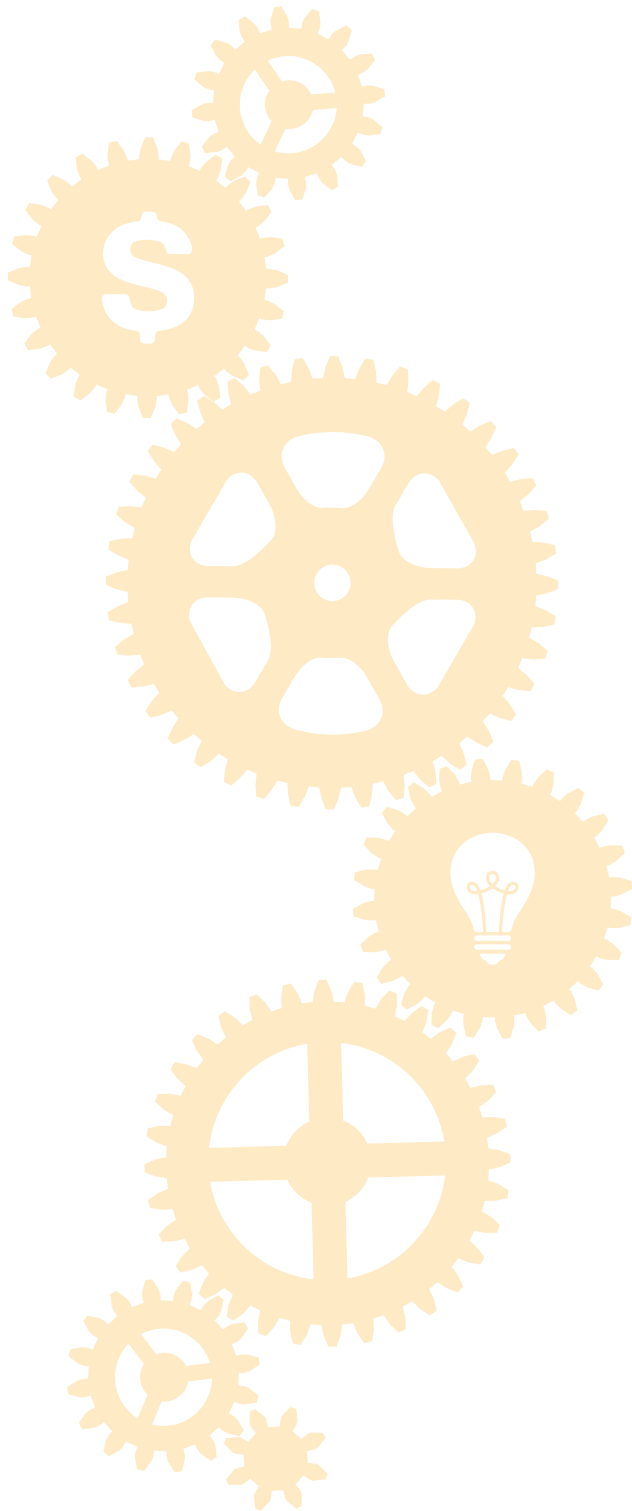


**GENDER
DIVERSITY**



WHAT IS THE IMPACT OF GENDER DIVERSITY ON TECHNOLOGY BUSINESS PERFORMANCE?

RESEARCH SUMMARY



WHAT IMPACT DOES GENDER DIVERSITY HAVE ON BOTTOM-LINE PERFORMANCE?

A comprehensive review of current research on gender-diverse teams reveals that despite their challenges, they demonstrate superior productivity and financial performance compared with homogenous teams.

In addition to summarizing recent research on financial performance, team dynamics, and organizational effectiveness, this summary also reviews strategies to maximize the potential benefits of gender diversity on technical teams.

KEY BENEFITS OF GENDER DIVERSITY

Gender diversity benefits businesses in several ways. Gender-balanced companies:

- » Perform better financially, particularly when women occupy a significant proportion of top management positions.
- » Demonstrate superior team dynamics and productivity.

Studies report that gender-diverse technology organizations and departments:

- » Produce work teams that stay on schedule and under budget.
- » Demonstrate improved employee performance.

To realize these benefits organizations must create supportive infrastructures and cultures that foster diversity.

Authors: Lecia Barker, Cynthia Mancha, and Catherine Ashcraft

WOMEN IN MANAGEMENT AND TEAMS ➤ IMPROVED FINANCIAL PERFORMANCE

Gender diversity at top management levels improves companies' financial performance.

- » An analysis of 2,360 global companies in a variety of industries found that companies with women on their executive boards outperformed companies with all-male executive boards. Gender-diverse management teams showed superior return on equity, debt/equity ratios, price/equity ratios, and average growth. Many of these benefits appeared after the 2008 global economic crash, leading researchers to conclude that gender diversity might be especially valuable in times of recession. The study also concluded that gender-diverse executive boards decrease volatility and increase balance throughout the economic cycle.¹
- » A study of 101 public, private, and nonprofit organizations found that those with three or more women on their executive boards outperformed other companies on all of the study's measures of performance: leadership, direction, accountability, coordination and control, external orientation, capability, work environment, and values.²
- » An investigation of 89 European companies with the greatest gender diversity at the top management level found that, on average, these companies' financial performance was higher than average for their business sectors. In particular, these companies demonstrated superior return on equity, earnings before interest and taxes, and stock price growth.²
- » A study found a positive relationship between organizational performance and the presence of women on those organizations' top management teams. Researchers analyzed the gender composition of the top management teams of 679 Fortune 1000 organizations and found a positive association between higher proportions of women and the companies' return on assets.³



Gender diversity in teams also benefits the bottom line.

- » An investigation of 500 U.S. businesses found that companies with more race and gender diverse teams had higher sales revenue, more customers, greater market share, and greater profits than did less diverse companies.⁴
- » A field experiment asked 12-person teams of student entrepreneurs to start up, sell stock for, and actually run 43 real companies with the goal of maximizing profit and shareholders' value. Statistical analysis showed that gender-balanced teams outperformed both male-dominated and female-dominated teams.⁵

¹ Rohner, U. and B. Dougan (2012). Gender diversity and corporate performance. Technical report, Credit Suisse Research Institute, Zurich.

² McKinsey & Company. (2007). *Women matter: Gender diversity, a corporate business driver*, 12–14.

³ Krishnan, H. A., & Park, D. (2005). A few good women — on top management teams. *Journal of Business Research*, 58(12), 1712–1720.

⁴ Herring, Cedric. (2009). Does diversity pay? *American Sociological Review*, 74(2), 213.

⁵ Hoogendoorn, S., Oosterbeek, H., & Praag, M. van. (2013). The impact of gender diversity on the performance of business teams: Evidence from a field experiment. *Management Science*, 59(7).

GENDER-BALANCED TEAMS > IMPROVED INNOVATION AND PRODUCTIVITY

Gender-diverse work teams demonstrate superior team dynamics and productivity.

- » A report found that a greater proportion of women was associated with higher collective intelligence, defined as “the general ability of a group to perform a wide variety of tasks.” Researchers studied 669 people working in teams of 2 to 5 people. They found that teams’ collective intelligence rose with the number of women in the group, possibly because of the women’s higher performance on tasks that required social sensitivity.⁶
- » A study surveyed 1,400 team members from 100 teams at 21 companies in 17 countries. The study found that gender-balanced teams were the most likely to experiment, be creative, share knowledge, and fulfill tasks. The study also found that the most confident teams had a slight majority of women (60%).⁷
- » A study of 272 projects at four companies found that gender diversity on technical work teams was associated with superior adherence to project schedules, lower project costs, higher employee performance ratings, and higher employee pay bonuses.⁸

Gender diversity has specific benefits in technology settings.

- » When European competitors have gained global market leadership, they have encouraged innovation by drawing on a diverse knowledge base. Researchers argue that innovative change is less likely to emerge from a group with a more homogeneous knowledge base.⁹



⁶ Woolley, A. W., Chabris, C. F., Pentland, A., Hashmi, N., & Malone, T. W. (2010). Evidence for a Collective Intelligence Factor in the Performance of Human Groups. *Science*, 330(6004), 686–688.

⁷ Lehman Brothers Center for Women in Business. (2008). *Innovative potential: Men and women in teams*, 6.

⁸ Turner, L. (2009). Gender diversity and innovative performance, *Int. J. Innovation and Sustainable Development*, 4(2/3), 124.

⁹ Doz, Y., Santos, J., & Williamson, P. (2004). *Diversity: The key to innovation advantage*. *European Business Forum*, 17, 26.



Both opportunity costs and attrition lead to big losses for IT Firms.

The IT labor force demand is growing, yet women's participation is decreasing. In 1996, women made up 37% of the U.S. IT workforce; by 2010, they made up 25%. The situation is similar in Canada: the Canadian Imperial Bank of Commerce (CIBC) reported in 2012 that 30% of Canadian businesses were facing skilled labor shortages — double the percentage seen in early 2010. Retention is a big part of this decrease: research has found that 56% of women who enter the private-sector IT workforce leave private industry at a midlevel position, and half of these departing women go on to use their tech skills outside of private industry. The cost to companies of replacing a single employee in a technical position is \$150,000–\$200,000. However, this cost does not take into account the opportunity cost of losing gender diversity.

American businesses have responded to the skilled labor shortage by hiring noncitizens. However, obtaining visas for foreign hires has become increasingly difficult and controversial. Recruiting and retaining U.S. women in the IT workforce is a more expedient solution to the skilled labor shortage.

Still, gender-diverse teams may face specific performance-related challenges.

Early research identified mixed results when assessing the performance of gender-diverse teams. In particular,

- » In one small study, gender-diverse teams evaluated their own performance more negatively than external evaluators, who judged them to be successful.¹⁰
- » Diversity may also reduce the quantity of new ideas a team generates, though it appears to have no effect on the quality of new ideas generated.¹¹

¹⁰ Baugh, S. & Graen, S. (1997). Effects of team gender and racial composition on perceptions of team performance in cross-functional teams. *Groups and Organization Management*, 22(366), 366–379.

¹¹ Cady, S. & Valentine, J. (1999). Team innovation and perceptions of consideration — what difference does diversity make? *Small Group Research*, 30(730), 731–745.

TO PROFIT FROM DIVERSITY ➤ BUILD A SUPPORTIVE INFRASTRUCTURE

Organizations benefit most from gender diversity initiatives when they create a supportive infrastructure.

- » A study compared the diversity strategies of two Dutch companies: an insurance and banking company and a telecommunications company. The insurance/banking company used an “add diversity and stir” approach, limiting their diversity initiatives to recruitment and selection. The telecom company used an approach to actively foster diversity, circulating brochures, intranet sites, and posters to cultivate diversity awareness. It also included diversity in its mission statement and held annual diversity training seminars. Making diversity part of everyday vocabulary made it possible for telecom employees to address differences in communication style, conflict management, and other misunderstandings. ¹²
- » A study of 20 Fortune 500 companies found that performance-related benefits of diversity were only realized when diversity was “managed” or facilitated by, for example, training leaders on communication and problem solving within diverse teams. Otherwise, diversity was sometimes associated with communication conflicts and weak group cohesion, which sometimes led to higher employee turnover rates. By contrast, the most successful organizations instituted diversity-focused human relations practices. At these organizations, gender diversity was associated with more constructive group processes. ¹³
- » A study of 535 bank executives and 177 senior human resource managers found a positive relationship between gender diversity and organizational cultures that highly value teamwork, participation, and cohesiveness. In contrast, gender diversity was not associated with organizational cultures that valued competition with the external environment. ¹⁴



- » A study compared two Fortune 500 companies with different approaches to diversity. The first, which researchers described as a multicultural organization, incorporated a value for diversity into its organizational culture. The second, which they called a plural organization, actively recruited women and members of racial minorities, but then required them to assimilate to the dominant culture and did not incorporate a value for diversity into the structure of the organization. The study found that the multicultural organization had more successfully integrated its diverse workforce into a cohesive unit, as indicated by measures of informal mentoring, advice networks, and friendships. ¹⁵

Businesses that effectively support gender diversity perform better financially, enjoy exceptional team dynamics, and attain greater productivity.

¹² Benschop, Y. (2011). Pride, prejudice, and performance: Relations between human resource management, diversity, and performance. *International Journal of Human Resource Management*, (12)7, 1161–1178.

¹³ Kochan, T., Bezrukova, K., Ely, R., Jackson, S., Joshi, A., Jehn, K., ...Thomas, D. (2003). The effects of diversity on business performance: Report of the diversity research network. *Human Resource Management*, 42(1), 3-21..

¹⁴ Dwyer, S., Richard, O., & Chadwick, K. (2003). Gender diversity in management and firm performance: The influence of growth orientation and organizational culture. *Journal of Business Research*, 56, 1013–1017.

¹⁵ Gilbert, J. and Ones, D. (1998). Role of informal integration in career advancement: Investigations in plural and multicultural organizations and implications for diversity valuation, *Sex Roles*, 39(9/10), 685–687.

REFERENCES

- Ashcraft, C. & Blithe, S. (2010). NCWIT Supervising in a box series: Supervisors as Change Agents, 6–7. Retrieved from www.ncwit.org/supervising.
- Ashcraft, C. & Breitzman, T. (2012). NCWIT Who invents IT? Women's participation in technology patenting, 2012 update, 9–10. Retrieved from www.ncwit.org/patentreport.
- Baugh, S. & Graen, S. (1997). Effects of team gender and racial composition on perceptions of team performance in cross functional teams. *Groups and Organization Management*, 22(366), 366–379.
- Benschop, Y. (2011). Pride, prejudice, and performance: Relations between human resource management, diversity, and performance. *International Journal of Human Resource Management*, 12(7), 1161–1178.
- Bureau of Labor Statistics (2014). Occupational employment projects 2012-2022. Retrieved from http://www.bls.gov/emp/ep_data_occupational_data.htm
- Brown, D.A.H. & Brown, D.L. (2001). Canadian directorship practice in Conference Board of Canada.
- Cady, S. & Valentine, J. (1999). Team innovation and perceptions of consideration — what difference does diversity make? *Small Group Research*, 30(730), 731–745.
- Conference Board of Canada. (2002). *Women on boards: not just the right thing, but the bright thing*, i–5.
- Rohner, U. and B. Dougan (2012). Gender diversity and corporate performance. Technical report, Credit Suisse Research Institute, Zurich.
- Doz, Y., Santos, J., & Williamson, P. (2004). *Diversity: The key to innovation advantage*. *European Business Forum*, 17, 25-27.
- Dwyer, S., Richard, O., & Chadwick, K. (2003). Gender diversity in management and firm performance: The influence of growth orientation and organizational culture. *Journal of Business Research*, 56, 1009-1019.
- Ely, R. J. (2004). A field study of group diversity, participation in diversity education programs, and performance. *Journal of Organizational Behavior*, 25(6), 755–780.
- Gilbert, J. and Ones, D. (1998). Role of informal integration in career advancement: Investigations in plural and multicultural organizations and implications for diversity valuation, *Sex Roles*, 39(9/10), 685–704.
- Herring, Cedric. (2009). Does diversity pay? *American Sociological Review*, 74(2), 208-224.
- Hoogendoorn, S., Oosterbeek, H., & Praag, M. van. (2013). The impact of gender diversity on the performance of business teams: Evidence from a field experiment. *Management Science*, 59(7), 1514-1528.
- Kochan, T., Bezrukova, K., Ely, R., Jackson, S., Joshi, A., Jehn, K., ... Thomas, D. (2003). The effects of diversity on business performance: Report of the diversity research network. *Human Resource Management*, 42(1), 3–21. doi:10.1002/hrm.10061
- Krishnan, H. A., & Park, D. (2005). A few good women — on top management teams. *Journal of Business Research*, 58(12), 1712–1720.
- Lehman Brothers Center for Women in Business. (2008). *Innovative potential: Men and women in teams*.
- McKinsey & Company. (2007). Women matter: Gender diversity, a corporate business driver.
- Turner, L. (2009). Gender diversity and innovative performance, *Int. J. Innovation and Sustainable Development*, 4(2/3), 124-138.
- Woolley, A. W., Chabris, C. F., Pentland, A., Hashmi, N., & Malone, T. W. (2010). Evidence for a collective intelligence factor in the performance of human groups. *Science*, 330(6004), 686–688.

NATIONAL CENTER FOR WOMEN & INFORMATION TECHNOLOGY (NCWIT)
www.ncwit.org | 303.735.6671 | info@ncwit.org | Twitter: @NCWIT

Strategic
Partners:



Microsoft



Google™



Investment
Partners:

AVAYA



MERCK

Be well



Bloomberg



Copyright © NCWIT, 2014. All Rights Reserved.