TOP500 Study

ALTITUDE SICKNESS

Thin Air for the Swiss Economy
The financial crisis began a little more than a decade ago. It resulted in a deep recession and strong Franc for the Swiss economy. And it proved to our country again that our national economy has the ability to adapt to adverse circumstances like hardly any other. Swiss companies lowered their costs, increased their efficiency and now present themselves as fitter than before the crisis. Excess fat that once existed has been trimmed. Businesses are running well again. Time for complacency?

I do not think so. And in saying so, I am also being self-critical. Neither companies, nor politicians, nor consultants like us have successfully translated the opportunities that lie dormant in modern information technologies into sustainable growth. So far, there is no proof that companies that made high investments in digitization generated higher revenue growth than those that did not. This shows that cost and efficiency leadership alone is not enough to stimulate new growth. To date, digitization investments have been primarily focused on increasing the efficiency and quality of existing business models; fewer investments have been made in growth and hardly any have been made to generate new, digitally derived sources of revenue.

There are numerous reasons for this malaise, which will lead to low growth rates over the long run. Growth for Swiss companies – if there was any – has primarily taken place abroad over the past few years. At the same time, direct investments tended to increase at home, rather than in other markets. This means that domestic companies failed to harness the strong Franc for growth-enhancing acquisitions in other countries. Perhaps they didn’t have the courage? Or maybe because Swiss companies are mentally ingrained to their origins, despite their export strength?

Regardless which, the essential point when considering all these developments is the finding that Swiss entrepreneurs, business executives and boards of directors have not really pursued growth opportunities with digitization. New information technologies allow companies to gather more customer data than ever before – provided that they actually have contact with the end consumer. This is where the problem starts: Our food industry sells its products to large distributors, the insurance sector to intermediaries, the pharmaceutical industry to pharmacies or hospitals, and numerous companies that are part of the Swissmem industries produce industrial or electrical components or semi-finished products that are part of larger finished products often produced abroad. In this sense, the Swiss economy is, to a great extent, a supplier industry. For Swiss companies, the end customers – along with their needs and wants – represent largely unknown territory. This is not an exclusively Swiss phenomenon, but it is particularly evident in Switzerland due to the relatively small domestic market and the strong focus on it. In this regard, American companies with a disproportionately larger domestic market have an exponentially larger digital playground available to them. One thing seems incontestable to me: Those able to identify and understand their end customer have a decisive competitive advantage. The key to that lies in the digital acquisition of customer data.

In the digital world, the customer is always local. Data does not recognize borders. Those companies able to clearly identify their customers, even outside the domestic market, such as in Asia or in South America, will be tomorrow’s winners. This presents a big challenge for Swiss executives. It requires them to expand their focus, which has been directed to cost efficiency since the
crisis, as if with a wide-angle lens to allow the possibilities of digital growth to move to the center of their field of vision. This necessary “change of mindset” is digitally driven as well, and encompasses much more than big data projects to exploit customer data in (large) companies. In the company of the 21st century, jobs and also the corporate culture have to be designed to appeal to talented digital natives, who otherwise pursue their dreams of professional self-determination and purpose at start-ups. In many cases, from an economic point of view, this means a waste of talent. Only a fraction of start-ups reach adolescence, while the vast majority dies the silent death of the unsuccessful. For this reason, well-established companies have to infuse their organizations with the start-up spirit — and not simply by setting up a digital lab far away from headquarters and transferring some play money there. Digital transformation must have its soul at the core of the company. From there, it will cascade to all staff, even those distant from the main office.

Because digital transformation revolutionizes the way work is designed, produces new roles and demands new capabilities, action must be taken in the field of educational policy throughout the national economy. In principle, Switzerland is well prepared to fulfil these new requirements due to its dual educational system. Our apprentice system trains young people according to the needs of the economy and, for this reason, is able to react faster than elsewhere to new work requirements. With a little imagination, the established apprentice system could extend its reach into the professional life cycle of employees of different levels and qualifications in our digital world. People who have been in their jobs for many years could acquire the digital knowledge they are missing while working – in a sense, as silver-haired apprentices. Lifelong learning is lifelong work. In this respect, every one of us is an apprentice for life.

The main topics of the Accenture Swiss Top500 edition revolve around three themes:

1. **A FALSE SENSE OF SECURITY AFTER THE FINANCIAL CRISIS**
2. **IN THE DIGITAL WORLD, IT IS ESSENTIAL TO KNOW YOUR CUSTOMER**
3. **DIGITAL FORMULA FOR GROWTH: ROTATE TOWARDS NEW OPPORTUNITIES**
Ten years after the global financial crisis, some questions arise: Where does the Swiss economy stand today? What new risks are Swiss companies facing? To what extent have companies set the right course for future sales growth and higher profitability? The latest Swiss Top500 study by Accenture – which is mainly based on available company data of 2017 – is meant to provide some answers.

It is indisputable that the Swiss economy handled the financial crisis better than comparable economies and that it will maintain its strong position in the future as well. Forecasts assume an annual GDP growth rate of just over 1.7 percent through 2023, which is higher than what is expected in the United States or Europe. This moderately positive outlook is accompanied by huge changes over the past decade that cannot exclusively be attributed to consequences of the financial crisis. The impact of new digital technologies, which are pervasive in the economy, is also significant.
DECREASING LABOR PRODUCTIVITY

Over the past decade, the Swiss financial sector shrank by 3.5 percent and now accounts for approximately 7 percent of the national economic output. Other sectors like pharmaceuticals, IT or health services, however, increased their contribution to GDP. Overall, the Swiss economy presents a broader and more differentiated picture than before the big crisis. In the beginning of 2015, the Swiss National Bank (SNB) abandoned the previously defended exchange rate of 1.20 Francs per euro. This action, which severely reduced growth and profitability of companies due to more expensive exports, resulted in a 2 percent decline in GDP. Today, the dangers for the Swiss export economy lurk in the political tensions surrounding global trade: first of all between the United States and China, and in the bloated currency reserves held by the central bank – the SNB would not be able to respond effectively to additional revaluation pressure of the Franc. The Swiss export economy would be largely defenseless against the consequences.

The job market presents additional risks. There is not only a particularly acute skills shortage in the health and social sectors and the field of information technologies, but it also turns out that while there is a record high number of vacancies, companies are having more and more difficulties finding workers with the right education and qualifications. This challenge will intensify as digitization changes more work content and work processes and demands new expertise from employees.

Figure 1: Job Vacancies by sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>% increase 2008 vs 2018</th>
<th>Vacancies in Q2/2018 (in thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT &amp; Communication</td>
<td>90.5%</td>
<td>5.4</td>
</tr>
<tr>
<td>Health &amp; Social Work</td>
<td>62.2%</td>
<td>8.4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>53.5%</td>
<td>14.0</td>
</tr>
<tr>
<td>Education</td>
<td>53.1%</td>
<td>2.2</td>
</tr>
<tr>
<td>Finance &amp; Insurance</td>
<td>50.8%</td>
<td>5.2</td>
</tr>
<tr>
<td>Real Estate</td>
<td>46.5%</td>
<td>9.4</td>
</tr>
<tr>
<td>Construction</td>
<td>15.4%</td>
<td>4.9</td>
</tr>
<tr>
<td>Trade &amp; Repair of Motor Vehicles</td>
<td>12.4%</td>
<td>9.4</td>
</tr>
<tr>
<td>Others</td>
<td>34.1%</td>
<td>14.7</td>
</tr>
</tbody>
</table>

Source: Accenture Research analysis of Swiss Federal Statistical Office data
It is also worrying that labor productivity in Switzerland has drastically fallen since the beginning of 2000, and increasingly so since 2008, compared to France, Germany or the United States. The low unemployment rate in the country has a negative effect on this development. In order to maintain GDP growth over the next few years, it is important to significantly increase productivity. The protracted (and not yet completed) political process of reforming corporate taxes is leading to uncertainty with regards to investment plans of companies in Switzerland. That, in turn, diminishes the attractiveness of the business location and increases pressure on companies to relocate functions and jobs abroad.

IN ORDER TO MAINTAIN GDP GROWTH OVER THE NEXT FEW YEARS, IT IS IMPORTANT TO SIGNIFICANTLY INCREASE PRODUCTIVITY
**Figure 2: Labor productivity growth**

Average Swiss yearly labor productivity growth* (%)

Average Swiss yearly labor productivity growth compared with France, Germany and the USA* (%)

* Five-year moving average of real GDP growth per employee

Source: Accenture Research analysis of OECD data, OECD Economic Outlook No. 103
DIGITIZATION IS GLOBAL – DISRUPTION IS TOO

The most significant driver of change is, of course, digitization. Over the past 10 years, a vibrant start-up scene has emerged in Switzerland that has the ability to attract talent from traditional companies, as well as money from investors. In 2017, start-ups, often from the biotech and information technology industries, raised a total of nearly CHF940 million in venture capital – doubling the amount raised within just three years. In the Fintech sector alone, CHF76 million was raised, along with an additional CHF200 million as Initial Coin Offerings (ICOs) from crowdfunding. What has been funded here does not yet present a real challenge to traditional companies, but it does increase pressure on the ability of traditional organizations to innovate. However, the relatively stable economic environment has led many Swiss business leaders to assume they are less affected than their counterparts in other countries by disruption that is triggered by creative, new and young competitors. This is an incorrect assumption. In a networked world, every innovation spreads immediately across the whole globe. Accenture’s Disruptability Index, which includes 221 companies from different industries – supports the fundamental finding that Swiss companies are just as much affected by disruptive innovation as companies in other parts of the world. What’s more, the Accenture study revealed that more than one-third of national companies are extremely susceptible to future disruptive market changes, and more than two-fifths are already confronting them. In this regard, the influence of current and future disruption on the Swiss economy is part of the larger global story.

Figure 3: Disruptability Index 2017

![Disruptability Index Diagram](image_url)

Source: Accenture
In disruptive times, companies pass through four phases that are aligned to the Disruptability Index:

1st PHASE:
Durability. Companies make stable profits, are efficient, innovative and adaptable. However, they have a false sense of security because this phase ends quickly. According to our study, more than one quarter of Swiss companies are in this stage.

2nd PHASE:
Vulnerability. While young companies with disruptive potential have not yet penetrated their own sectors, it is becoming clear that their new business models will soon threaten the models of traditional companies. Entire industries are now susceptible to disruption, and 30 percent of Swiss companies are in this stage.

3rd PHASE:
Volatility. The fault lines have become wider and deeper. That means disruption is no longer the future, but the present. Vital disruptors are stealing profits the traditional companies used to make and, as a result, influencing their fate. Five percent of Swiss companies are in this stage.

4th PHASE:
Viability. A large number of more innovative and efficient start-ups are challenging traditional business models and forcing companies to re-invent themselves. This is an infallible sign that disruption has gathered speed; 38 percent of Swiss companies are at this stage.
FOCUSED ON DAILY BUSINESS

The disruption process follows a predictable pattern. It is, therefore, possible to anticipate this inevitable development and, with the proper preparation, even overcome the challenges it brings. However, for this to happen, it is necessary for companies to accept the fact that disruption is a reality in every industry and presents a potentially existential threat to every company. Although many entrepreneurs, executives and boards of directors consider disruption to be a real possibility, they do not see the need to prepare for it in concrete terms – either because the threat is still considered too vague or too far away or the potential impact is too difficult to quantify. As a result, company leaders remain focused on the immediate priorities of daily business, while disruption in their industry moves slowly but surely towards phase 4, the viability stage.

DISRUPTION IS A REALITY IN EVERY INDUSTRY AND PRESENTS A POTENTIALLY EXISTENTIAL THREAT TO EVERY COMPANY
This year, Accenture analyzed the Top500 companies in Switzerland in terms of revenue and profitability growth between 2013 and 2017, from a total pool of 845 companies. From these 500, the so-called Growth Champions were chosen. They present an above-average revenue and margin growth – both in comparison with the total group and their direct competitors. The analysis revealed the following:

The overall performance of the Swiss Top500 was positive in 2017. Companies outside the financial sector generated an average revenue growth of 4.2 percent, or 1 percent higher than the previous year. However, the Growth Champions’ contribution to this result was above average. Their revenue growth was three times higher and their net profit two times higher than other companies. Although slightly less pronounced, similar ratios could be found among companies in the financial sector. A closer look, however, revealed that even for the Top500 Growth Champions, growth in profit margins did not keep up with revenue growth. What’s more, compared with previous years, profit growth stagnated or even went down. That was the case with every other Growth Champion; companies representing the financial and mechanical engineering sectors, in particular, experienced shrinking margins compared to 2014. The exceptions to this trend are companies from the pharmaceutical and chemical industries and service providers. These companies still record stable revenue growth and robust profit margins.
Figure 5: Revenue growth of the Top500

**TOP LINE GROWTH***
(median 2016–2017 growth, in %)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Growth Champions</th>
<th>Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-FS companies</td>
<td>9.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Banking</td>
<td>4.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Insurance</td>
<td>2.4</td>
<td>0.9</td>
</tr>
</tbody>
</table>

**PROFIT GROWTH**
(median 2016–2017 growth, in %)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Growth Champions</th>
<th>Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-FS companies</td>
<td>14.5</td>
<td>6.7</td>
</tr>
<tr>
<td>Banking</td>
<td>6.7</td>
<td>6.7</td>
</tr>
<tr>
<td>Insurance</td>
<td>2.4</td>
<td>8.2</td>
</tr>
</tbody>
</table>

* Revenues for non-financial services companies (non-FS), assets for banks and gross written premiums (GWP) for insurance companies
Source: Accenture analysis and data from Handelszeitung Top500

Figure 6: Top500 key results by industry, CAGR 2013–17

**REVENUE GROWTH**
(median CAGR 2013–2017, in %)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Growth Champions</th>
<th>Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals</td>
<td>4.1</td>
<td>3.5</td>
</tr>
<tr>
<td>Construction</td>
<td>6.1</td>
<td>6.5</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>12.3</td>
<td>5.2</td>
</tr>
<tr>
<td>High Tech</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Engineering</td>
<td>5.2</td>
<td>4.5</td>
</tr>
<tr>
<td>IT &amp;         Communications</td>
<td>15.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Logistics &amp; Transport</td>
<td>-0.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Media &amp; Entertainment</td>
<td>-2.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Pharma &amp; Healthcare</td>
<td>12.2</td>
<td>7.3</td>
</tr>
<tr>
<td>Resources</td>
<td>-2.5</td>
<td>7.4</td>
</tr>
<tr>
<td>Retail</td>
<td>7.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Services</td>
<td>7.4</td>
<td>2.8</td>
</tr>
<tr>
<td>Utilities</td>
<td>-1.9</td>
<td></td>
</tr>
</tbody>
</table>

**ASSETS GROWTH**
(median CAGR 2013–2017, in %)

<table>
<thead>
<tr>
<th>Industry</th>
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<td>2.8</td>
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**GWP GROWTH**
(median CAGR 2013–2017, in %)

<table>
<thead>
<tr>
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<td>2.8</td>
</tr>
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Source: Accenture analysis and data from Handelszeitung Top500
MOMENTUM IS GETTING WEAKER

Generally speaking, it is clear that a number of Growth Champions do not interpret prolonged profit margin pressure as a threat to future growth. A focus on the past, coupled with a feeling of stability in the current business often obscures the obvious: sluggish profit growth over a period of years results in greater vulnerability to competitors. Simply stated, this means the energy in the core business area of these companies is weakening. We see many companies that are attempting to stabilize their profit margin with the help of cost-cutting measures. Over the past year Novartis, for example, announced the elimination of 2,200 jobs – similar to Nestlé (minus 580 jobs), PostFinance (minus 500), Migros (minus 290) or LafargeHolcim (minus 200).

Figure 7: Development of the profit margin

*NON-FS COMPANIES*  
**NET PROFIT / REVENUES**  
(2014 = 100, median values)

*BANKING*  
**NET PROFIT / ASSETS**  
(2014 = 100, median values)

*INSURANCE*  
**NET PROFIT / GWP**  
(2014 = 100, median values)

Source: Accenture analysis and data from *Handelszeitung Top500*

But where are the companies – Growth Champions or not – that, in addition to newly discovered cost efficiencies, are redefining their business models to strengthen their profit margin, survive in the new, digital environment, and grow over the long term? Accenture’s Digital Maturity Index (DMI) provides a number of insights. This index is based on a complex, multi-dimensional study that determines a company’s level of digital maturity and presents the results on a simple scale, from 1 (DMI very weak) to 4 (DMI very high).
FAILING DIGITAL STRATEGIES

It turns out that across all the examined companies, there were very few initiatives aimed at integrating new digital business models. In this regard, there was hardly any difference between Growth Champions and other companies in their industries. Although the Growth Champions are slightly better at planning digital strategies, those differences evaporate when it comes to implementing those strategies. A look at their shares of digital revenue is even more conclusive: no Growth Champion reached a DMI level higher than 3, which would correspond to a high degree of digital maturity. In fact, when comparing Growth Champions to their direct competitors, a disproportionately high number of them have a low level of digital maturity – less than 2 on the DMI.

All this leads us to two insights. First, a Growth Champion with the highest level of digital maturity does not exist in this country. This suggests that digital investments have been mainly made to increase efficiency or to protect the core business, and not to expand into a new digital business that can tap new sources of growth. This is why we do not see a correlation between revenue growth and the DMI. Second, only a few Growth Champions have developed strategies to maintain and strengthen their status with the help of digital innovations.

The fact that no company in Switzerland has reached the highest level of digital maturity means they have yet to exploit digitization’s full and dramatic potential. Digital technologies make it possible to reach end customers – and understand their wishes and preferences – in unprecedented ways. This deep understanding of consumers makes it possible to continuously develop products and refine after-sales services. Companies that bring such “transformational products” to the market, as described by bestselling author Matthias Schrader in his book of the same title, demonstrate the highest level of digital maturity. They have the power to penetrate existing value chains of traditional companies and increasingly benefit from their profits.
Some companies in Switzerland are striving to maintain their fast growth and profitability in a digital environment by strengthening their core business and pushing forward into new business areas, thanks to digitization and innovation. Basel-based med-tech company Straumann, for example, is a Growth Champion featuring a high level of digital maturity (DMI = 2.75) and double-digit growth rates. The company successfully expanded into biomaterials and digital equipment, areas with high growth rates and value creation. Straumann took advantage of the low level of digital penetration in the field of dentistry by advancing into the space through partnerships and acquisitions. These moves contributed to the company’s profit margin growth from 10 to 25 percent since 2013.

A second example is Geberit, a Growth Champion in the field of sanitary technology, which achieved a high DMI of 2.97. The company began focusing on its B2C business long ago, and digitized its communication with customers and partners. The business is innovation-driven and is constantly adding new products, such as shower toilets with a modern design, to its conventional sanitary technology portfolio. Offering such high-tech (and higher-value) products enables the company to grow margins considerably, even in saturated markets.
ROTATING TOWARDS DIGITAL INNOVATION

While Straumann and Geberit are encouraging examples, they are exceptions among the Top500 in Switzerland. Both companies exemplify how digitization and innovation can be combined into something new (i.e. digital innovation). Capitalizing on digital innovation demands quite a lot from the companies. The organization, its investment processes, and its approach to human resources all need to be restructured. The path to this goal generally crosses three areas of investment.

**AREA 1:** Transformation of the core business. This is about improving competitiveness and cost structures by unleashing resources, flexibility and innovation in the heart of the company. Small steps won’t suffice; large, visible transformation projects that mobilize new forces in the company are required. Initially, all activities of the company have to be analyzed to not only identify the skills and costs necessary for the transformation, but also better assess risks and obstacles. Everything must be “zero based,” conceived as a greenfield strategy and set up without consideration of previous history:

Costs, organization, front-office activities, value-creation chain. A clean organizational setup groups talent, resources and diverse capabilities in such a way as to generate value and profitable growth through new business.

**AREA 2:** New growth in the core business. Using digital tools like digital marketing or interactive web applications, it is essential to move closer to the customer and ultimately drive growth in the core business.

**AREA 3:** Scaling new business models. This is most likely the most difficult step when combining old and new business. In this phase, internal incubators and innovation hubs control the transition and help manage the integration of innovation into the traditional company structure. In a collaborative act with the established business, the innovative invention, product or service is then carefully transferred to mass production or, in the case of an operational invention, integrated into a global process. In most cases, this only works without mishaps in companies that have a robust innovation architecture – one that takes the innovation’s maturity into consideration during the transfer.

A COMPANY TURNS INTO A DIGITAL PLATFORM

The transition from old to new is a complex process. It’s about maintaining the right balance between the traditional core business and the new business, while the new business model is taking shape. This means balancing the timing of investments in both to ensure that the traditional business model remains healthy while the new one grows stronger. It also involves optimizing the allocation of capital and the management of investments and cash flow from the legacy business to the innovation over time. In a diagram, the transition can be presented as follows:
As illustrated here, the successful creation of innovation within established companies and the transformation of an old business model into a new one depends on a wise pivot within the company. For this turning point to be successful, some requirements within the organization must be fulfilled. Basically, every company has to see itself as a digital platform. Digital knowledge and flexible internal structures can stabilize an unsteady innovation process – one that is often based on principles of trial and error. Outdated and inflexible technologies and IT systems can’t do that. Neither can people with a silo mentality. Digital knowledge can either be organically developed within a company or gained through acquisition. Baloise, for example, bought online relocation platform Movu. With its newly acquired digital know-how, the insurer is now able to digitally expand its traditional business and offer new services to its customers. A digital platform-enabled approach requires a re-invention of business models and processes, new and direct interactions with customers, and, at the same time, changes to organizational structures, which must be embedded in a “digital first” strategy. It is recommended that companies establishing a digital platform collaborate with external partners, customers, suppliers, universities and start-ups. Food technology firm Bühler intends to build a campus for innovation at its headquarters in Uzwil/SG where these stakeholders can be brought together. The digital world is a collaborative world, and innovation is the result of partnership collaboration. Moreover, innovation is a continuous, never-ending process – driven less by technological prowess and more by a fundamental, innovation mindset.

Figure 8: Transformational Growth: Leverage and optimize the traditional business to invest in growth in “The New”

A **GROW THE CORE BUSINESS**
by redirecting some of that investment capacity to drive incremental growth in the core business.

B **TRANSFORM THE CORE BUSINESS**
by building more competitive cost structures to improve flexibility, increase profits, and drive up investment capacity.

C **SCALE NEW BUSINESS**
by identifying the new areas that are growing up next to the core – and are relevant in their industries – and scaling them.

D **PIVOT WISELY**
by keeping an eye on pace and balance. The “core” and “new” businesses usually need to co-exist for a substantial period of time.

Source: Accenture
The "Global Competitiveness Report 2018" by the World Economic Forum (WEF) shows that the new technologies have a direct influence on the competitiveness of a national economy. The 2018 report, which considers the effects of digital technologies on the competitiveness of a country for the first time, shows that Switzerland ranks fourth among countries with the highest level of competitive strength. For nine years, our country had been in the top position. For a long time, Switzerland benefitted from having many domestic companies active on a global level. Global trends and changes were identified earlier than elsewhere – surely a competitive advantage for the national economy. Today, WEF data shows that the gap between Switzerland and the nations with the highest competitive strength, including the United States and Singapore, is getting bigger. Additionally, countries moving up in the rankings like Japan, China or the Nordics are becoming more competitive.

Overall, this reinforces the impression that Swiss companies are not making the most of their digital investments. This is possibly due to a lack of awareness for the urgency of a coherent vision that aligns the business strategy with innovation processes. For this reason, the required balance is not achieved: The transformation of the core business stagnates as attempts are made to implement new business ideas. When companies miss out on opportunities to scale their digitization projects throughout the organization, many innovation projects only have a limited effect. Frequently, new technologies are developed in silos or only implemented in parts of the organization. Companies have to do more than simply move their business to a digital environment. They have to completely reinvent their entire operating model, as well as production processes and value chains, to achieve greater value through digitization.
The fact that Switzerland has some catching up to do when it comes to deploying digital technologies is supported by other studies, as well. For example, Digital.swiss (a joint platform of ICT Switzerland, the umbrella association of the Swiss ICT economy) and the economic umbrella organization, Economiesuisse, highlights the degree of digitization by topic areas and has identified a below-average level in health (24 percent), security (27 percent) and Industry 4.0 (29 percent).

**Figure 9: Digital.swiss Scorecard**

![Digital.swiss Scorecard](http://www.digital.swiss)

Source: www.digital.swiss
The term “Industry 4.0” describes the fourth industrial revolution: By connecting humans, machines, systems and equipment, dynamic, real-time, optimized and self-organizing, cross-company production and value networks emerge that can be optimized for cost, availability, resource allocation or other criteria. Swiss companies are aware of the significance of Industry 4.0, in particular, but only 14 percent of them kick-started related projects. Additionally, Accenture’s TechVision 2018 study shows that although Swiss companies invest more in artificial intelligence, virtual reality, Internet of Things (IoT) or autonomous vehicles than companies abroad, they lag behind when it comes to robotics, blockchain and 3-D printing.

**Figure 10: Investment in technology**

Percentage of respondents declaring their organization plan to invest in new tech in the next year

n. of Swiss companies = 113
n. of Other companies = 3,977 with Headquarters in Australia, Austria, Canada, China, France, Germany, Ireland, Italy, Portugal, Singapore, Spain, UK, US
Source: Accenture Research on Accenture TechVision 2018 data
Next comes what we call “Industry X.0.” By this, we mean the digital re-definition of industry. Companies deploy sophisticated digital technologies to transform their core business, including employees, customers and business models. Integrated intelligent systems, processes and sensors allow a higher degree of efficiency in production or research and development. Relationships with co-workers and customers are re-established and become personalized and immersive through augmented and virtual reality. New smart products open up new sources of revenue.

At the end, companies become data-centered, smart and agile organizations. Getting there requires radical changes in product design, production and post-sales support. In terms of design, the focus is not exclusively on hardware anymore. Built-in software-based functionalities are critical to the design of products to be manufactured. Design processes and market-entry timetables are drastically shortened and include digital tools like crowdsourcing and virtual/augmented reality. By automating the manufacturing processes, there is less standardization in production, while customization and personalization increase. New technologies like artificial intelligence and smart, digitally controlled devices increase the productivity and efficiency of employees. The Swedish-Swiss technology company ABB for example developed the robot Yumi that allows human being and machine to work together efficiently side by side.

Digitization is also widely used in the post-sales phase. End customers want hyper-personalized products that can be adapted to their wishes and habits in real time. The products have built-in software, which is controlled by artificial intelligence, that generates customer data and device data all the time. The manufacturer can use this data to identify customer preferences, to continually improve the product, and provide maintenance and repair work.

Such uses of digital are already being applied on a large industrial scale. ABB, for example, created an innovative, IoT-based platform that brings together motor, machine and robot data via the cloud. IoT sensors constantly transmit that data, which ABB customers can access on a smart screen. This allows them to monitor their ABB production lines, which increases efficiency and longevity and reduces costs.
DEFENDING AGAINST CYBER ATTACKS

Such drastic changes obviously happen over a period of time and not overnight. Despite this, Swiss companies are still taking longer to develop their digital capabilities than other international leaders. Society and politics also have some catching up to do in the area of digitization. After all, a digital identity is the gateway to digital services that serve as a backbone for a truly digital nation.

There is hope that legislation concerning electronic identity (E-ID) in Switzerland will be passed soon. The Swiss ID project, which has finally launched, holds promise – it is supported by the leading companies in the financial sector and companies with strong ties to the government. The implementation should now be in service to consumers and customers, and recognized at all levels of government, if possible. It should also be a national solution. Federalism, which is deeply rooted in Switzerland, has an inhibiting and obstructive effect. For this reason, individual cantonal initiatives such as those currently under way in Zug or Schaffhausen are not very helpful. There is also some skepticism among the Swiss populace that has to be overcome: Only 37 percent are currently welcoming the possibilities offered by an E-ID.9

The topic of security has also become increasingly important. Digitally controlled businesses and advanced networks of suppliers, partners and customers increase cyber risks. Wherever intelligent technologies, smart automation via IoT, cloud, artificial intelligence or robots are in use and sensitive data is exchanged, there is the potential for cyber-attacks. Companies are aware of these new dangers. According to an Accenture study on security,10 only every third company considers it necessary to establish an up-to-date cyber security strategy. The relevant platform Digital. swiss has come to the same conclusion. In 38 percent of surveyed companies, top management is actively involved in developing a security strategy, 35 percent took some action within 12 months to identify threats and weaknesses in their information security, and 47 percent have already taken advanced security measures. However, only 16 percent of surveyed companies actually test their security defense mechanisms. The overwhelming majority of companies, therefore, are unclear about whether they can manage cyber incidents, let alone fend off cyberattacks. There is an urgent need for top management to invest in information security and implement cyber security measures in all their business processes.
Action is also needed with regards to the qualifications of the future workforce. An Accenture analysis shows that in the near future, 90 percent of people’s working hours, on average, will be shaped by technology – thanks to new work processes that are driven by automation, augmented reality or other new technologies. The investments companies make in these new technologies will completely redefine the role, the competence and the necessary skills of entire workforces. If the development of such new skills does not happen in tandem with technical change and progress, there is a risk that global GDP growth will be one percentage point lower over the next 10 years.11

Swiss companies will be affected by this development. There already is a skills shortage in the country and skilled employees have to be imported from abroad. The government and businesses have to do everything in their power to prevent this imbalance from getting bigger. In a tech-savvy environment, skills like creativity, emotional and social intelligence, complex thinking, along with the ability to perceive sensory impressions will gain in significance, whereas administrative skills will become less important. Now the questions are: How can employees acquire these new skills? And how can companies help their workforces develop these skills during their working lives? Companies that can support this transformation and help their workers acquire the skills required in the digital world will see a positive impact on corporate productivity and profits due to additional growth. Of course, it is not only the private sector that needs to act, but also public educational institutions and government entities.
EXPERIMENTAL LEARNING

The vocational training that Switzerland is known for provides a framework for advanced training that can also be used to teach digital skills or provide experimental learning opportunities for completely new types of work. Autonomous and experiential learning can be made available to young workers, as well as seasoned professionals who have to develop new skills to meet new digital workplace requirements. Such on-the-job training could also make use of digital technologies. For example, virtual reality programs would allow younger or older learners to experiment with the very digital skills they need to acquire.

This can lead to completely new experiences and insights. For example, each employee needs to have a broader skillset – both on a technological level and also in so-called “soft skills.” A marketing professional, for example, not only needs to be creative, but also possess technological know-how to be able to interpret data-driven customer information correctly. Other activities in the company are becoming redundant due to digitization – particularly those that can be carried out by machines thanks to automation. The company should identify these vulnerable workforces early on and prepare them for other tasks in the company by teaching them digital skills. In this way, the company does not lose valuable professional experience that took years to cultivate.

TODAY, EMPLOYEES NEED TO HAVE A BROADER SKILLSET
THE 5G NETWORK AS A GROWTH DRIVER

When it comes to infrastructure, the implementation of the superfast 5G mobile network is the greatest imminent milestone. 5G will allow the transmission of one gigabyte of data per second, which corresponds to a movie in HD quality. According to 2017 figures, mobile technologies already contribute 4.5 percent or US$3.6 trillion to global GDP. Economists assume that the impact of the 5G network on new products and services will amount to approximately US$12 trillion by 2035. For Switzerland this means any delay in the 5G technology might come at the expense of the nation’s economic growth. Politicians, regulators and telecommunications providers have a duty to ensure this does not happen.
WHAT NEEDS TO BE DONE – A BRIEF CHECKLIST

Swiss companies should consider four courses of action. They are presented here as short, catchy statements – particularly important in the era of digitization. At the same time, they provide the shorthand for digital innovation.

1. Address customers digitally

Today’s technologies allow companies to identify and interact with end customers through all channels in unique and individualized ways. New and personalized transformational products, post-sales services and significantly greater customer loyalty are all possible. This translates into more revenue and higher margins for the companies. The author Matthias Schrader describes in his bestseller *Transformationale Produkte* how Google, Apple and Facebook manage to penetrate industries like finance, trade or telecommunications with the help of digital and user-friendly products.

2. Set up the digital organization

New sources of growth are possible when a company’s core business is digitized. To do so, the organization of the company itself has to mutate into a digital platform with an internally and externally open architecture. Internally, innovations can be integrated into the core business and externally, the company can become a part of ecosystems that constantly collaborate with universities, start-ups, government agencies and, most of all, other companies.

3. Provide digital training to employees

Switzerland’s traditional dual education system makes it possible to include skills required by the economy in the apprentice system without long delays, making them available to industry rather quickly. It should not be only young professionals who benefit from this access, but also experienced professionals who need to acquire or improve digital skills.

4. Involve politics in digitization

Policymakers have to adapt their educational mandates to the new digital requirements in both basic education and advanced training and also ensure that digital infrastructures and frameworks such as electronic certificates or the 5G mobile network are made available quickly across the country. In addition, Switzerland needs to take actions to catch up with other countries in the field of e-government.
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