

PRODUCT DEVELOPMENT SUCCESS = TOOLS, TALENT AND ELIMINATING WASTE

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Report Highlights

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Best-in-Class companies put out low-cost, high quality products, in the timeframe intended, and as a result deliver on 87% of revenue targets and see a 15% increase in profit margins.

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Twice as many Best-in-Class companies credit efficiency improvements to the process as having the most profound impact on margins/revenue.

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The Best-in-Class realize the impact talent has on the business and as a result, are over three times more likely to call out engineering talent as critical to their success.

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Technology Tools are the final enabler the Best-in-Class rely on for impacting margins/revenue.

Based on the experiences of 148 respondents, this report will explore what makes a product development company successful. It will look at the differences between the Best-in-Class and their competitors to see what they attribute margins / revenue to.

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Defining the Best-in-Class

The performance metrics used to define the Best-in-Class (top 20%) and All Others (bottom 80%) among these companies are:

Product Launch Dates

- Best-in-Class: 91%
- All Others: 62%

Product Cost Targets:

- Best-in-Class: 85%
- All Others: 63%

Quality Targets at Release:

- Best-in-Class: 87%
- All Others: 63%

Product Revenue Targets:

- Best-in-Class: 87%
- All Others: 60%

Profit Margins on new Products:

- Best-in-Class: 15% increase
- All Others: 5% increase

Increased competition and market demand are pushing organizations to launch innovative products more quickly and at low cost. These pressures to get new products to market faster and at the lowest possible cost have driven companies to take whatever measures necessary to meet such demands. Every company out there is looking for an advantage, but what can really be done to get ahead? There are companies out there that are successful even with the many internal and external challenges to deal with, but what is it that makes those companies successful? When it comes down to it, there are three areas within the business that Best-in-Class companies turn to:

1. Identifying inefficiencies in the process
2. Utilizing technology tools
3. Focusing on engineering talent

Success in the Face of Challenge

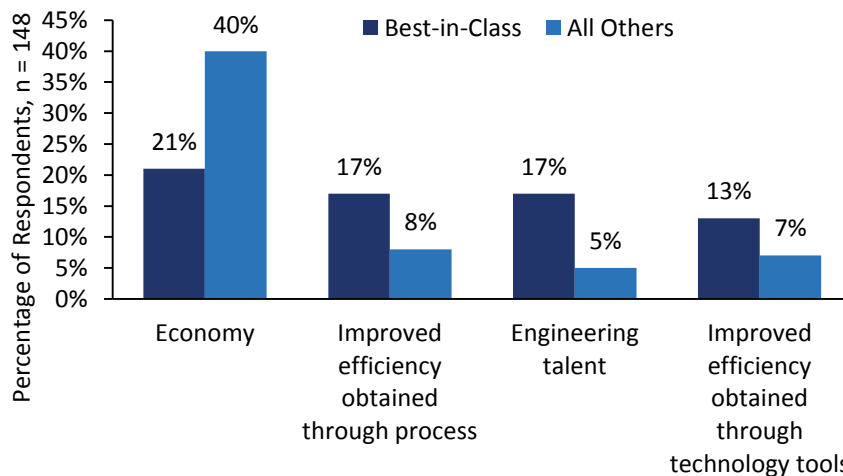
Given the complexities in today's business environment, companies face many challenges that have a direct impact on creating an innovative and unique offering to the marketplace. Increased product complexity, changing consumer demands, market globalization, extended supply chain and design network, and regulatory compliance are all concerns that affect product development. Compliance is especially a growing challenge for most companies, as the amount of regulations only increases every year. Add in the rising talent issue, *over 60% of surveyed companies feel understaffed in their technical positions*, and you have a confluence of issues which further compounds the problem of a challenging business environment.

However, as the sidebar shows, Aberdeen has identified a portion of companies that are successful in spite of these challenges. These Best-in-Class companies put out low-cost, high quality products, in the timeframe intended, and as a result,

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deliver on 87% of revenue targets and see a 15% increase in profit margins. Revenue and profit metrics are very clear indicators of success, so what is driving this success that the Best-in-Class have? When trying to determine what separates these companies, let's take a macro level viewpoint and see what they attribute to their success (Figure 1).

Figure 1: What has the Largest Impact on Margins/Revenue?



Source: Aberdeen Group, January 2014

The difference between the Best-in-Class and their peers is clear, top performing companies realize success can come from within, while All Others are more likely to believe it is out of their hands and depends on external forces like the economy. Of course, the economy will have an effect on the business, the recent economic downturn is all the evidence needed to prove that.

However, that is too convenient of an excuse, sure some industries or segments may be safe, but for the most part changes in the economy will have similar effects on companies. There are companies out there that are successful no matter the economic climate - these are Best-in-Class companies. They focus internally, eliminating inefficiencies, and cultivating talent to improve the business.

The full breakdown to what has had the most impact on profit margins / revenue (All Respondents):

- Economy: **33%**
- Understanding customer needs: **13%**
- System engineering practices: **11%**
- Management: **10%**
- Improved efficiency obtained through process: **10%**
- Improved efficiency obtained through technology tools: **9%**
- Engineering talent: **8%**
- Supply chain / partner network: **5%**
- Other: **1%**

Top performing companies realize success can come from within, while All Others are more likely to believe it is out of their hands.

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Process Improvements

Eliminating waste from the process is not a new concept; the Toyota Production System (TPS), Lean manufacturing, and Six Sigma are methodologies that have been around for years. These concepts have started to migrate into software and product development. When implemented correctly, [*Aberdeen research has shown an Agile methodology*](#) is very effective at streamlining the development process, reducing development time by 12%. Small changes to the process can result in major improvements, something as small as optimizing the hand-over points between functional groups can and will make a difference. The Best-in-Class lead the pack when it comes to adopting methodologies like Agile software and Lean product development, because of this, it is not a surprise to see twice as many Best-in-Class companies credit improvements to the process as having the most profound impact on margins / revenue.

Cultivating Talent

Engineers play a very important role in the success of any company that designs and delivers products. A company's future revenue stream relies heavily on the innovations provided by the engineering team, as new products are key to staying competitive. In fact, the effect understaffing or a lack of talent can have on an organization's performance is staggering (see sidebar). The Best-in-Class realize this impact and that is why you see them being over three times more likely to call out engineering talent as critical to their success. As discussed in last year's report, [*The Engineering Workforce Problem: Doing More with no More*](#), the Best-in-Class had two general strategies when it came to attacking the talent problem. The first strategy was to focus on the employees they currently have. Second, the Best-in-Class tactically invested in technology solutions to assist or

From Aberdeen's December 2012 study on Engineering Demographics, the shortage of skilled works within an organization had a negative impact on meeting the following product goals (All Respondents):

- Product Launch Dates: **16% Decrease**
- Product Cost Targets: **11% Decrease**
- Product Quality Targets: **10% Decrease**
- Product Revenue Targets: **12% Decrease**

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supplement their engineers, eliminating or automating non-value-add work. These are two tactics all companies should explore to get the most out of their engineering workforce and get their teams performing like a Best-in-Class company.

Investing in the Right Tools

Figure 1 further backs up those investments in technology, as the Best-in-Class are nearly twice as likely to acknowledge the benefits technology tools can bring when compared to their peers. Technology, when utilized properly, is a powerful tool that takes an organization to the next level for performance. It is the final step the Best-in-Class take to gain additional visibility and derive actionable intelligence. In addition, adopting technology tools will only increase the benefits seen from process and talent improvements. Whether it's *systems engineering*, *embedded software*, or *PCB design*, Aberdeen's research has consistently shown that technology is the catalyst the Best-in-Class use to reach the pinnacle of product development - it is not possible without these tools.

Also keep in mind, all three of these areas are connected: a change in one can affect the other two. The important fact to realize, though, is that one area is not necessarily better than the rest. Process, technology, and talent improvements should be addressed in conjunction to be successful, which is why you see the Best-in-Class leading the pack in acknowledging ALL three areas as critical to success.

Summary

Being successful is tough. Organizations today deal with many new and unique challenges that can be difficult to navigate. If a company wants to improve, it does not have to look any further than within. Addressing inefficiencies and attracting the top engineering talent can drastically improve the business. The

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Best-in-Class have proven this to be the case by having profit margins three times higher than their competitors. The Best-in-Class will continue to back those initiatives that are making them successful, while their peers will continue to be left behind.

For more information on this or other research topics, please visit www.aberdeen.com.

Related Research

[*The Systems Engineering Closed Loop Process: The Key for Validation*](#); April 2014

[*PCB Design: A Guide to Optimizing Design Engineers*](#); March 2014

[*The Engineering Workforce Problem: Doing More with No More*](#); April 2013

[*Embedded Software Security: What You Don't Know Can Hurt You*](#); February 2013

[*Embedded Software Development: Implementing an Agile Methodology to Improve Time and Quality*](#); September 2012

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Our process is simple – we conduct thousands of surveys every year to identify top performing organizations and uncover what makes them different. We share these insights back with the market in the form of in-depth research reports and content assets to help our readers build business plans capable of driving better results with the right set of tools to help them get there.

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