High Potentials in Tech-Intensive Industries: The Gender Divide in Business Roles
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The Catalyst Research Center for Equity in Business Leadership examines and documents workforce demographics and their impact on employees, companies, communities, and society. In particular, the Center identifies how women's underrepresentation affects corporate governance and executive teams, and it explores how diverse leadership contributes to business success. By verifying gaps in representation and creating results-oriented solutions, the Center's findings and recommendations help organizations diversify leadership.

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Founded in 1962, Catalyst is the leading nonprofit organization expanding opportunities for women and business. With operations in the United States, Canada, Europe, India, Australia, and Japan, and more than 700 member organizations, Catalyst is the trusted resource for research, information, and advice about women at work. Catalyst annually honors exemplary organizational initiatives that promote women's advancement with the Catalyst Award.
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Pipeline in Peril

Technology-intensive industries including high tech, oil and gas, and energy have grown rapidly in the 21st century, far outstripping other industries.

- From 2000 to 2010, tech-intensive employment grew at three times the rate of other industries in the United States.1
- From 2008 to 2018, it is projected to grow by 17% compared to just 9.8% for jobs in other industries.2
- This trend is reflected globally.3
- And this growth requires a significant influx of talent.

Tech-intensive organizations need employees with both the technical and managerial leadership skills to ensure the organization’s future success, a dual skillset that also is often required for individuals’ career advancement in the industry. Of high-potential MBA graduates who participated in this study, 75% had a technical background.4 But the pipeline is leaky. Once high potentials graduate with their MBA:

- Only 36% return to tech-intensive industries for their first job post MBA, the majority of those who possess the required dual skillset taking their talents elsewhere.5
- Of high-potential MBA graduates with non-technical backgrounds,6 only 14% opt for a first post-MBA job in a tech-intensive industry.

Most MBA graduates—including those with and without technical backgrounds—entering tech-intensive industries took on business roles, looking to apply their management skills and advance to the top.10 Given the importance of business roles as a pathway to the top, how can tech-intensive industries attract and retain high-potential talent into these roles from day one and hold on to them over time?

STUDY SAMPLE

The findings in this report are based on responses to Catalyst surveys fielded in 2007, 2010, 2011, and 2014 from 5,916 MBA graduates working in business roles across industries in the United States, Canada, Europe, and Asia.7 Among this sample, 37% received a bachelor’s degree prior to their MBA in Computer Science, Engineering, or Math; and 63% received a bachelor’s degree outside these areas.8 Male-dominated, tech-intensive industries as defined in this report include high tech, telecommunications, resources (including oil and gas), chemical and energy, utilities, automotive, and manufacturing. Business roles include administration, general management, consulting, consumer affairs, public relations, finance, accounting, purchasing, healthcare delivery, human resource management, marketing and sales, policy, legal, and teaching/training.9
The Importance of the First Post-MBA Job

The importance of the first post-MBA job cannot be overstated. It lays the foundation for future career advancement and compensation growth, and employees’ experiences impact their satisfaction and organizational turnover rates. To maximize the talent pool, all talent—men and women—must be considered. Women make up a significant proportion of the talent pool, particularly in business roles, and must not be overlooked if tech-intensive organizations hope to remain competitive in the global marketplace.

These male-dominated industries have long shown gaps between the experiences and advancement of women and men in technical roles, but what about the women working in business roles in tech-intensive industries? How do they fare in these masculine cultures? While women such as Anne Mulcahy, Meg Whitman, Carly Fiorina, and Marillyn Hewson all served as CEOs of prominent tech-intensive organizations—these women remain the exception today.

A Gender Gap in Position From Day One

As with their counterparts in other industries, women in business roles in tech-intensive industries experience a gender gap in level from their very first post-MBA job.

- Prior Catalyst research found that high-potential women across industries were more likely to start their first post-MBA job at a lower level than men.

  - The findings remain true even when considering only those in tech-intensive industries. Despite earning the same high-quality education as men, women in business roles in tech-intensive industries begin their careers at a lower level on average than their male counterparts.

  - Among those who took their first post-MBA job in a tech-intensive industry in a business role, women were significantly more likely than men to start in an entry-level position (women, 55%; men, 39%).

A Gender Gap in Pay From Day One

There is a gender pay gap from day one due to more women starting in lower-level positions.

- Among the men and women whose first post-MBA job was in a tech-intensive industry business role, there was a gender pay gap due to women being more likely than men to start out at a lower-level, lower-paying position.
High Potentials in Tech-Intensive Industries

Women seeking business roles are significantly less likely to opt to work in tech-intensive industries, and of the women who do go to work in a tech-intensive industry, they are more likely than men to leave.

Tech-intensive industries primarily struggle with recruiting and retaining women in technical roles. This gender gap does not extend to business roles in these industries.

Women Are Less Likely to Enter, More Likely to Leave Business Roles in Tech-Intensive Industries

Women are less likely than men to enter tech-intensive industries in business roles for their first post-MBA job.

- Only 18% of women opted for a business role in a tech-intensive industry immediately following completion of their MBA compared to 24% of men.26

Women are also less likely than men to migrate to tech-intensive industries from other industries.

- Of those who start their careers following their MBA outside of tech-intensive industries, women were less likely than men to migrate from business roles in other industries to business roles in tech-intensive industries27 (women, 9%; men, 13%).28

Among high potentials who do opt to work in a tech-intensive industry business role in their first post-MBA job, women are more likely to leave the industry.

- Women who started out in a tech-intensive industry working in a business role immediately following completion of their MBA were significantly more likely than men to leave and take a position in another industry (women, 53%; men, 31%).29

Men leave tech-intensive industries for greater opportunities elsewhere, while women leave for personal reasons.

- Of the high potentials who took their first post-MBA job in a tech-intensive industry but left for a job in a different industry, men were significantly more likely than women to report being lured away to pursue opportunities for faster career advancement, more money, to start a business, or to make a career change (men, 67%; women, 52%).30

- Women were significantly more likely than men to report leaving for a job in another industry for at least one personal reason, including wanting to make a greater social contribution, child rearing, family reasons other than child rearing, or their spouse/partner being relocated (women, 21%; men, 12%).31
CONSIDER THIS: RETAINING THE TOP TALENT YOU FOUGHT TO ATTRACT

These highly educated women are not opting out of the workforce; they’re opting out of tech-intensive industries.

• Organizations invest tremendous resources to attract high potentials, and if that talent walks out the door—for any reason—it is incredibly costly for the company. Not only has that talent taken their skills and training elsewhere, but new employees have to be recruited and trained.

• More than half of men and women reported leaving tech-intensive industries for other industries to seek out growth opportunities. What is your organization actively doing to retain your ambitious high-potential talent?
  • Are men and women with comparable credentials starting out at equal levels?
  • Are you paying men and women equally, and at a rate competitive with others in the industry?
  • Are you ensuring that high-potential men and women have equal access to development opportunities that lead to advancement?

• More than 20% of high-potential women reported leaving their first post-MBA job in a tech-intensive industry for a job elsewhere due to personal reasons. These highly educated women are not opting out of the workforce; they’re opting out of tech-intensive industries.

• What is your organization doing to retain top female talent and prevent them from taking their skills to other industries?
  » Are you providing a flexible work environment that allows women with primary care responsibilities to most effectively juggle work and personal demands?
  » Is your organizational culture supportive of people with priorities outside the workplace? Are excessive time demands pushing people out?
Women working in technical roles in tech-intensive industries face barriers to advancement.

**FACT**

Women working in business roles are outsiders in tech-intensive industries and face significant barriers to advancement, including the absence of female role models and vague evaluation criteria.

**MYTH**

Only women working in technical roles in tech-intensive industries face barriers to advancement.

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**In Tech-Intensive Industries, Even Women in Business Roles Are Outsiders From the Start**

- Catalyst research has shown that there can be lasting negative consequences for people who feel like they don’t fit in with their team or into the workplace because of their gender, race/ethnicity, or nationality. Feeling like an outsider relative to their coworkers affects their access to development opportunities, sponsorship, and ultimately their aspirations to the top.³²

- High potentials who took their first post-MBA job in a tech-intensive industry in a business role were significantly more likely than those in other industries to work on a team with **10% or fewer women** (tech-intensive industries, 21%; other industries, 16%).³³

  - Among those who took their first post-MBA job in a tech-intensive industry in a business role, men were **more than three times** as likely as women to say that they felt similar to most people at work (men, 83%; women, 27%).³⁴

  - When considering only women in business roles across industries, women in tech-intensive industries in their first post-MBA job were significantly less likely than women working in other industries to report that they felt similar to most people at work (women in tech-intensive industries, 27%; women in other industries, 49%).³⁵

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**CONSIDER THIS: HELPING WOMEN TO FEEL LIKE THEY BELONG**

- Women remain in the minority throughout the pipeline in tech-intensive organizations today, even women in business roles. Overwhelmingly, they feel like they don’t belong. Research has shown that feeling like an outsider has a detrimental impact on performance³⁶ and can lead people to leave the organization.³⁷

  - How does your organization work to make women feel valued and included?

  - Is hostile behavior toward women tolerated in your organization?³⁸

  - Does your organizational culture allow overt forms of gender discrimination? For example, do you hold events outside of the office that exclude women?
Women in Business Roles in Tech-Intensive Industries Lack Role Models

Not surprisingly, women in business roles in male-dominated tech-intensive industries have fewer female role models to pave their way to the top.

- Among high-potential women and men in business roles, those working in tech-intensive industries for their first post-MBA job were significantly less likely to have a female supervisor than those working in other industries (tech-intensive industries, 15%; other industries, 21%).

- Among just high-potential women, the absence of women role models is even more stark. Women who worked in tech-intensive industries in a business role immediately following their MBA were less likely to have a female supervisor than those working in other industries (women in tech-intensive industries, 20%; women in other industries, 31%).

- And women who went to work in tech-intensive industries for their first post-MBA job were more than twice as likely as men to report a lack of role models of the same gender as a significant barrier to their advancement (women, 18%; men, 7%).

CONSIDER THIS: SUPPORTING WOMEN’S ADVANCEMENT THROUGH SPONSORSHIP

- Women working in tech-intensive industries have fewer female role models than those in other industries. Consequently, there are fewer women to serve as sponsors for up-and-coming women in tech-intensive organizations. Previous Catalyst research has shown that sponsorship is essential to advancement. Given the dearth of women in tech-intensive industries, including those in business roles, it is crucial for senior-level men in tech-intensive industries to champion women, and in time, create more women role models.

- Are senior-level men in your organization acting as sponsors for women in the pipeline, putting women’s names forward for large, highly visible projects and mission-critical roles?

- Do you have a formal sponsorship program, or does sponsorship mainly occur behind closed doors where women are unlikely to be well represented?

- What steps are you taking to create a culture where women’s advancement is supported, even in the absence of women role models?
Women in Business Roles in Tech-Intensive Industries Lack Transparent Performance Evaluation Standards

Women in business roles in tech-intensive industries lack the transparent standards for evaluation so essential to understanding the path to promotion compared to women in other industries.

- Among women in business roles, those who went to work in a tech-intensive industry for their first post-MBA job were significantly less likely than women who worked in other industries to agree or strongly agree with the statement that their supervisors let them see clearly how their work will be evaluated (women in tech-intensive industries, 42%; women in other industries, 55%).

CONSIDER THIS: ENSURING TRANSPARENCY TO SUPPORT WOMEN’S ADVANCEMENT

- For women working in male-dominated, tech-intensive industries where female role models are hard to come by, it is critical that women clearly understand how they will be evaluated and what it takes to advance.
  - Are women evaluated on the same criteria as men, or are they held to a higher standard?
  - Are your organization’s evaluation practices transparent?
  - Are men promoted on potential and women on proven performance?

Women in Business Roles in Tech-Intensive Industries Are Less Likely to Aspire to the Top

Among high-potential employees in business roles, women in tech-intensive industries are less likely to aspire to the top and more likely to “dial down” their aspirations.

- Women who worked in business roles in tech-intensive industries in their first post-MBA job were less likely than men in the same roles in tech-intensive industries to aspire to the senior executive/CEO levels (women, 84%; men, 97%).

- Among this same group of high potentials in business roles who went to work in tech-intensive industries for their first post-MBA job, women were significantly more likely than men to downsize their aspirations (women, 37%; men, 25%).

A Call to Action for Tech-Intensive Organizations

Tech-intensive organizations are facing a crisis in talent management: fewer high-potential women enter tech-intensive industries in business roles immediately following completion of their MBAs, they start out at a lower level, feel like an outsider in their workgroups, and are more likely to leave the industry than are their male counterparts. Barriers to women’s advancement pervade tech-intensive industries, including the absence of female role models and vague evaluation criteria. So it’s not surprising that among those high-potential women who do opt to work in business roles in tech-intensive industries early in their careers, they are more likely to downsize their career aspirations, impacting the number of women raising their hands for stretch assignments and promotions.
In the midst of hard economic times, Alcoa’s initiative increased women’s representation in leadership roles and promoted gender inclusion in a male-dominated industry known for its demanding work conditions (e.g., 24/7 plant operations and heavy industrial work in mines, refineries, and smelters).

• Alcoa’s programs have helped attract and retain women at all levels in most of its businesses and regions. Between 2008 and 2012, women’s representation increased from 15.8% to 19% for executive roles and from 22.6% to 25.3% for professional and plant manager roles.

• In May 2008, Alcoa CEO Klaus Kleinfeld announced several actions to improve diversity. The initiative has five priorities that ensure that diversity improvements have both immediate and sustainable impact:
  • Set corporate and business unit goals to exceed metals industry benchmarks.
  • Incorporate diversity into the executive compensation system.
  • Integrate diversity into operational processes and corporate values.
  • Assign women to operational leadership positions where they can become role models for women and men.
  • Support women with career development, training, mentoring, and sponsoring.

• The success of many women in global leadership roles from 2008 to 2012 has proven that a business strategy powered by meaningful diversity actions can be economically beneficial. Alcoa’s CEO and top leaders drive the initiative and are ultimately accountable for achieving progress. By communicating a motivating vision to all employees, setting clear goals, aligning them with executive compensation, and, importantly, measuring accomplishments down to the local level, Alcoa’s leadership team simultaneously improved transparency and demonstrated how an inclusive work environment can become the ultimate competitive advantage.

Other tech-intensive organizations should learn from Alcoa’s experience and take the steps necessary to transform their organizational culture and increase the representation of women in both technical and business roles throughout the pipeline.

This report’s findings are a call to action for tech-intensive organizations. The attrition of women in tech-intensive industries is not inevitable. It is possible to transform the culture of a male-dominated organization through concerted effort.
Endnotes


2. Langdon et al.


4. Someone with a technical background had either an undergraduate degree in computer science, engineering, or math (39%) or worked in a tech-intensive industry prior to completing their MBA degree (65%).


6. High potentials with non-technical backgrounds had no pre-MBA work experience in a tech-intensive industry and earned a bachelor’s degree in Art, Design, Architecture, Business, Biological Science, Government/Political Science, History, Literature, Modern Languages, Music, Theater, Philosophy, Physical Education, Physical Science, Religious Studies, and Social Sciences (e.g., Psychology, Sociology, Economics).

7. MBA graduates who reported that they were working in a business role in any industry either in their first post-MBA job or in their current job at the time of the surveys in 2007, 2010, and 2011 were included in the analyses in this report.

8. The other bachelor’s degree concentrations include Art, Design, Architecture, Business, Biological Science, Government/Political Science, History, Literature, Modern Languages, Music, Theater, Philosophy, Physical Education, Physical Science, Religious Studies, and Social Sciences (e.g., psychology, sociology, economics).


10. Business roles include administration, general management, consulting, consumer affairs, public relations, finance, accounting, purchasing, healthcare delivery, human resource management, marketing and sales, policy, legal, and teaching/training.

11. Of the high potentials who entered a tech-intensive industry for their first post-MBA job, 83% signed on in a business role for their first post-MBA job. Business roles include administration, general management, consulting, consumer affairs, public relations, finance, accounting, purchasing, healthcare delivery, human resource management, marketing and sales, policy, legal, and teaching/training.


14. Women composed 26% of our sample of MBA graduates.

15. Of the MBA graduates in our sample who took a business role for their first post-MBA job, women composed 29%.


17. Bloomberg Businessweek, “Xerox Corp Executive Profile: Anne M. Mulcahy.”

18. LinkedIn, “Meg Whitman.”


20. Lockheed Martin, “Marillyn A. Hewson: Chairman, President and Chief Executive Officer Lockheed Martin Corporation.”


22. This analysis was calculated using a hierarchical regression controlling for age at MBA as a proxy for prior years of work experience. The gender difference is statistically significant, p<.05.

23. Entry-level includes non-management and individual contributor positions.

24. Gender difference is statistically significant, p<.05.

25. This analysis was calculated using a hierarchical regression controlling only for age at MBA as a proxy for prior years of work experience. The gender difference is statistically significant, p = .13 (the small number of women in the compensation analysis decreases the power of the statistical test, so the p value of .13 is significant in this case). When only considering those working at the same level in a tech-intensive industry in a business role in their first post-MBA job, there was no gender gap in pay. This analysis was calculated using a hierarchical regression controlling for age at MBA as a proxy for prior years of work experience and first post-MBA starting level. The gender difference is not statistically significant, p > .1.

26. Gender difference is statistically significant, p<.05.

27. This analysis compared the industry of first post-MBA job to industry of current job at the time of the 2007 survey. All participants included had worked in at least two organizations post-MBA.

28. Gender difference is statistically significant, p<.05.

29. Gender difference is statistically significant, p<.05.

30. Gender difference is statistically significant, p<.05.

31. Gender difference is statistically significant, p<.05.


33. Comparison is statistically significant, p<.05.

34. Gender difference is statistically significant, p<.05.

35. Comparison is statistically significant, p<.05.


39. Comparison is statistically significant, p<.05.
40. Comparison is statistically significant, p<.05.
41. Gender difference is statistically significant, p<.05.
43. Comparison is statistically significant, p<.05.
44. Gender difference is statistically significant, p<.05.
45. Gender difference is statistically significant, p<.05.
47. Ely and Meyerson.
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