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KEY TRENDS
FOR DATA-DRIVEN
BUSINESS

(for the next 3 years or so…)

Trakia TECH

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It is not the strongest of the species that survives, nor the most intelligent that survives.

It is the one that is most adaptable to change.

CHARLES DARWIN

Digital transformation process started two decades ago with the fast adoption of the Internet. This completely transformed how we communicate, live, and work. It also had a massive impact on many industries.

The Innosight study (https://www.innosight.com/insight/creative-destruction/) shows that during the last 60 years almost 90% of the Fortune 500 companies have disappeared, merged, or contracted. During the same period, the average life span of companies has gone down from 61 years to 18 years and is forecast to shrink to just 12 years by 2027.

The next ten years are going to be even more disruptive with the evolution of Internet of Things, where everything is connected, blockchain is here to change the way we exchange values and ability of the software to run the world (artificial intelligence, augmented reality). All of these technologies will find new applications that dramatically transform every industry in every region. The Innosight study shows that at the current market disruption rate, nearly 50% of the current S&P 500 will be replaced over the next ten years and 75% of S&P 500 companies from 2012 will be replaced by 2027.

Industries that are consumer driven, such as retail, telecom, banking, media, and entertainment, are already in the eye of the storm. The Internet of Things will transform the most conservative industries (services and manufacturing and services). When everything is becoming connected (homes, cars, farms, logistics, patients), business as usual is a thing of the past.

In a consumer and data-driven digital economy, the pace of innovation is merciless. Change has never been this fast, and it will never be this slow again. Companies already understand the power of the cloud, robotics, IoT (Internet of Things) and mobile. Other technologies like artificial intelligence (AI), Blockchain and augmented reality (AR) are also on the radar.
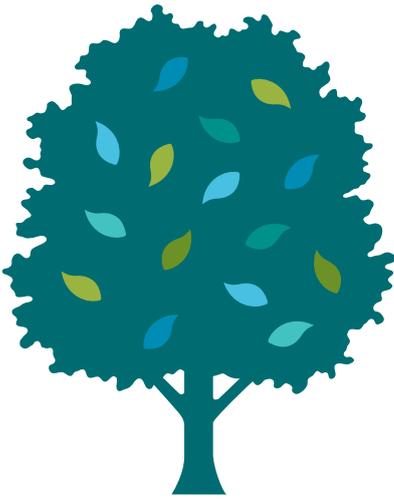
Through a combination of digital technologies, companies can achieve a 15 – 20% productivity gain

(McKinsey)

Data will fuel most of the innovations in the future. We are entering the era of smart mega-processes, which begins by combining the right data sets and converting them into intelligent insights. The latter then trigger automated transactions across the process. Leading companies that are making digital transformation a reality are putting data at the center of their future. These companies are not only delivering short-term value to shareholders but are also positioned to thrive and transform their industry.

Data-driven digital transformation is the formal effort to create new business models, customer experiences and value. It can only be successful if organizations are eager to disrupt their own business. If they don't, someone else will.

THE NEW ERA OF COMPUTING WILL BE DEFINED BY INTELLIGENT TECHNOLOGIES

Intelligent technologies will drive a next-generation value economy.

Benefits in machine learning are enabling algorithms to become very accurate in natural language understanding and image and speech recognition. Businesses may use these capabilities to drive the next level of processes automation and eliminate repetitive manual tasks. Automation can also be implemented far more cost-effectively because it is bundled more and more within business processes. All this means that the human workforce will be able to focus on high-value activities like customer success, strategic planning, and innovation.

IoT can connect everything into a system, from design to production to supply chain, and data-driven insights of customer preferences can inspire better design and lower material costs. Real-time data analysis of machines can

predict and identify potential quality problems and maintenance needs in manufacturing processes before they occur, reducing risks and asset downtime.

Entrepreneurs, benefiting from embedded analytics in business processes, can get real-time visibility into their changing environment and achieve better customer outcomes.

DATA-DRIVEN BUSINESS STRATEGY SUCCESS AND AI IN OPERATIONS

Data driven organisations are 23 times more likely to acquire customers, 6 times as likely to retain those customers, and 19 times as likely to be profitable as a result

(MCKINSEY)

Organizations are having success with data-driven digital transformation strategies that strengthen them to be more precise and agile with their business strategies.

Another driver for organizations to embrace data-intensive strategies is the early success of the application of machine learning (ML) algorithms and AI techniques in business operations. There are essential opportunities for organizations to capture and analyze streaming information from machines and IoT- connected devices. Predictive maintenance can lower operational costs. Insights from how customers utilize products can create new ideas for R&D and product management. Real-time understanding of manufacturing quality reduces material waste.

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FUTURE BUSINESS CHALLENGES WILL BE DIFFERENT

8 out of 10 early digital transformation initiatives have failed

(FORBES)

The world economic growth of the last ten years has been primarily powered by technology. Record corporate profits and new business models can all be tied to technology differences. Nowadays, on average, an S&P 500 company is being replaced once every two weeks. This "pace" is accelerating – with the apparent difference between winners and losers tied to their ability to embrace digital technologies. The next decade will bring about even greater shifts.

To address these challenges, businesses need to effectively use and understand the growing volume of data, use it to change their productivity, and innovate faster than ever. Today enterprises are already generating an overwhelming amount of data. However, most of them are unable to use it effectively to improve productivity.

Many companies have difficulty handling the data necessary for data-driven strategies. It is one thing to collect a mass of data from IoT devices or mobile apps, and it is another to correlate the data and to understand that it needs to be curated as an asset.

Organizations that adopted data-driven strategies are going to establish a competitive advantage and will develop new markets and opportunities that traditional enterprises will have difficulty capitalizing.

TYPICAL PAIN POINTS OF "DATA-DRIVEN" APPROACH

Technology should not aim to replace humans, rather amplify human capability.

Considering data and information are not without pitfalls and pain points, organizations need to be mindful of these specific topics:

• Information chaos

• Variety of data platforms

There are of course also other things to consider like GDPR, data governance, and governmental regulation.

Information Chaos

Information-driven organizations strive to connect data across business landscapes that span different sources of information. On the data collection side of things, they are great. However, there is a significant disconnect when an organization attempts to bring this information together. Natural silos exist between data sets that limit the ability to link this information. Differences in structure and timing create barriers. There can be an increasing amount of "noise" that separates the vital information and the mass of data surrounding it.

Solution: Automating the collection and correlation of metadata using auto-discovery and statistically validated machine learning is the long-term strategy to bring order to information chaos. With this type of automated approach, organizations can scale the collection and the connection of information from various data sources.

Too many data platforms

Together with the data sources expansion, there is also an expansion of the types of platforms on which those data are stored and processed. Average organizations have 2-6 different kinds of platforms in their data management environment.

Solution: Organisations should focus on how to link the processing power of each platform to make the best of each option or review the opportunity to use cloud-based data platforms which can offer the ability to access data via programmatic APIs beyond SQL or the query languages of NoSQL platforms.

THE IMPORTANCE OF THE NEW BUSINESS MODELS:

Reimagining business models were once something only for innovative start-ups. Today even the most significant global corporations must learn to do this or face the risk of becoming quickly disrupted or displaced.

Innovation networks rather than R&D units

Transaction costs will be going down making room for more peer-to-peer exchange, cooperation, sharing, and competition. The economics of organization, as we know it, is already changing - by a declining average number of employees in a company, rising numbers of freelancers. But very few have changed with respect to the important question - how to innovate, how to stay competitive, how to stay alive in business? Corporations have been leading the technological agenda for the past decade or so, with

their R&D units, labs, and secret (often military) funded programs, patents, and lawsuits.

Technological discoveries and their economic footprint in the past few decades, just like in many essential parts of human history, generally preceded advances in scientific and educational institutions. Yes, some universities have been a steady pool of spin-offs - invention-born companies, often created by applied researchers - that has also been an essential part of the innovation process in the big companies (who would eventually buy out the most promising startups).

The "collective brain" will still need labs, universities, and R&D units, but for your business to stay on top of the innovation wave, you will need to share more ideas and probably keep fewer secrets. Being an active player in the innovation network, and may be creating such, will be of crucial importance for a viable business model.
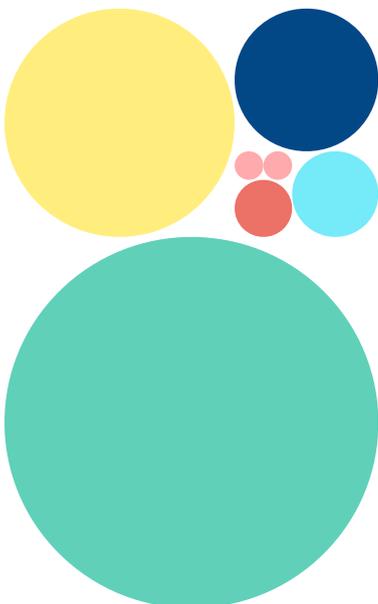
Going back to the center of economic relations

Customer experience should drive a company's overall strategy. Executing business transactions flawlessly and consistently is no longer sufficient. Companies need to optimize the decisions that drive transactions. Digital innovation will be data-driven. In the past, business applications were the "center of the Universe" and data was the servant. That is now reversed.

The consumer-centric approach may be new for some companies, but also it is going back to the core of the value creation - it is about the end user, the customer, the person. The industrial age of the stages 1.0 up to 3.0 have been mainly about product development, its efficient production, marketing, and delivery. The feedback from customers was reserved for industries serving end users, from hotels for car dealerships. Moreover, as a rule, the

bigger the company is the less chance to maintain sensible communication with its customers.

Think about the small hairdresser in the neighborhood, where the owner knows all his customers, their lifestyle, plans and all the stuff that matters for a great personalized hair-dressing service. Now think about your customer experience with the airline company. Despite all the effort to be friendly and kind, at the end of the day you get not only the standard product (air transport), you also get the standard unified service (from booking your flight to getting your ski or guitar onboard).

In a data-driven, Industry 4.0, age it does not have to be like that. Big businesses, rich in data, will be even more able than a smaller player to offer a personalized experience to the final user. The whole meaning of "product" might change, a bit or more, but the customer experience will remain as important as always. The value creation will be focused on better customer experience via personalized approaches and customizable products.

And there's more. The wealth of customer data may serve not only the final product manufacturer but also all the player in the value chain. To integrate our partners and suppliers in our data-driven approach will be as crucial as keeping the deliveries on time.

Changing the meaning of "circular economy"

The data-driven value creation also brings a shift in the paradigm of "circular economy." The classical meaning was implying using the waste and by-products of one activity as resources for another. The new perspective of the "circle" implies continuous usage of end user data for the constant improvement of the product. Your SUV may be sending data continuously not only of the service shop but also the R&D teams of the tier 1 suppliers (that design and produce components like steering wheels, air conditioning, etc.)

In the new paradigm, data fuels product development and then product consumption creates even more data, then based on that data we improve existing products and create new ones.

Speed matters. It's better to change while you can, rather than when you have to.

The rate of innovation continues to accelerate. New ideas, products, and services are brought to market faster than ever, and product lifecycles continue to shrink. As consumers demand more speed and simplicity, technology becomes essential in providing delightful experiences. It is worth mentioning that the real purpose of technology is to augment and amplify human capabilities, not to replace them. Technology should ultimately help us run better and improve our lives.