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The 2012 industry digitization index



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Introduction and key findings

This is the second time that Strategy& has conducted its Industry Digitization Study, which investigates the degree of digitization across 15 industries in Europe. With this study, we're aiming to better understand which industries in which markets are leading the digitization journey, and which are lagging; we're also gaining insights into the specific business areas that companies in various industries focus their digitization efforts on.

As in the inaugural edition of the study, we're using an index to measure industry digitization. Our industry digitization index is composed of four separate but tightly interconnected dimensions — input (inbound transactions like procurement), processing (internal processes), output (customer-facing activities), and infrastructure (computing and connectivity) — that allow better understanding of what aspects of digitization certain industries and markets focus on.

This year, we've identified six key themes from the Industry Digitization Study:

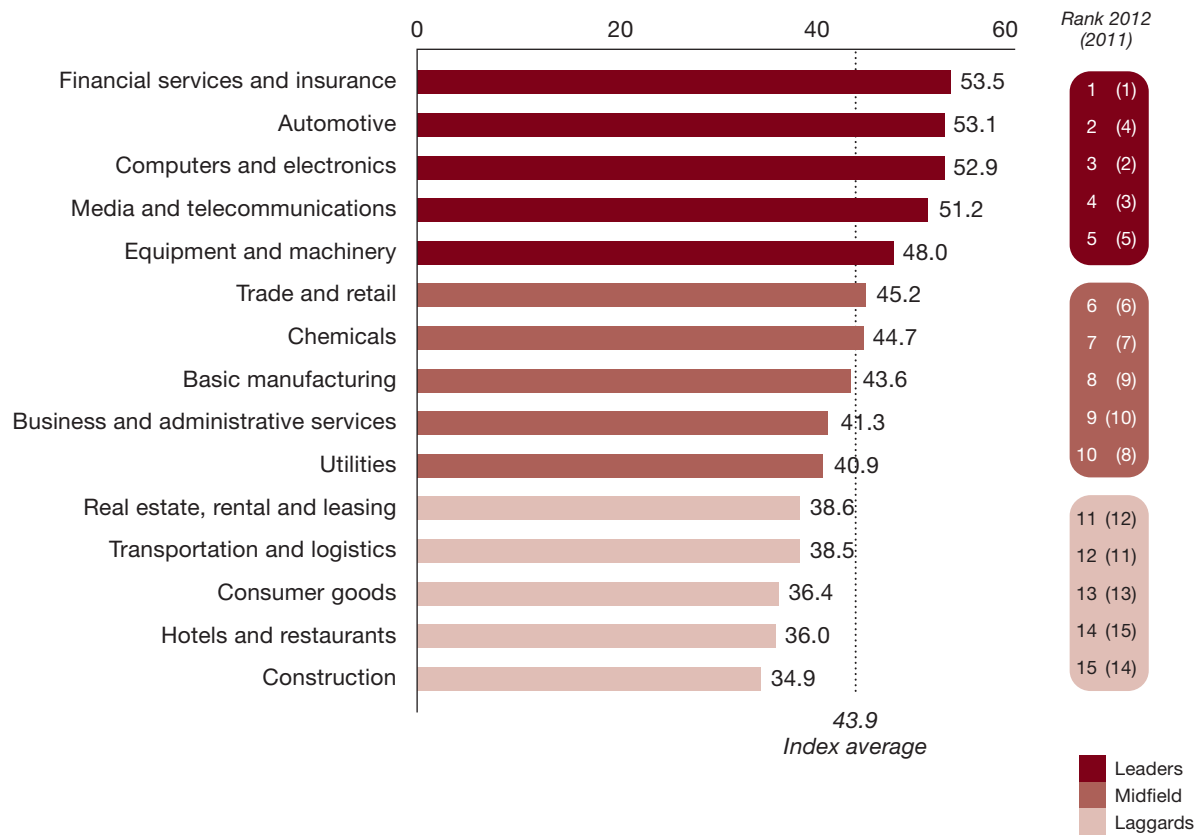
- Despite the difficult economic climate in Europe, companies in all industries continue to invest in digitization, and the speed of digitization has even slightly increased compared to the previous year.
- Financial services and insurance continues to be the number one digitized industry among the 15 industries we have analyzed. It has, however, fallen behind in terms of speed of digitization (from top ranking in 2011 to eighth place in 2012).
- Automotive has experienced the strongest growth in digitization and now is the second most digitized industry, closely following financial services and insurance. It has mainly made progress in digitization in customer-facing processes.

- The hotels and restaurants sector, one of the digital laggards in our study (14th in the industry digitization index), has heavily invested in digitization, mainly in infrastructure and customer-facing processes. Online travel portals increase pressure on established players to improve their online sales channels, and hotels seem to invest in modern customer-oriented technologies.
- Given the economic problems in many Mediterranean countries, digitization efforts in southern Europe are stagnating and eastern Europe is in position to move ahead of that region — it has already done so in some industries (such as automotive, computers and electronics, and media and telecommunications).
- Processing and output dimensions are at the center of companies' digitization efforts, and show the strongest growth. With a digitization index above 90, infrastructure presents little additional potential for improvement.

Leaders and laggards in the digital economy

Exhibit 1

Industry digitization index 2012



Source: 2012 Industry Digitization Study

- In 2012, the three most digitized industries in Europe are financial services and insurance, automotive, and computers and electronics.

These industries are very close in terms of their degree of digitization, with their industry digitization index ranging between 52.9 and 53.5.

They are significantly more digitized than other industries — 20 to 22 percent above the average.

- Industries can be segmented into three groups, the members of which have not changed from 2011 to 2012.

Leaders: Financial services and insurance, automotive, computers and electronics, media and telecommunications, and equipment and machinery. A number of factors have contributed to these industries' lead in digitization: Some of the industries are dealing with digital goods (financial services and insurance, media and telecommunications). Others are natively exposed to digital technologies; for example, automotive and financial services and insurance have long relied on IT to optimize their business processes and interactions with partners.

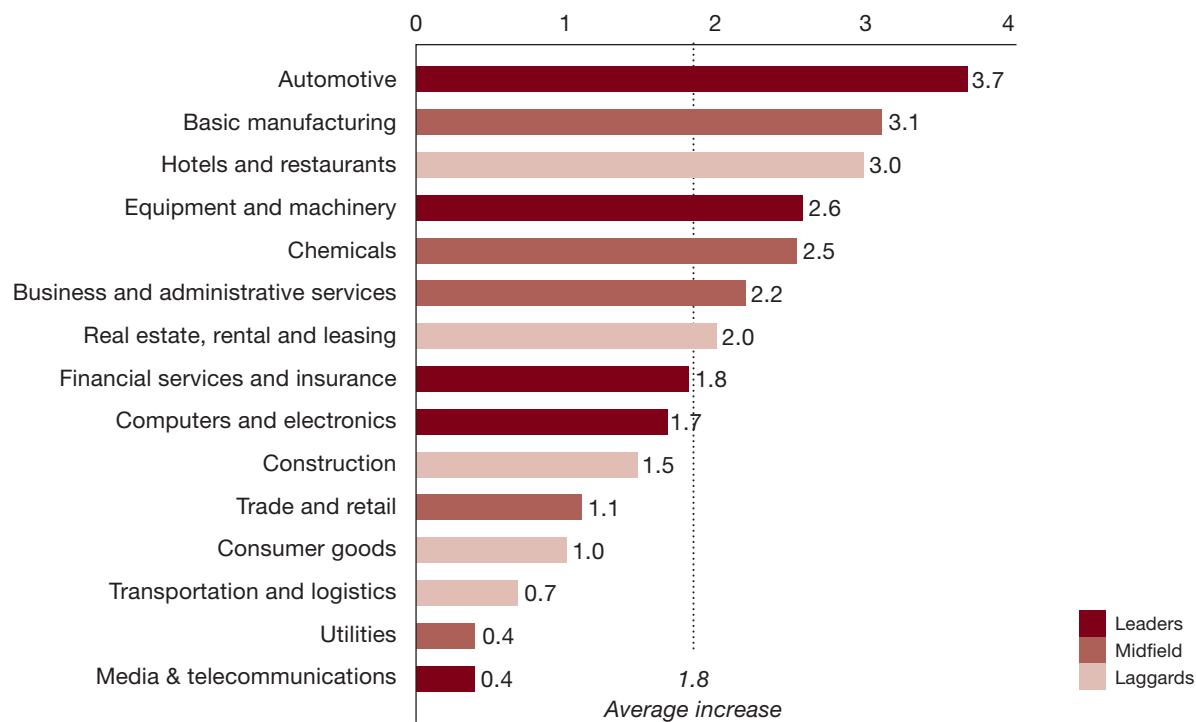
Midfield industries: Trade and retail, chemicals, basic manufacturing, business and administrative services, and utilities. These are industries that typically deploy technology more selectively, and especially in process optimization, but are less exposed to direct business-to-consumer digital pressure.

Laggards: Real estate, rental, and leasing; transportation and logistics; consumer goods; hotels and restaurants; and construction. These are the labor-intensive, old-economy sectors that one would expect to find at the bottom of the rankings.

The automotive industry is the biggest winner in the race to digitization

Exhibit 2
Some less digitized industries are working hard to catch up

Industry digitization index change 2011–2012



Source: 2012 Industry Digitization Study

- Despite the difficult economic climate in Europe, companies continue to invest in digitization and the speed of digitization has slightly increased.

Overall, between 2011 and 2012, digitization across industries grew by 1.8 index points on average, an increase of 4 percent.

This is more than the growth of 1.5 index points they experienced between 2010 and 2011.

- The automotive (+3.7 index points), basic manufacturing (+3.1 index points), and hotels and restaurants (+3.0 index points) industries experienced the strongest growth in digitization between 2011 and 2012.

The digitization of the automotive industry grew the fastest, by 3.7 index points. This is almost twice the average of other industries in the leaders segment, and almost 10 times as fast as the slowest digitizing industry, media and telecommunications, whose index experienced an increase of only 0.4 points.

Basic manufacturing — a midfield industry — saw its digitization increase by 3.1 index points between 2011 and 2012.

The hotels and restaurants sector is one of the surprises of this year's study: It grew its digitization by 3.0 index points, an increase of more than 9 percent.

- Digitization growth rates between 2011 and 2012 were surprisingly heterogeneous (see industry deep dives for more detailed explanations).

In general, leaders were still progressing faster (+2.0 index points on average) than midfield industries (+1.9 index points on average) and laggards (+1.6 index points on average), although this trend was less pronounced than in the previous year.

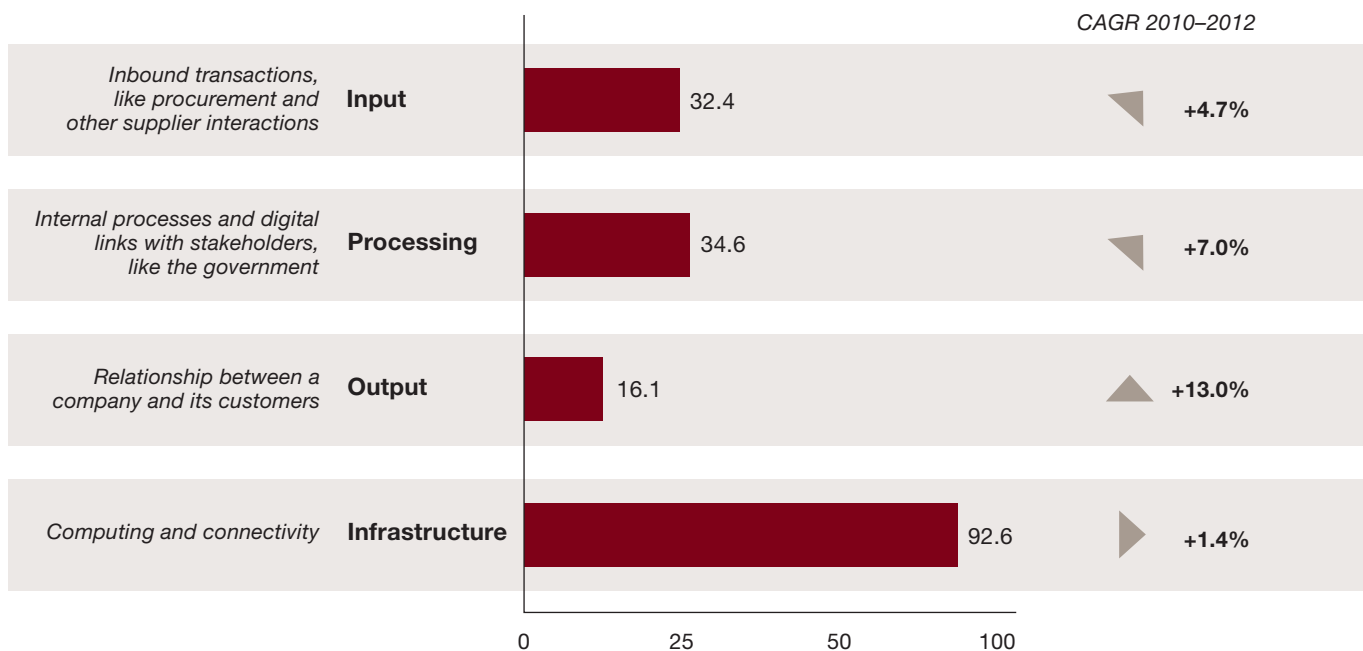
However, some of 2011's laggards managed to make progress in closing the digital divide, most notably the hotels and restaurants industry, as well as real estate, rental, and leasing.

Surprisingly, one of the digitization leaders — media and telecommunications — can be found at the very bottom of the digitization index change ranking, with growth of only 0.4 points. Financial services and insurance also seems to be struggling with digital investments, with growth of 1.8 index points.

Digitization of the customer interface is still lagging behind other dimensions

Exhibit 3
Companies are investing to improve

Industry digitization index by business process dimension 2012



Source: 2012 Industry Digitization Study

- Despite high-profile efforts by some companies to digitize client-facing processes, the digitization of the customer interface (output) dimension still lags well behind other business process dimensions, which have seen decades of substantial investments into supply chain or manufacturing automation.

The output dimension, referring to the relationship between a company and its customers, is the least digitized one, with an index of only 16.1.

The output dimension is thus only half as digitized as the input and processing dimensions, and lags behind the infrastructure dimension by a factor of almost six.

- Internal processes (processing) and the supplier interactions (input) also provide considerable potential for digitization.
- Only digital infrastructure is well developed in almost all enterprises.
- Digitization efforts still take place across the entire value chain. Indeed, all four business process dimensions experienced an increase in their digitization index between 2010 and 2012.

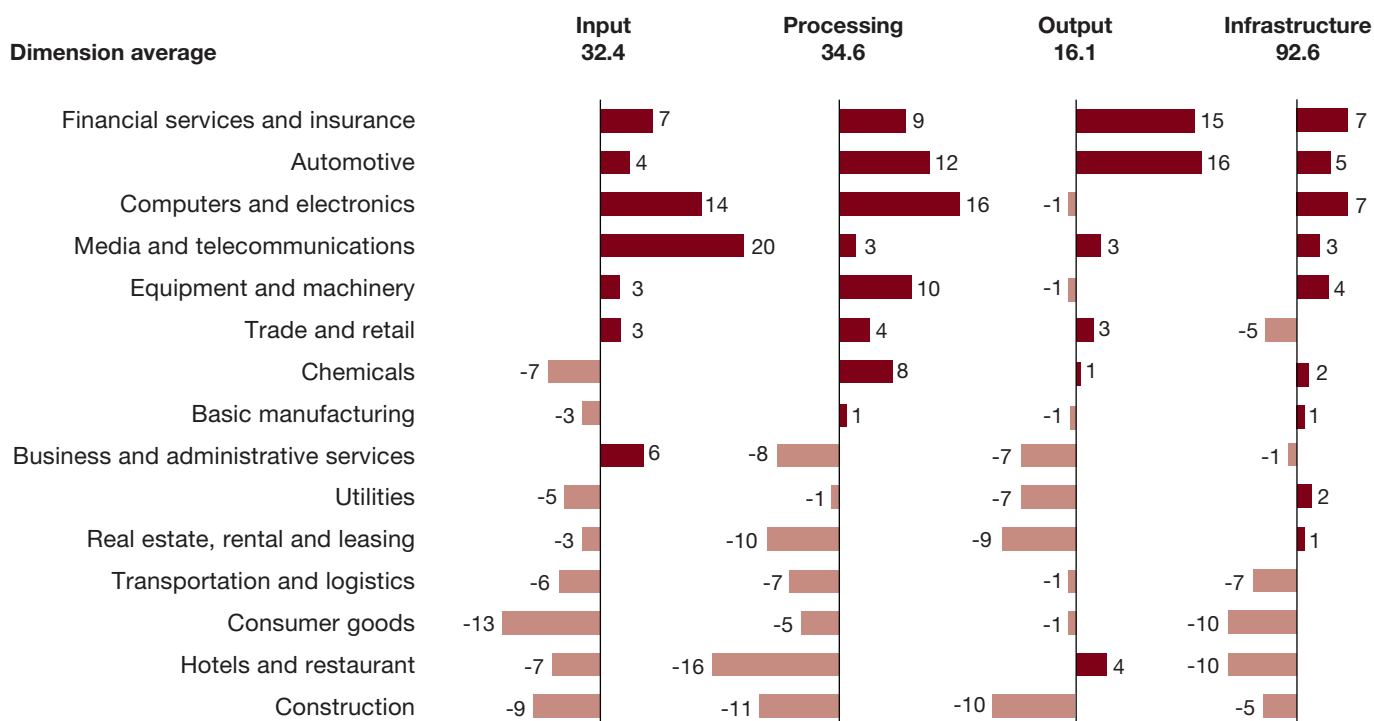
Although the output dimension still has the lowest absolute index score (16.1 in 2012), companies did focus on digitizing their customer interface, which led to significant growth (an increase of 3.5 index points, corresponding to average annual growth of 13.0 percent between 2010 and 2012). By emphasizing digitization of their customer-facing functions, companies aim to develop a unique digital customer experience; we expect this trend to prevail throughout 2013, given the omnipresent competition from pure online players in all industries. Adjacent factors/forces such as the smartphone boom, LTE broadband, and the increasing sophistication and availability of big-data analytic tools also fuel companies' efforts to digitize their interaction with customers.

The processing dimension experienced the strongest absolute growth between 2010 and 2012 (4.4 index points, corresponding to average annual growth of 7.0 percent).

Companies set different digitization emphasis by industry

Exhibit 4

Industry digitization index by business process dimension and industry
(deviation from average across industries)



Source: 2012 Industry Digitization Study

- Industries emphasize different business process dimensions when digitizing their business (see industry deep dives for more detailed explanations).

Financial services and insurance (15 index points above average) and automotive (16 index points above average) perform strongly in the customer-facing output dimension. The above-average performance of hotels and restaurants (4 index points above average) in those customer-facing processes is good to see. Computers and electronics, however, are still largely neglecting this dimension.

In the input dimension, computers and electronics (14 index points above average) and media and telecommunications (an impressive 20 index points above average) fare well.

Equipment and machinery companies have focused their efforts disproportionately on digitizing the processing dimension (10 index points above average).

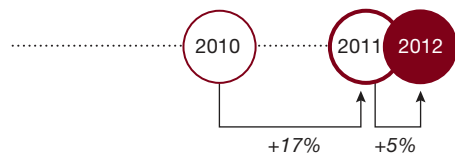
Southern Europe is stagnating in its digitization efforts

Exhibit 5

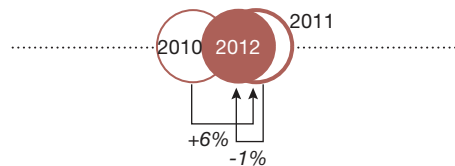
Eastern Europe has already passed the south in many industries

Digitization index by region 2010–2012

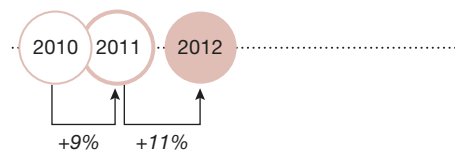
Central/Northern Europe



Southern Europe



Eastern Europe



30 35 40 45 50

Industry digitization index by region



- The degree of digitization in southern Europe is stagnating.

After an increase in its index in 2011 of 6 percent, southern Europe's digitization efforts stagnated in 2012.

No doubt the difficult economic situation in southern European countries is responsible for the reluctance of companies there to further invest in digitization.

- Eastern Europe is on a solid track to overtake southern Europe in terms of digitization.

The gap in digitization between eastern Europe and southern Europe narrowed from 6.6 index points in 2010 to just 1.7 points in 2012.

In fact, eastern Europe has moved ahead of southern Europe in some of the more digitized industries like automotive, computers and electronics, media and telecommunications, and equipment and machinery.

Financial services and insurance: still number one, but losing speed

Exhibit 6
Industry deep dive, financial services and insurance

Digitization index for financial services and insurance changes 2010–11 and 2011–12 in index points



Source: 2012 Industry Digitization Study

- The financial services and insurance industry keeps the top spot in our 2012 industry digitization ranking. With 53.5 index points, it is slightly ahead of automotive (53.1 index points) and computers and electronics (52.9 index points).
- Companies in financial services and insurance, however, seem to have taken a partial break in their digitization efforts.

Though the industry grew its digitization index by 3.6 points between 2010 and 2011 and thus set the benchmark for digital growth ...

... its digitization index increased by only 1.8 points between 2011 and 2012, which gives it a mere eighth position in the 2012 digital growth rankings.

- Despite the negative effects of the economic crisis, digitization in financial services and insurance is a necessity that companies can't shy away from.

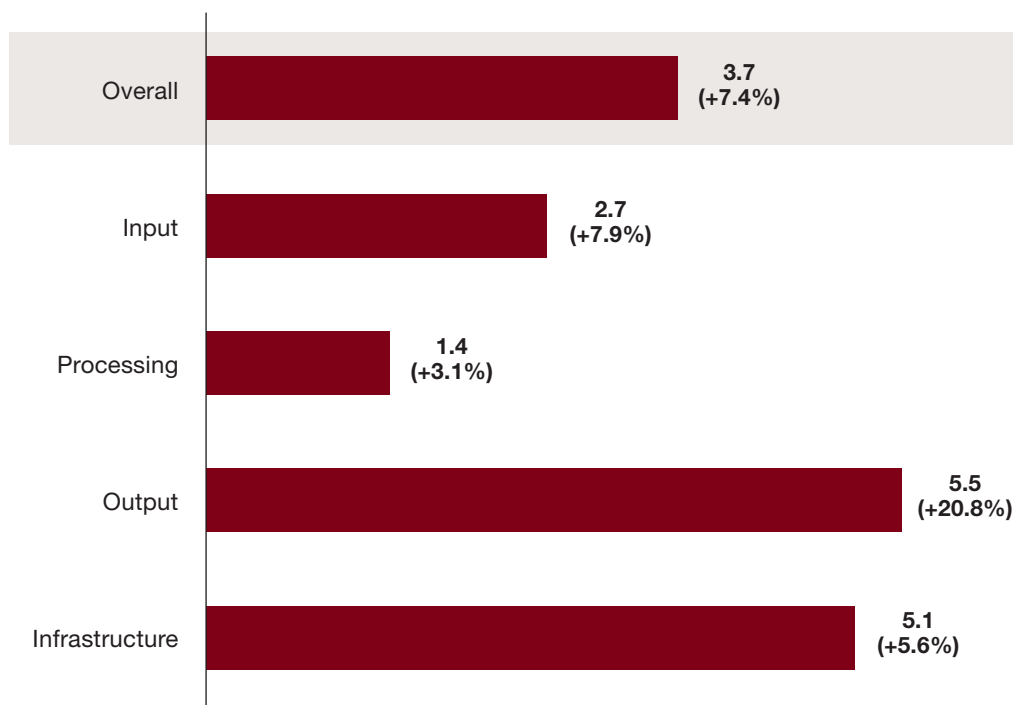
Discussions with banking executives highlighted that digitization in retail banking, and increasingly in private banking as well as front-office activities, moves ahead unabatedly. It is driven on the one hand by customers increasingly demanding digital services like mobile platforms, and on the other hand by the rise of pure digital competitors like short-term loan provider Wonga and crowdfunding platforms like Gofundme.

However, banks are being careful about large-scale technology deployments and related cash expenditures.

Automotive: Innovating at the customer front

Exhibit 7
Industry deep dive, automotive

Digitization index for automotive industry changes 2011–12 in index points



Source: 2012 Industry Digitization Study

- The automotive industry achieved the highest growth in digitization index between 2011 and 2012.

The overall digitization of automotive increased by 3.7 index points.

If automotive companies can maintain that rate of growth, the industry is likely to be the new digital leader in 2013.

Notable digitization efforts in the automotive sector include, among others, innovative e-vehicle solutions that are also starting to make their way into conventional car series; digitization of the customer interface via car configurator, website, online aftersales processes, and other methods; and ongoing digitization of internal processes.

- The main driver of automotive's improved ranking is its digitization of the output (customer-facing) dimension.

Indeed, digitization of the output dimension grew by 5.5 index points between 2011 and 2012.

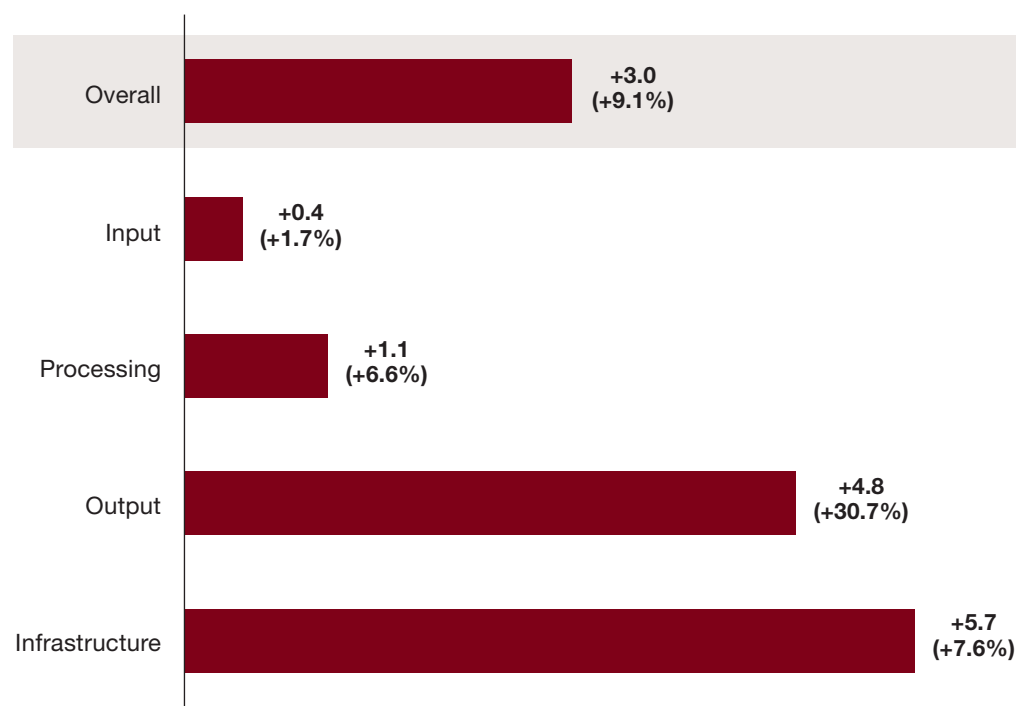
Automotive companies have long been operating in a very conservative mode, given their dealership-driven distribution setup with high fragmentation and a legacy culture. They have now massively joined the drive to digital, pulled along by consumer demand.

Original equipment manufacturers innovate on the retail front, introducing new digital storefronts online and on social and mobile channels, as well as in their dealerships, which increasingly play a new role in the customer value chain.

Hotels and restaurants: Amazing growth in output and infrastructure

Exhibit 8
Industry deep dive, hotels and restaurants

Digitization index for hotels & restaurants
changes 2011–12 in index points



Source: 2012 Industry
Digitization Study

- Although ranked second to last in digitization in 2012, the hotels and restaurants industry had the third-highest digitization growth rate (+3.0 index points).
- This solid growth overall is driven by strong digitization efforts in the output (customer-facing) dimension (+4.8 index points) ...

Digitizing the customer interface is a necessity, given the race for the customer in the travel industry — online travel agents have continued their fight for the customer relationship.

- ... as well as by a strong increase in the infrastructure dimension (+5.7 index points).

Companies in this industry finally seem to be taking advantage of the availability of inexpensive digital infrastructure.

Methodology

- The industry digitization index is derived from a wealth of data gathered by Eurostat, the European Union’s statistical agency. Among other statistics, the program captures data on how many companies with 10 or more employees use or have deployed various elements of digital infrastructure, tools, platforms, and management capabilities and policies.
- In creating the index, we began by dividing the data into four separate dimensions, each of which is defined by several sub-factors and components. The four dimensions summarize the following underlying data points:

Input: The extent of digital processes in the procurement stage of the business, including data points regarding the use of computer networks as well as electronic transmissions suitable for automatic order processing.

Processing: The degree to which processes are integrated, both internally and with external partners. The internal integration sub-factors include data points regarding existence and use of digital technologies such as ERP and CRM, as well as the use and purpose of internal information sharing among different organizational functions. External integration comprises activities such as electronic data interchange or supply chain management, which includes the use of electronic data transmissions to and from business partners both upstream and downstream.

Output: The importance of digital processes in the sales function, including the use of computer networks as well as electronic transmission of data suitable for automatic sales processing.

Infrastructure: The sophistication of the underlying IT technology, focusing on the presence and use of computers and computer networks (wired and wireless) as well as the presence and type of connection to the Internet, including the use of fixed and mobile broadband or other fixed connections such as cable or leased lines.

- Then, by logically aggregating the results of the data collected for each dimension within each industry, we were able to construct both the overall index and a deeper understanding of the progress each industry has made in each of the four dimensions.
- To enhance quality and increase comparability over multiple years, we adapted the variable set for the calculation of the 2012 index. Whereas scores for 2010 and 2011 have slightly changed on an industry level, these changes are not in conflict with last year's messages.

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