THE REMAKING OF INDUSTRIES: HIGH TECH

POWERING GROWTH WITH DIGITAL INNOVATION
While executives may not want to hear it, the answer is yes. Companies that continue to operate within the usual guardrails, as challenging as that can be, will eventually find themselves in deep trouble. The reason? Broad but powerful forces are acting upon industries and making not just minor but radical change imperative.

We know this because we’ve been researching industry reinvention for the past several years. We’ve looked at the big picture, the macro environment of new technologies, societal pressures, consumer demands, and business ecosystems. And we’ve examined the performance, strategies, and innovation approaches of thousands of companies during this period.
In 2019, we engaged in a new study, talking to more than 1,300 executives in 14 industries and 17 countries. We looked at industry reinvention through the lens of six forces bearing down on companies.

01 The always-on, hyperconnected consumer’s search for personalized high tech products and experiences, e.g. smart devices.

02 The growing imperative for higher productivity by way of targeted investments in growth levers such as technology, e.g. robotic process automation.

03 The challenge of digital disruption, which is blurring the boundaries of the high tech industry due to the introduction of digital technologies, e.g. blockchain.

04 The drumbeat to “go green” and implement sustainable sourcing.

05 An evolution of business ecosystems, where established companies must work with, not against, startups, competitors and customers to enable new services like predictive maintenance.

06 And the politics of economics, in which long-held views on trade and internationalism are strongly challenged resulting in new regulations, e.g. digital trade compliance.

These forces don’t exist in a vacuum; they collide in ways that increase their power and keep companies scrambling to keep up.

What we’ve sought to answer through our research and analysis is how companies should respond.

How do you build for tomorrow without risking all that you do today? How do you make the right investment choices, across what may be an older but still-strong core business, alongside a new core that has lots of running room left and new businesses that are taking shape but face great uncertainty?

In several industry-focused reports, we explain how leading companies are stepping up to the challenge. These companies are in fact at the forefront of remaking their industry.

We analyzed the high tech industry and the various trends impacting the performance of high tech companies. Those who successfully respond to new customer demands and increasing cyber-threats stand to cement their place as industry leaders.
The world of high tech is undergoing a seismic shift. Enterprise tech providers, semiconductor makers, and consumer electronics manufacturers are all remaking themselves to confront new realities: An increasingly diversified customer base demanding intelligent and connected products delivered “as-a-service”.

The growing number of cyber-threats is compelling makers of connected products to beef up security. A more complex supply chain. Changing political and economic forces. Taken together, it could spell trouble for high tech companies. Yet a small group of companies are not only surviving but distinguishing themselves in this disruptive world. We call them the High Tech Champions. This report spotlights what sets them apart.
The eye of the vortex

How high tech companies power digital transformation

While most industries attempt to survive the vortex of digital transformation, high tech companies occupy the eye of that vortex, albeit with varying providence.

On one hand, platform companies are fueling digital transformation with rapid growth in AI-powered automation. On the other hand, semiconductor and component makers are raking in big bucks thanks to the explosion of connected devices—both consumer and industrial. Consequently, traditional products manufacturers with hardware-centric business models are squeezed for market and margin.

High tech companies are in a unique position today. They can design and operate customer touchpoints for almost all industries. In some cases, they can disrupt entire industries by taking full control of touchpoints. In some other cases, high tech companies can own both touchpoints and the underlying customer data, singlehandedly creating brand new industries. As healthcare and wellness becomes more proactive, Apple sees an opportunity in the market with its strong ecosystem of products and control over both hardware and software (native and third-party apps). From electronic medical records to health monitoring applications, Apple has been ramping up its presence in the healthcare space.1

On the supply side, high tech manufacturers are hamstrung by an abundance of technological choice, fear of cannibalization of existing products by new product introductions, an acute shortage of skilled engineers and workers, and looming uncertainties of global trade wars.

What do you get from the collision of these forces? A kaleidoscope of new value propositions. (See Figure 1)

“Technology is creating a world of intensely customized and on-demand experiences. We see integration of customization and real-time delivery as the next big wave of competitive advantage.”

Syed Alam, Managing Director, Global Semiconductor Industry Lead, Accenture
While high tech companies are facing unprecedented economic, technological and social pressures, they can exploit new value propositions to capture 21st century consumer-driven opportunities.
High tech companies are merely scratching the surface of these new value propositions. And all these efforts to please the consumer are not cheap. It is therefore no surprise to see that the high tech companies interviewed for our survey are making the most innovation investments in digital/physical security and design and engineering. (See Figure 2)
Create new value through digital

Reimagine offerings to realize a higher RODI

To make good on these new value propositions, high tech companies must reimagine the products and services they offer. They must also rethink the role they want to play in the high tech ecosystem.

Choosing where to compete in the value chain and what value propositions to bring to the table requires a deep understanding of consumer needs. This understanding needs to be woven into everything—starting from product design all the way through to the business models.

This is where digital technologies can help—to innovate and create new value across key business functions. But scaling digital proof of concepts (POCs) and ensuring higher returns on digital investments (RODI) is a tall order.

Too few companies are accomplishing that. Out of the 122 high tech companies we studied with annual revenues in excess of $1 billion, only one in five of those are successfully scaling more than half their POCs and earning higher than average RODI.

Take the case of Haier. The company successfully transformed its products from simple home appliances to platform devices. Its Link Cook refrigerator uses embedded sensors, cameras and intelligent algorithms to scan the contents of the refrigerator—checking for expiration dates and suggesting recipes using stocked ingredients. And that’s not all. It can pair with Amazon Alexa and order groceries through Amazon Fresh, as well as communicate over Wi-Fi with other Haier smart kitchen appliances to configure for food preparation.

The remaining companies—about 80 percent in our research sample—earn an RODI lower than the industry average (10.3 percent), irrespective of how much they scale. Clearly scaling more POCs doesn’t necessarily guarantee higher commercial success.

“Digital transformation can include many components, but it all starts with reimagining products and services. The trick is to complement the growing intelligence and connectedness of the product, with compelling experiences that will be increasingly delivered through as-a-service business models.”

David Sovie, Senior Managing Director, Global High Tech Industry Lead, Accenture
The new high tech mindset

High Tech Champions employ three distinct mindsets

A closer look at High Tech Champions reveals their differentiating mindset. First, they understand that what matters is how you scale POCs, not necessarily how many POCs you scale. Second, they view innovation as an essential investment and not a business cost, spending more time and money designing their products and investing in securing the connected ecosystem.

Most important, Champions know how to scale new digital innovation at the right pace so they neither miss the moment, nor overreach themselves. Their ability to develop, market and adopt disruptive technologies enables them to pivot organizations to new value propositions and earn higher RODIs.

We distilled three distinct mindsets:
High Tech Champions view innovation as an investment, looking for appropriate allocation.

In contrast, other companies consider such spending as a cost and focus on cutting it. Two in five (40 percent) High Tech Champions invested more than $500 million each in digital innovation from 2016 through 2018. In comparison, only 23 percent of the other companies spent as much.

All told, the Champions are transitioning to intelligent enterprises with as-a-service business models that are hyper-agile throughout the value chain. Lenovo’s TruScale is one such example. The Chinese IT equipment provider offers subscription services for its data center hardware products, enabling customers to deploy and refresh hardware and software without making outright purchases.\(^a\) Such companies are better equipped to handle an impulsive market that continuously demands optimum services.

Design and engineering is a top priority for the Champions. Not surprising, given their tech-savvy customer profile. Consider this: In the past three years, Champions spent 37 percent more time on new product development. And their design modularity ratio increased by 10 percent. The ratio shows the percentage of a product’s components that are modular in design and can be used to make other products. In contrast, the other companies cut their new product development cycle time by 2 percent while the design modularity ratio rose a mere 3 percent.

That High Tech Champions spend more time to develop new products may appear counterproductive. But the truth is, Champions see the metrics in a different light. They don’t just develop standalone products; they build platforms that support a whole ecosystem of products—even those manufactured by other companies. The modular product designs keep costs under control while allowing for greater interoperability and frequent feature updates. Champions also understand that an effective way to grab consumer attention is through superior designs—those that combine the best of looks and user experience. Developing such designs requires time that Champions don’t mind spending.

Take Apple, for example. Their design process does not end when manufacturing begins. The team keeps iterating on the design throughout the manufacturing process. The product is designed, built, tested, and then, if it doesn’t meet expectations, redesigned, rebuilt and retested. One such cycle can take up to 4 to 6 weeks. The process continues until all product design criteria are satisfied.\(^iv\)

Another significant area of reinvention for High Tech Champions is digital/physical security. High tech companies are investing heavily in data security. Between 2014 and 2018, Facebook, Amazon, Microsoft, Google and Apple together invested almost $2.5 billion in cybersecurity startups.\(^v\) Venture capitalists invested more than $17 billion in cybersecurity firms during that same period.\(^vi\) The majority of the investment in cybersecurity (36 percent) is toward improving threat discovery, as opposed to data recovery (18 percent) or incident investigations (22 percent).\(^vii\)
High Tech Champions earn tangible and timely returns on their investments.

In comparison, others that view digital innovation as a cost rarely expect returns, let alone achieve them.

High Tech Champions ensure digital investments made toward improving product design, engineering reliability, and data security achieve viable returns. Our study shows they increased mean time between failure—an indicator of product reliability—by a solid 65 percent, between 2016 and 2018. In comparison, others managed a negligible 1 percent increase in this critical metric. High Tech Champions also reduced their engineering change order cycle time—time required to change components, factory assemblies and process instructions between products—by 33 percent. In comparison, the others saw an 11 percent increase.

Accenture’s 2019 Cost of Cybercrime study analyzes investments in nine security technologies and the returns on those investments. More than half (58 percent) the companies surveyed invested in advanced perimeter controls to protect their physical assets. But our analysis shows it didn’t lead to any cost savings. In contrast, only 38 percent invested in AI and machine learning for security but already reaped cost savings in excess of $2 million. (See Figure 4)

Take Haier’s Yunxi 2.0 washing machine. Leveraging the COSMOPlat mass customization platform, Haier received more than 200,000 customized pre-sales reservations for the washing machine even before manufacturing a single unit.

The 5G-enabled platform integrates procurement, R&D, manufacturing and supply chain processes to better serve needs for mass customization. Information about customized orders placed on the Haier website is directly communicated in real time to the processes. As a result, Yunxi 2.0 achieved 100 percent non-stocking rate—or zero inventory—and could be directly delivered to customers, eliminating warehousing costs.\textsuperscript{viii}

Intel has been evolving its supply chain operations constantly. Its integrated data platform—bringing together finance, sales, marketing and supply chain—provides practitioners with new, innovative ways to analyze data in real time and optimize processes. Intel’s supply chain transformation with AI has already provided $58 million in savings associated with inventory optimization and increased warehouse planning to 95 percent accuracy.\textsuperscript{ix}

For High Tech Champions, the returns don’t just stop at more reliable products or effective security. They also earn higher financial returns. On average, they earned an RODI of 29 percent from 2016 through 2018, our study shows. That’s almost five times higher than the 6 percent earned by others.
Most companies continue to work and collaborate in conventional ways as they lack strategic clarity. Champions make unique, differentiated investments in growth levers to enhance productivity and agility.

Take partnerships, for instance. High Tech Champions choose disruptive channel partners to bolster their market presence and reach. The Samsung and Spotify partnership allows users to seamlessly continue listening to their playlists from one device to another. For example, a user who is listening to a song on their Galaxy smartphone outside their home may continue listening to the same song on their smart TV or the Galaxy Home smart speaker when they get home. The partnership also signifies that Spotify will be fully integrated with Samsung’s AI-powered virtual assistant Bixby.*

High Tech Champions also explore unique ways of partnering with research clusters to promote open and co-innovation. For instance, the Sony Research Award Program continues well into its fourth year of collaboration with academia. The program provides funds to US and Canadian universities to research innovative and emerging technologies. Every year, the best of academia and research scholars work with Sony’s internal research groups on various topics such as Information Technology, Devices and Materials, and Lifesciences.†
The critical question today is how business can simultaneously prepare for unprecedented social, political, environmental, and technological challenges—both imminent and distant. The answer is not easy.

What we have learned in our research is that only a handful of companies are taking on the disruptive forces, making dynamic decisions and successfully remaking industries. We call them the Champions.

The Champions understand that digital technology is creating more discerning customers who want connected products that don’t pollute, save time, and are easy to use. But Champions also know how to create these products. They rely on digital technology to build smart factories, nimble supply chains, and responsive distribution networks. Most important, they successfully scale digital innovation and earn a higher return on those investments.

But the truth is such successes are rare.

Our research shows three mindsets work best in concert to help any company that wants to become a Champion. First, view digital innovation as an investment that needs thoughtful allocation, not a cost that ought to be cut. Second, set timely and robust expectations on return on digital investments. Third, invest in five in-house levers to scale digital innovation—skills, platforms, technology, partnerships, and leadership.

The payoff from adopting these mindsets can be substantial, and help any company answer this simple question: Will you move beyond the usual guardrails and remake your business to successfully face off the forces before they take you down?
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We surveyed 122 executives from high tech companies (28 from Communications technology, 21 from Consumer Technology, 53 from Enterprise Technology and 20 from Semiconductors) with annual revenues in excess of $1 billion, across 12 countries. In our survey, companies were asked to report how much they spent on scaling digital innovations and the returns they achieved on those investments, over the period 2016-18.

The consistent and clean survey data set was utilized to arrive at the set of Champions. We defined “Champions” as companies that were scaling more than 50 percent of their digital proof of concepts and achieving a return on digital investment (RODI) higher than the average RODI being clocked by their industry peers and higher than their industry-level ROIC. The rest—which we called “Others”—were companies which were achieving a RODI lower than the average RODI being clocked by their industry peers, as well as, their industry-level ROIC, irrespective of their scaling efforts.

Thereafter, specific questions in the survey were utilized to examine the impact of digital on certain key performance metrics across various organizational functions. Lastly, key differences and drivers that generate higher digital ROI for Champions were compared to other companies to understand the difference in approaches and strategies between these two sets of companies.

Research Methodology

We surveyed 122 executives from high tech companies (28 from Communications technology, 21 from Consumer Technology, 53 from Enterprise Technology and 20 from Semiconductors) with annual revenues in excess of $1 billion, across 12 countries. In our survey, companies were asked to report how much they spent on scaling digital innovations and the returns they achieved on those investments, over the period 2016-18.

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Appendix

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