Line: Connecting Corporate Performance and Gender Diversity*, include:

- Companies with the highest representation of women on their top management teams experienced better financial performance than companies with the lowest women's representation.
- In each of the five industries analyzed, the companies with the highest women's representation on their top management teams experienced a higher ROE than the companies with the lowest women's representation.



Business Advantage

Increased Innovation

The link between women and innovation

Organizational and financial performance are tightly connected to staying ahead of the competition – and this is where innovation fits in. In their 2008 study covering 1,500 U.S. firms included in the S&P, Dezsö and Ross found that female representation in top management does improve financial performance for organizations where innovation is a key focus of the company's business strategy.

Work from other organizations supports this view, repeatedly showing demonstrable links between diversity and innovation. This body of research marks the biggest difference between the early calls for gender diversity and the benefits that can now be proven. In a September 2008 *McKinsey Quarterly* article "A business case for women", the authors conclude that "companies that hire and retain more women are not only doing the right thing, they are also putting themselves in a position to gain a competitive advantage."

Cindy Padnos, founder of Illuminate Ventures, compiled data from 100 studies on gender and tech entrepreneurship. She concludes: "When you have gender diversity in an organization, you have better innovation, and I don't know where innovation is more important than in the high-tech world."

Scott Page is an economist and professor at the University of Michigan at Ann Arbor. Lu Hong is a professor at Loyola University Chicago. Together, they have studied the impact of diversity on innovation. Their findings indicate that diverse groups outperform homogenous ones by a significant margin. In fact, they say, when a problem is difficult, diversity trumps individual ability. For companies that depend on continuous innovation and the introduction of new products to stay competitive, those "...that take advantage of the power of functional diversity should perform well."

"If people think alike, then no matter how smart they are they most likely will get stuck at the same locally optimal solutions. Finding new and better solutions, innovating, requires thinking differently. That's why diversity powers innovation."

– Scott Page, *The Difference*, 2007

Key Findings

Inclusion is the key to unlocking innovation

In a September 2013 research report, *Innovation, Diversity and Market Growth*, The Center for Talent Innovation (CTI) concludes that organizational leaders who practice inclusive behaviors “unlock the innovative potential” of a diverse workforce. Their research reveals that this is a critical factor in market growth because, while workforce productivity gains always improve earnings, continued innovation is required to increase market share and open new markets. In turn, an organization’s capacity for innovation is greatly enhanced by a diverse workforce that is managed by leaders who embrace and encourage diversity. CTI’s research finds a strong positive correlation between highly innovative, diverse companies and market growth.

Women are critical for innovation

The 2007 report from the London Business School, *Innovative Potential: Men and Women in Teams*, explores the impact of the proportion of women in professional working teams engaged in knowledge-based work on knowledge transfer, experimentation, and task performance. Their study concluded that the optimal gender representation on teams is 50:50. When innovation is crucial, they say, companies should construct workgroups with equal proportions of men and women, adding that “tokenism” should be discouraged due to its detrimental effects on both women and team performance and innovation.

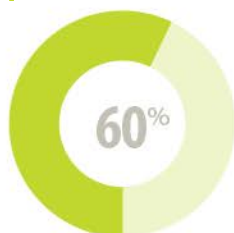
Diversity powers innovation.

The London Business School surveyed over 850 individuals on more than 100 teams across a variety of industries operating in 17 countries, studying the effect of women on knowledge transfer, experimentation, and task performance.

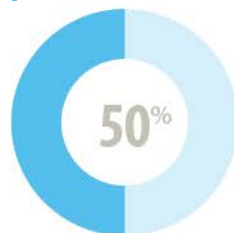
Psychological safety is optimal at 50% women



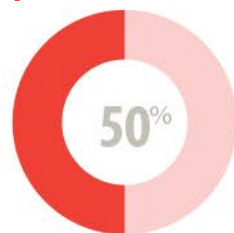
Team self confidence is optimal at 60% women



Team experimentation is optimal at 50% women



Team efficiency is optimal at 50% women



Patents by mixed-gender teams are cited more often

An analysis of women’s participation in IT patents by NCWIT in 2007 found that U.S. patents produced by mixed-gender teams were cited 26 to 42 percent more frequently than the average citation rate. The research was updated in 2012, with nearly identical results – citation rates on patents from mixed gender teams were 30-40% higher than the norm for patents of similar age and type.



Business Advantage

Better Problem-Solving & Group Performance

Diverse teams outperform homogenous teams

Problem solving is a continual challenge within organizations. Solve problems faster or reach more innovative solutions, and benefits accrue. Diversity improves problem solving by way of bringing together unique perspectives and non-traditional approaches that are the result of unique skill sets, experiences, and complementary knowledge. Diverse groups are more likely to represent important constituencies, bringing valuable insights from the external marketplace into the workgroup.

In a 2009 study by Ernst and Young, researchers demonstrated that diverse groups tend to perform better than homogeneous ones, even if the members of the homogeneous groups are individually more capable. In fact, the diversity of the group's members matters as much as their ability and brainpower, if not more. The study concludes: "The diverse group almost always outperforms the group of the best by a substantial margin."

Research on group behavior conducted by Catalyst reaches similar findings, demonstrating that diverse groups, when properly managed, make more innovative business decisions than non-diverse groups.

Given the fact that much of today's knowledge work is performed in teams, companies that cultivate teams with more women will gain a competitive advantage – a benefit that extends to all stakeholders.

"The standard argument is that diversity is good and you should have both men and women in a group. But so far, the data show, the more women, the better."

– Thomas Malone, management professor at MIT, to the *Harvard Business Review*, 2011

Key Findings

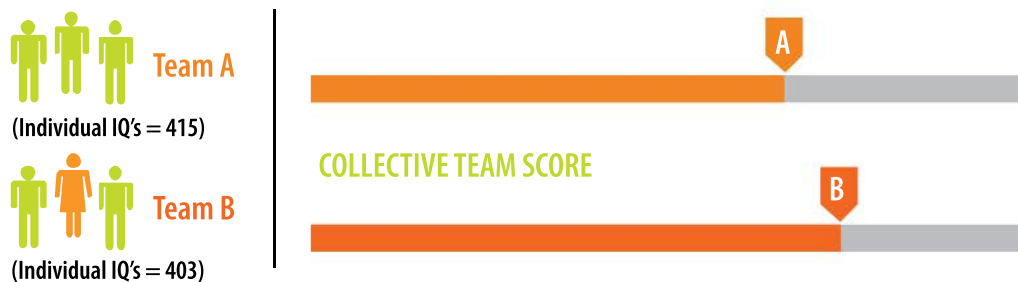
Collective intelligence of groups rises when women are present

Professor Anita Woolley, an economist at Carnegie Mellon who studies group intelligence, conducted a study with Thomas Malone in 2010 of 699 individuals working in teams. They discovered that the collective intelligence of a workgroup is strongly correlated to three factors: the average social sensitivity of the group members, the group's ability to take turns contributing, and the proportion of females in the group.

They found groups with at least one female member outperformed all-male groups in collective intelligence tests. Group intelligence, they say, is more strongly correlated with diversity than with the IQs of individual members. Their conclusion? To boost problem-solving and creativity, make sure teams contain women.

For better results, add more women.

Teams that have at least one female member outperform all-male groups in collective intelligence tests.



Women improve communication and teamwork

Ongoing research on firm quality by Dezsö and Ross concludes that women bring a distinctive leadership style that works particularly well when communication and teamwork are required: *"The positive effects of female participation primarily accrue to firms pursuing innovation, where the benefits of fostering collaboration are particularly important."*



Business Advantage

Enhanced Company Reputation

An inclusive culture attracts talented women in positions at all levels

As organizations seek to expand their talent pool, reputation is important. One way to send positive signals to the labor market is to identify, attract, and develop female talent. This is especially true in technology fields, where job growth is significant and labor shortages are the most severe. The US Bureau of Labor Statistics forecasts that IT will be one of the fastest growing sectors of the US economy, adding 1.4 million jobs by 2018.

Changing the workplace starts with changing perceptions.



1,000,000 more jobs than students by 2020

The Department of Commerce estimates that one million high tech jobs could go unfilled between now and 2020. And that has economic consequences on the order of \$800 - \$100 billion a year.

- 1.4 Million computer jobs
- 400,000 computer science students

Women are underrepresented in computing-related professions, where teams are predominately male. Yet women offer considerable skills and technical abilities that companies can ill afford to ignore in today's tight talent market. Companies willing to create more diverse teams and foster a supportive culture that extends to senior management will stand out – allowing them to attract higher-quality talent.

Organizations that have demonstrated a commitment to gender diversity should also experience an increased ability to retain technical talent. In addition to improving company image, capital markets and investors are increasingly evaluating corporate performance in the area of gender diversity.

“We have found that female participation in top management is strongly associated with firm quality, even after controlling for observable and unobservable, time-invariant firm characteristics and prior levels of firm quality.”

– Dezsö and Ross, *Girl Power: Female Participation in Top Management and Firm Quality*, July 2008

Key Findings

STEM jobs face a serious talent shortage

Organizations requiring talent with skills in science, technology, engineering, and math – fields considered critical to innovation – are experiencing serious workforce shortages. A Deloitte 2010 survey of over 330 C-suite executives from around the world revealed that 72 percent anticipate a shortage of research and development talent.

Recruiting improves and turnover decreases in workplaces with an inclusive culture

According to Cumulative Gallup Workplace Studies, organizations with inclusive cultures score higher on employee retention and ease of recruiting than those without. The study found that companies with more diverse teams have a 22 percent lower turnover – a significant figure given the cost of finding and training new hires. As the economy recovers, turnover will become increasingly important for business leaders in all industries. The study also found that organizations known for fostering diversity have an easier time recruiting talent, a tremendous advantage in today's competitive hiring environment.



The Case for Investing in Women

CONCLUSION

In a global economy where ideas spread fast and competition is fierce, businesses are under more pressure than ever to attract and retain top talent to help them fuel innovation and stay competitive.

Taken together, the research provides a strong argument for the positive impact of hiring women on multiple measures of corporate performance. It shows that companies with diverse teams gain access to the largest possible talent pool, allowing them to benefit from the different and complementary perspectives and leadership styles that women bring – and realize the tangible rewards that arise when women and men work together to solve complex problems and accelerate innovation.

Over time, organizations that focus on and promote women in the workplace reap multiple benefits. Alternately, companies not committed to seeking out and cultivating women in technical and other roles are likely to underperform as a result. Every executive responsible for delivering innovation must ask: *“Where are the women?”*

We at ABI seek to demonstrate the impact women make on business results, and to help organizations hire, retain, and advance women in technical roles. We believe that without women, organizations can’t access the broadest possible range of insights and abilities. Quite simply, teams that don’t include women are only tapping into half of the potential talent pool. With more women in key roles, businesses can become more innovative and profitable, as well as identify new opportunities and provide better products and services that meet the needs of the market.



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The Anita Borg Institute (ABI) connects, inspires, and guides women in computing and organizations that view technology innovation as a strategic imperative. Founded in 1997 by computer scientist Anita Borg, our reach extends to more than 42 countries. We believe technology innovation powers the global economy, and that women are crucial to building technology the world needs. As a social enterprise, we recognize women making positive contributions, and advise organizations on how to improve performance by building more inclusive teams. ABI partners include: Cisco, Google, HP, Microsoft, Thomson Reuters, Amazon, CA Technologies, Dell, eBay, Facebook, First Republic Bank, IBM, Intel, Intuit, Juniper Networks, Lockheed Martin, National Science Foundation, National Security Agency, NetApp, SAP, Symantec, Wilson Sonsini Goodrich & Rosati, Broadcom, EMC, Neustar, Raytheon, Salesforce.com, VentureLoop, Xerox and Yahoo! The Anita Borg Institute is a not-for-profit 501(c) 3 charitable organization.

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