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Why Engineers Could Make The Best Business Leaders

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Missing since 1940: engineers as business leaders. Looking back in America's history, some of the greatest business leaders were engineers. The Panama Canal construction was managed entirely by engineers like John Frank Stevens. Thomas Edison is one of the most notable American engineers and businessman. Henry Ford, Jimmy Carter, Herbert Hoover, the list goes on. Somewhere along the line, something changed. While today an impressive 20 percent of Fortune 500 CEOs have a degree in engineering, there is an opportunity for many more to become leaders.

In the 1950s and 60s there was a shift in American culture from industrial-focused careers to careers focused on business. We started to see big businesses running the economy, and this has increased as time passed. Through this transformation, engineers began to lose their positions as leaders of the great businesses they had helped to create, replaced by professional business managers. As a result, a leadership mentality was slowly stripped away from engineers and the engineering mentality started to play a lesser role in business decision making.

So what makes a good leader? According to Stephen Covey, there are four imperatives for leaders: they must inspire trust, clarify purpose, align systems and unleash talent. Clarity of purpose and system alignment are driven into every engineer on day one of their training. Can the other two skills be taught? Certainly.

Beyond these, engineers possess several other qualities that define a good leader. They are detail-oriented and analytical. While they are meticulous, they still take risks, but calculated ones. They identify the root cause of a problem and provide an economical solution. They tend to have a very realistic outlook on situations and don't add the fluff. They keep it simple. Finally, engineers are tech-savvy and understand how it all works. This provides them with a competitive advantage over other industry professionals. They lead by example and this ultimately helps them succeed.

As a trained chemist and process engineer, I understand the limitations that engineers experience today. There are several reasons why engineers tend not to actively pursue leadership roles. One reason is that they don't actively promote themselves. Engineers tend to place real value on data and accomplishments, and in order to sell oneself, he or she needs to be able to project those accomplishments in the best possible light. Engineers tend to shy away from self-promotion because they are afraid of embellishment and straying from factual information.

Secondly, if leadership doesn't come naturally, it needs to be developed from an early age. When studying engineering, leadership is simply overlooked. Pursuing an engineering degree is no easy task. The curriculum is extremely vigorous and often doesn't include business courses that trigger a business mentality. I believe there is some trepidation or hesitation to reach for leadership positions, but there is a larger issue, and it traces back to the educational system – and not just to the university level.

Change needs to start with reforming the education system. While this process takes place, we can focus our efforts on the current workforce. Engineers are often leaders of start-up and small companies. More needs to be done to help engineers to become successful entrepreneurs to advance their chances of leadership in big business. The Innovation Corps program is one step in the right direction – it will provide engineers with the means and education necessary to start companies.

Additionally, companies need to promote and place qualified engineers in leadership positions. As more engineers become CEO's and leaders in their organizations, their peers could find inspiration and look to become leaders themselves. The education reform won't happen overnight and more engineers won't become business leaders tomorrow. However, if we start from a young age, we can prep the next generation with this mentality.

The future of the engineering industry is closely tied to the future prosperity of America. Revamping the way the nation looks at engineers and the way engineers look at business leadership positions is undoubtedly a large endeavor. With everyone working together, we will start to see a change with long term effects.

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