Arthur D Little

Viewpoint

The Digital Century: where is value headed in the digital space?

With supporting conditions, Europe can regain a leadership role in this fast-growing ecosystem.

The digital industry has been through a lot of turbulence in the last 15 years, since the Internet bubble burst after the dot-com boom. Customer usage has changed radically, technology has been regularly upgraded and new players have emerged. Some of these have skyrocketed while others have vanished or been reconfigured. Considering the immense changes in how we use technology, we have clearly entered the "digital century." Now, where is it heading to?

General wisdom suggests that, since the sector was fixed after the 2001 bust and new technologies play an increasing role in everyday life, all parts of the digital ecosystem have grown steadily and will continue to do so. To investigate this, and to contribute to the public debate regarding sectorial policies, Arthur D. Little built the Digital Value Tracker and has updated it annually for the past six years.

In this paper, we share the main findings of our tracker, provide numbers behind general perception and explain how big the digital phenomenon is. In particular, we show that the digital industry is globally pursuing a very robust growth path but that there are massive discrepancies between regions and segments. We also explain that Europe falls in the losing category but argue that it is not too late to change gears and put this region back on track.

Five key findings

From our analysis, which was conducted from 2007 to 2015, Arthur D. Little identified five key findings, some of which confirmed what we already knew and some of which were more unexpected.

Our key findings are as follows:

1. The digital ecosystem is growing faster than the global economy.
2. Not all segments of the digital ecosystem have grown since 2007.
3. Internet and software drive more value.
4. North America and Asia are diversified and growing fast, while Europe has stayed flat.
5. Telecom operators are Europe's digital champions but have delivered flat revenues compared to the rest of the world.

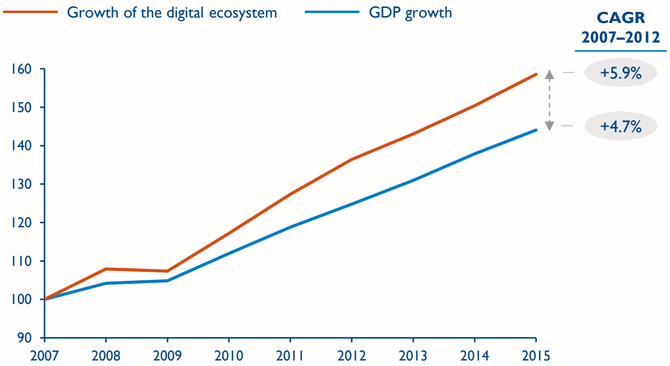
Finding 1: The digital ecosystem is growing faster than the global economy

The digital industry is universally seen as an area of strong growth, which is driving growth itself and creating more business in other sectors.

Our Digital Value Tracker shows that this is very true – the digital ecosystem has generated 15pp more growth than the general economy since 2007 – and that this trend has shown no sign of slowing down so far. In fact, the gap is widening between the digital sector and the general economy.

Revenues of the digital ecosystem vs. GDP[1,2]

World, 2007–2015, indexed to 100 in 2007



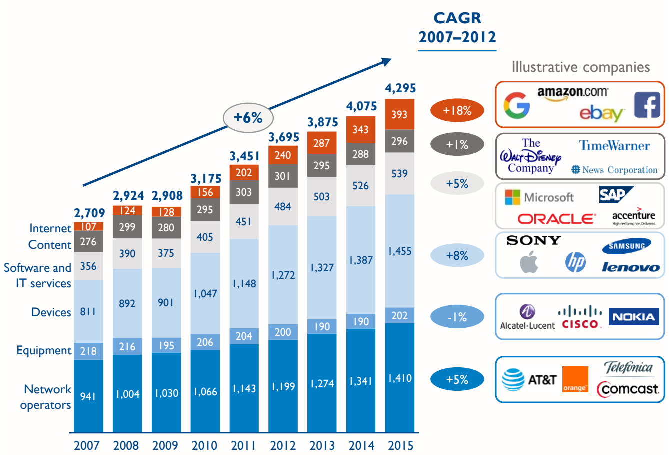
1 GDP based on purchasing-power-parity growth of regions captured in the digital ecosystem (same scope)
2 Digital ecosystem: top 30 players by 2015 revenues in each category
Source: IMF, Thomson Reuters, Arthur D. Little analysis

Finding 2: Not all segments of the digital ecosystem have grown since 2007

The growth in revenues is felt differently in the various segments making up the digital ecosystem: pure Internet players have generated a lot of traction (but represent "only" 9 percent of the total sector's revenues), while content and equipment have remained flat throughout 2007–2015.

Revenues of the digital ecosystem by segment[1]

World, 2007–2015, USD B



1 Top 30 per category by 2015 revenues
Source: Thomson Reuters, Arthur D. Little analysis

This segmented view also explains why many companies are trying to find growth in online activities and shows that specialized companies are generally more at risk.

It should also be noted that, despite all the fears of a new Internet bubble, the next wave of growth in the Internet segment is already on its way. Indeed, many new players have not been made initial public offerings (IPOs), hence are not apparent yet in our index. In 2015, the cumulative revenues of the top 30 digital "unicorns"[1] reached an estimated USD 38B, which already represented almost 10 percent of the top 30 Internet companies' cumulative revenues.

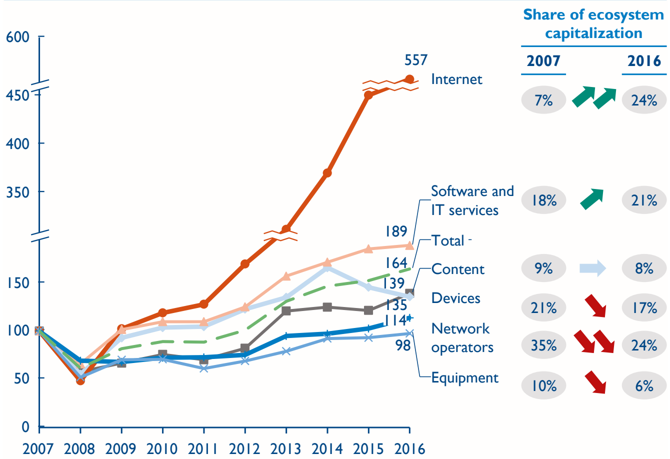
Finding 3: Internet and software drive more value

From a stock-market perspective, value appears largely driven by Internet players and IT services, as shown in the figure below. Thanks mainly to these segments, the value of the digital sector has recovered from the downturn since 2011–2012 and is now in excess of 65 percent versus 2007 levels.

Pure Internet companies have already captured one-fourth of the ecosystem's total value.

Market capitalization value by segment[1]

World, 2007–2016, indexed to 100 in 2007



1 Top 30 per category by 2015 revenues
Source: Thomson Reuters, Arthur D. Little analysis

Finding 4: North America and Asia are diversified and growing fast, but Europe has stayed flat

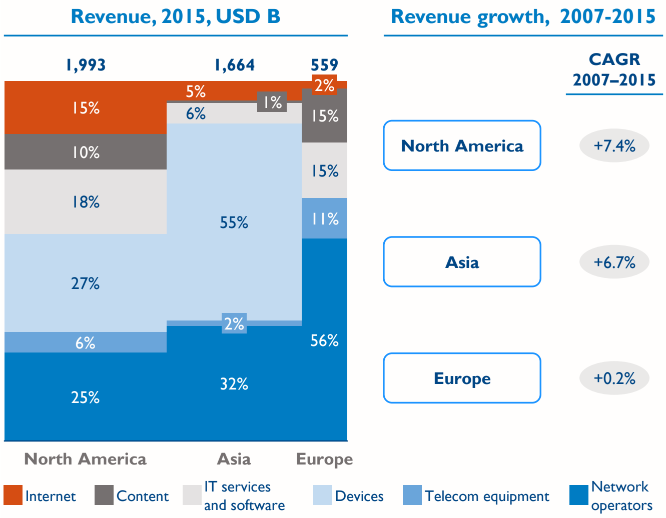
From a geographic perspective, North America and Asia are the leading regions, with 46 and 39 percent of total digital revenues, respectively, while Europe represents only 13 percent.

North America, largely made up of US companies, has managed to diversify its digital presence well, with three "buckets": a strong telecom segment (25 percent of total revenues), a large-device OEM sector (27 percent) including companies such as Apple and HP and a thriving Internet and software & IT services sector (33 percent). With this balanced profile, the US is in a good position to capture growth in all parts of the ecosystem,

1 "Unicorns" are private companies valued at $1 billion or more. As of November 2016, the top 30 digital unicorns are: Uber, Xiaomi, Airbnb, Palantir, Snap, Didi Kuaidi, Flipkart, China Internet Plus, Pinterest, Dropbox, Lufax, Spotify, DJI, Zhong An, Lyft, Coupang, Olacabs, Snapdeal, Stripe, Zenefits, Social Finance (SoFi), Vice Media, Tanium, Ucar, Credit Karma, Global Fashion Group, Jawbone, Meizu, CloudFlare, Delivery Hero. This list does not include the following companies, which operate in different markets: SpaceX, WeWork, Theranos, Intarcia Therapeutics, Stemcentrx.

but most notably, it has managed to keep all digital segments strong.

Revenues and growth of top 30 players, 3 main areas[1,2]



1 Top 30 per category by 2015 revenues
2 Nationality according to HQ location
Source: Thomson Reuters, Arthur D. Little analysis

Asia is more skewed towards devices, with leading companies such as Samsung, Foxconn, Sony and Panasonic: the segment totals more than 50 percent of the continent's total revenues. This region has also managed to grow robust telecom champions (one of which, China Mobile, is the largest telecom operator worldwide, with almost 850 million customers).

We expect that the share of the Internet segment will keep increasing in Asia, with the continued development of leaders such as Baidu, Alibaba, Tencent and Xiaomi in China – increasingly referred to as "BATX," the Chinese equivalent of the American "GAFA" (Google, Apple, Facebook, Amazon) – and Rakuten of Japan, as well as the possible emergence of new digital pure players. In 2016, the Internet segment accounted for 28 percent of the total market capitalization of the continent's digital industry.

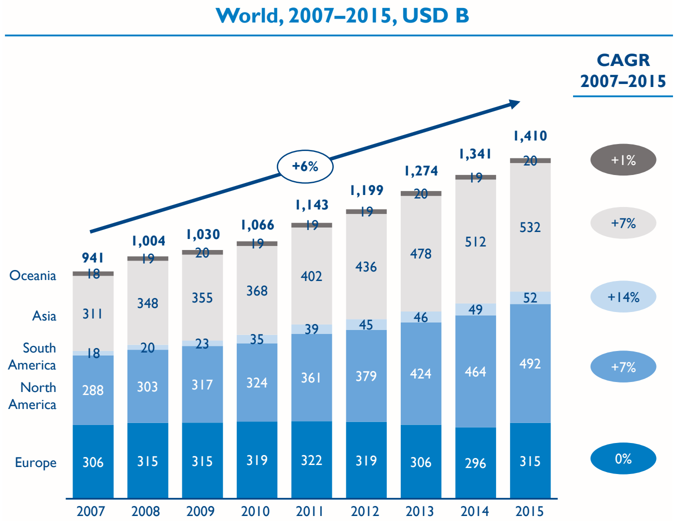
Historically, Europe has been strong in the telecom segment, having, for example, introduced and developed the GSM technology in mobile and ADSL in fixed broadband. The revenues of network operators in our Digital Value Tracker are similar in North America and Asia (approximately 500B USD each), and Europe reaches a total of 300B USD. Strikingly, Europe has not managed to develop or maintain a diversified portfolio of activities – in particular with Internet services, where it is clearly lagging behind other regions. As a result, Europe is in a weak position to capture new growth in the digital ecosystem, and is, in fact, the only region in the world whose digital industry has remained flat throughout the period.

Finding 5: Telecom operators are Europe's digital champions but have delivered flat revenues compared to the rest of the world

As Europe's digital presence is largely structured around its telecom operators, one may expect robust growth in this segment.

Surprisingly, this has not been the case, and Europe is, in fact, the only region whose telecom operators have experienced flat revenues in the 2007–2015 period. (See figure below.) Competition in the telecom field has been fierce over the last decade, lowering prices and putting telecom operators' revenues under pressure.

Revenues of telecom operators by region[1,2]



1 Top 30 per category by 2015 revenues
2 Nationality according to HQ location
Source: Thomson Reuters, Arthur D. Little analysis

The good news is that the telecom sector is not a no-growth industry, as North America and Asia are showing. In both regions, telecom and cable operators have grown, on average, by 7 percent per year. Another interesting fact is that this growth did not come from international expansion, as those companies are mostly focused on their domestic markets.

Call for action: Europe can still win in the digital century

It is often said that things move fast in digital – much faster than in other industries. This means situations can change and it is not too late to put Europe's digital sector back on track.

Considering its existing strengths, the telecom sector in Europe should be supported strongly. This would give it the chance to create some dynamics and support the establishment of the

European digital industry in the future. To do so, public policies should be rebalanced in favor of supply, as opposed to the current consumerist mindset. This new framework could also embed investment incentives – like what can be seen in Japan and Korea – as well as stimulate digital education curricula.

At the other end of the spectrum, new Internet players will not be built overnight, but the work has started in many countries. Attractive ecosystems are being built in several European hubs, such as London, Berlin and Paris. More can be done, particularly regarding the financing of digital ventures, start-ups and taxation.

The digital century has only started. New growth will materialize in unexpected areas. Capturing this growth will require governments and regulators to continue to foster innovation from new players and technologies and to support existing champions more actively.

Arthur D. Little's Digital Value Tracker: Methodology

Our team has built and compiled a broad database covering the 180 leading digital companies worldwide across six segments (telecom network operators, Internet, content, IT services and software, telecom equipment vendors, device manufacturers). Based on Thomson Reuters data we have tracked the top 30 listed companies by revenue in each segment (in constant 2015 value) and compiled their turnover, profits and market capitalization (as of the end of 2016).

In order to verify the validity of this group, we have run the same analysis with 600 companies (i.e., 100 companies per segment). As this has produced very similar results, we have concluded that our sample is a good proxy for the industry in general.

Illustrative companies by segment are:

- Network operators, e.g., AT&T, NTT, Verizon, China Telecom, Telefónica, Orange, Comcast
- Internet players, e.g., Amazon, Alphabet, eBay, Facebook
- Content providers, e.g., The Walt Disney Company, News Corp, Time Warner, Nintendo
- IT services and software providers, e.g., Microsoft, Oracle, SAP
- Telecom equipment vendors, e.g., Cisco, Nokia, Ericsson
- Device manufacturers, e.g., Samsung, Apple, HP, Sony, Panasonic, Lenovo

Some companies which are not publicly listed are not covered in this index.

For companies with diversified activities – notably, conglomerates – we have retained only those that generate at least 50 percent of their revenues in the digital sector.

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Arthur D. Little

Arthur D. Little has been at the forefront of innovation since 1886. We are an acknowledged thought leader in linking strategy, innovation and transformation in technology-intensive and converging industries. We navigate our clients through changing business ecosystems to uncover new growth opportunities. We enable our clients to build innovation capabilities and transform their organizations.

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