

Embracing the Digital Revolution

Pathbreaking technological advancements and the fervent demands of today's digital customer have created a game-changing opportunity for organizations to re-evaluate their business models.

Digital Transformation – A key priority for business leaders across industries

‘Digital Transformation’ (DX) is the new buzzword that has caught the attention of CXOs and management across industries and geographies over the last few years. However, this phrase does not have one common, concrete definition – it is being used and interpreted differently by every organization, specific to its own context, industry, market, and digital maturity.

What is more agreed-upon, however, is that digital transformation is not purely a technological or IT transformation within an organization, but a much broader journey of re-imagining or transforming business models and business processes within the organization, that has been made possible because of recent disruptive and pathbreaking technological advancements. ‘Digital transformation’ therefore, is not just about connecting to your customers and market digitally but is about creating an organization-wide culture to embrace new technologies, understand the power of these technologies in your business context and innovate.

IDC research predicts that corporate spending on digital transformation will reach \$2.4 trillion by 2020

The World Economic Forum’s Digital Transformation Initiative (DTI), in collaboration with Accenture, has assessed new technology spending estimates from IDC and notes that corporate spending on new technologies will **grow 13% between 2016 and 2020**¹.

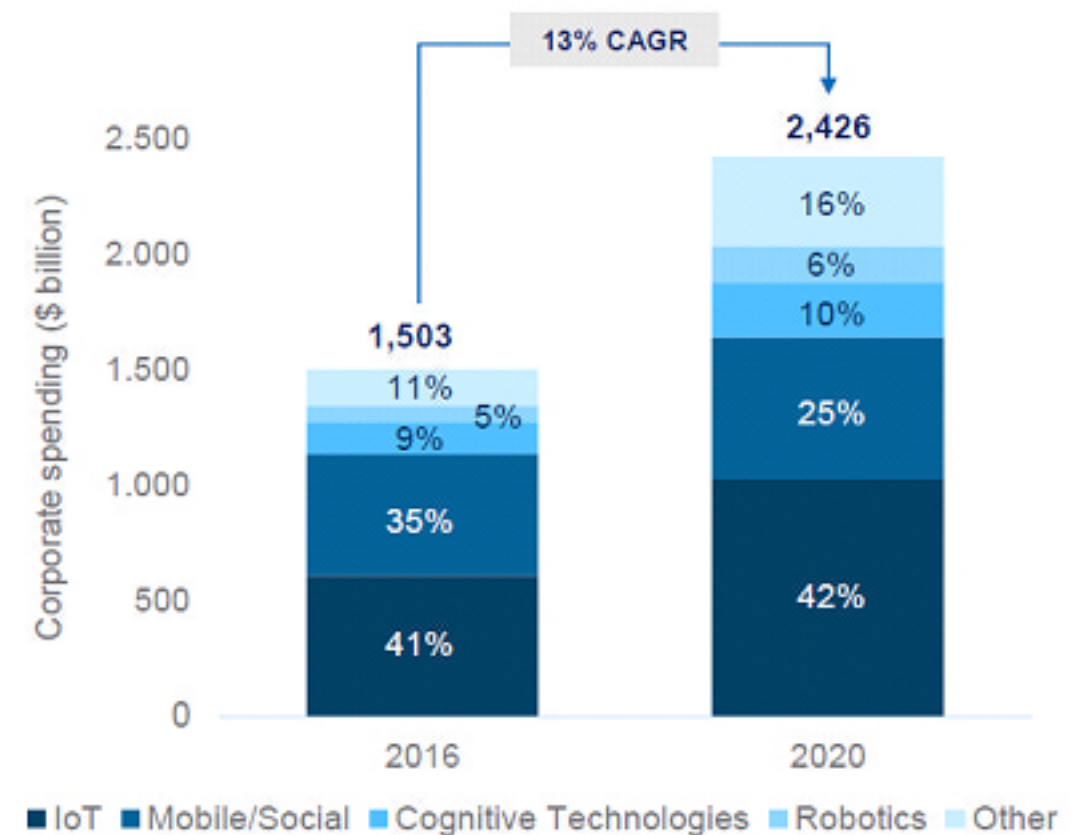
The Gartner 2018 CIO Agenda Industry Insights report² shows that all industries rank digital business as one of their top 10 business objectives. In 11 of the 15 industries participating in the survey this year, CIOs ranked digital business/digital transformation among the top three business priorities for 2018.

¹ World Economic Forum, in collaboration with Accenture, May 2018

² “Is Digital a priority for your industry?”, Gartner, March 2018

Corporate Spending on New Technologies (2016-2020)¹

% share by technology category



Source: Digital Transformation Initiative (DTI), World Economic Forum, in collaboration with Accenture, May 2018.

Why has digital transformation become a priority for most organizations today?

There are a few key reasons why DX is taking centre-stage today:

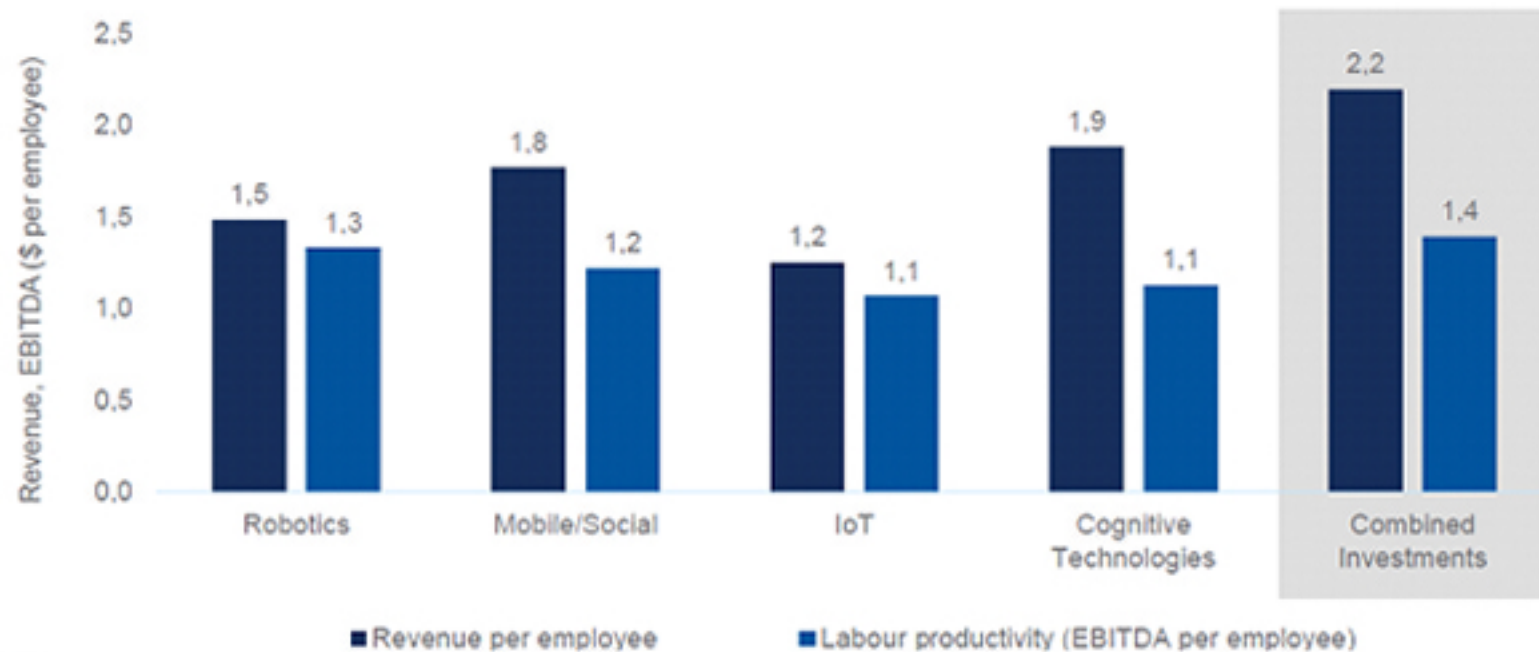
(a) Pathbreaking technological advancements and positive ROI causing adoption across industries

The last few years have seen several pathbreaking and disruptive technological advancements, not limited to the Internet of Things (IoT), Artificial Intelligence (AI), Augmented reality and virtual reality, 3D Printing, Blockchain, Big Data and cloud technologies. Combinatorial effects of these technologies are powering new business models that are challenging traditional ones.

The World Economic Forum's DTI notes that **"Return on investments in new technologies is positive overall, with a 3X productivity increase realized when technologies are deployed in combination."**

Return on Investment by Technology (2015-2016)^{1,2,3}

Impact of a \$1 new technology investment on revenue per employee and labour productivity at the average company. E.g. \$1 invested in combined new technologies has yielded \$2.2 – or a 120% increase in revenue per employee.



Notes

- 1) Econometric analysis based on 16,000+ companies across 14 industries with data sourced from IDC, Ovum and Capital IQ
- 2) Combined Investments shows the impact of investment in all four technologies combined (i.e. total amount invested in four technologies analysed)
- 3) Cognitive Technologies include Artificial Intelligence (AI) and Big Data Analytics

Evolution of standardized frameworks, open source solutions and multiple cloud-based service offerings from tech giants like Amazon and Google have made advancements across multiple technologies easily accessible to enterprises of all sizes. In addition, the opening-up of data or 'data democratization' means that everyone has access to large sets of data and tools to analyse this data³. Falling costs of these technologies and data is accelerating adoption across industries.

Examples of this can be seen in firms-small and big-across all industries and markets. **AgroTools, a world leader in agricultural intelligence, helps make the entire agribusiness supply chain more efficient by providing insights and intelligence through geospatial technology solutions.** Sergio Rocha, Chairman of AgroTools, notes that *"The only way to assess the integrity of territories as large as those in the tropical agribusiness at a distance is through the use of satellite data. Cross-referencing these data*

³"Disruption in Consulting", FlexingIt, 2017

with different types of information is complex and requires a robust infrastructure like Google's. It is digital transformation that drives the future of agribusiness." ⁴

London's Heathrow airport has been utilizing Google's suite of services including cloud storage, App Engine and BigQuery to collect and analyse real-time passenger information to help streamline and optimize passenger flow. It also enables their mobile application to provide real-time travel and retail information for passengers, flight updates and other interactive tools ⁵.

(b) Customers willing to share behavioural data to receive personalized offers and experiences

Today's consumers are increasingly more connected, better informed and tech-savvy than ever before.

Accenture research in the insurance industry ⁶ notes that "customers crave personalized offers and experiences from their providers. Eighty percent of insurance consumers are looking for personalized offers, messages, pricing and recommendations from their auto, home or life insurance providers. In fact, 77 percent of insurance customers are willing to provide usage and behaviour data in exchange for lower premiums, quicker claims settlement or coverage recommendations."

Customer expectations of hyper-personalized service, anywhere-anytime multichannel interactions and support, and "smart" or digitally enhanced product features are forcing businesses to transform not only their customer interaction channels and interfaces, but entire product/service offerings. Customization and personalization of service have become non-negotiable. Take media content as an example. The patterns of customer consumption of media content are changing. Deloitte Global ⁷ predicts that by the end of 2018, 50 per cent of adults in developed countries will have at least two online-only media subscriptions, and by the end of 2020, that average will have doubled to four.

There is a big opportunity to use combinations of big data analytics, IoT, automation and AI to understand today's digital customers and provide improved and personalized customer experiences that are backed by streamlined and automated operational processes. Unbundling of product / service offerings or breaking up product features and offerings into many smaller pieces that can each be bought separately and combined seamlessly is another way to provide customized experiences.

People now prefer to watch shows on Netflix or Amazon Prime at their convenience by paying a fee for specific content rather than having to wait for shows on cable television on a weekly or daily instalment.

⁴ <https://cloud.google.com/customers/agrotools/>

⁵ <https://cloud.google.com/customers/london-heathrow/>

⁶ "Digital Insurance: Satisfy the craving for insurance personalization", Accenture, 2018

⁷ "The Deloitte Consumer Review: Digital Predictions 2018", Deloitte Global, March 2018

Today's digital customer also carries service expectations from one industry over to every other that he/she interacts with. For example, the promptness in service and the ease of transacting available in e-commerce or in online food delivery services has become the norm for customer service expectations, whether it be in the auto-service industry, healthcare or media content. Hence, the entry of new players in the industry - Netflix streaming, Cure fit, mfine, and others.

(c) Access to customer data allows businesses to optimise their resources for greater operational efficiency

As firms that are part of a supply chain or part of an ecosystem innovate and change their models, others in the ecosystem are forced to do the same to stay in the game.

In the supply chain and logistics world, the advent of the 'digital supply chain', one that breaks down the inefficiencies associated with the lack of transparency across the supply chain, is a game-changer. The goal is to have all information visible to all players (including the customer) in the supply chain real-time. Advanced analytics and algorithms built over this data will enable every player in the chain to re-adjust and optimize their resource - whether it be raw material, warehousing space or logistical alignment. **Swiss Steel, a leading European supplier of engineering steel, now collects data from its workers using smart devices and from machines using sensors and brings it all together on a cloud-based networked platform. This has helped Swiss Steel significantly improve its safety procedures, price products flexibly, and reduce costs by utilizing real-time data in planning and management processes** ⁸.

In addition, collaborative social platforms are emerging that are allowing all participants in a supply chain to collaborate more transparently and efficiently. Add blockchain technology to this mix, and the digital supply chain would truly have arrived.

In some cases, pressures from outside the immediate ecosystem - societal (e.g. Japan's Society 5.0 initiative, see next section) and even regulatory or governmental pressures (as with the push for cashless payment systems in India) - are also pushing the digital agenda.

Increased engagement via social platforms have created powerful feedback loops and marketing possibilities for digital businesses.

Data captured using tracking devices, social media and macroeconomic data enables players to be agile.

According to a recent PwC study⁹ on the rise of Industry 4.0, a third of the more than 2,000 respondents say their companies have started to digitize their supply chains, and fully 72 percent expect to have done so five years from now.

⁸ <https://cloud.google.com/customers/swiss-steel/>

⁹ "Industry 4.0: How digitization makes the supply chain more efficient, agile and customer-focused", PwC, Sep 2016

Big data collected by IoT to help develop technologies that serve societal goals and interests

Digital transformation will not be limited to specific businesses and services but will become a broader societal movement. The digital revolution is permeating every aspect of our lives, causing fundamental changes in the way we live, work and collaborate. Japan's ambitious 'Society 5.0'¹⁰ is an interesting example of how the concept will evolve. **Society 5.0 aims to resolve issues in healthcare, infrastructure upkeep and management, mobility, environmental degradation, and urban decongestion, amongst others by utilizing the combinatorial power of real-time data and new technologies that can harness the power of this data.**

As part of Society 5.0, Japan aims to "create a society where we can resolve various social challenges by incorporating the innovations of the fourth industrial revolution (e.g. IoT, big data, artificial intelligence (AI), robot, and the sharing economy) into every industry and social life. Big Data collected by IoT will be converted into a new type of intelligence by AI and will reach every corner of society. As we move into Society 5.0, all people's lives will be more comfortable and sustainable as people are *provided with only the products and services in the amounts and at the time needed*."¹¹

Digital Society, a research program being undertaken by Dutch universities aims to bring together data and computer scientists with social scientists and humanitarian scholars and aims to "take on a leadership role in multidisciplinary research for a human-centred digital society" and develop technologies and applications that serve societal goals and interests¹².

Summary

In Summary, embracing the digital revolution is not an option but an absolute necessity for survival in today's world. The opportunity new technology presents are of unprecedented scale and complexity. No matter the industry, geography or size of the business, impacts of new tech are seen everywhere, touching customers' lives in ways previously not imagined.

Inevitably, firms will need to start thinking about how technological innovations can be used in their specific business context to drive value - *what* does being digital mean to the organization and *how* to start thinking about that journey. Part 2 of the Digital Transformation series addresses these questions.

^{10,11} https://www.japan.go.jp/abenomics/_userdata/abenomics/pdf/society_5.0.pdf

¹² The Digital Society: <https://www.thedigitalsociety.info/about/>

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This is part 1 of a 2 part report