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# NEW WAVE OF DIGITAL TRANSFORMATION — MACHINE LEARNING SOLUTIONS IN BUSINESS

**Abstract:** Artificial intelligence (AI) is a key factor in the next phase of digital transformation in business processes. Machine learning provides a very promising opportunity for companies, but it is very complex process to define the best option for each company. I have collected the most promising AI solutions in the field of business. Most of the companies tend to set up strategies to introduce and apply artificial intelligence solutions. Based on the wide scope of cloud services offering on-demand access to advanced computing infrastructure and managed Artificial Intelligence services, it is becoming easier and easier for companies to test these solutions, to experiment the results and to innovate new solutions for their business operations.

In the first step, it is important to define what Artificial intelligence is. Furthermore, companies also have to analyze and understand their own business before implementing AI solutions. This is similar to the digital transformation process, where companies may even need to reinvent their own business in the digital world to stay competitive. Based on these efforts, many companies are in the phase of defining the opportunities in their business to advance their analytical practices with machine learning. The main aim is to develop algorithms trained on data sets in order to define basic and common data patterns to make predictions for business purposes. I collected several examples in different industries where these processes are already under way or already in operation. I will demonstrate the main solutions and the expected results in business.

The main examples in business referring to artificial intelligence may be found in the fields of financial services, marketing, retail, healthcare and real estate business. The main advantage of AI in these areas mainly focus on to improve customer services, to automate workloads, to optimize logistical procedures and to increase efficiency. Furthermore, aim of application of AI solutions may be to prevent outages, fraudulent activities and even to predict performance and behavior. Most of the companies usually aim at managing and analyzing their sets of data to develop their marketing and advertising activities.

The **object** of the research is to analyze how companies start introducing AI solutions and how the analyzing phase of sets of data are prepared and carried out in business sectors where AI is already applied.

The **objectives** are to show how companies may take advantage in this latest phase of digital transformation. Significant examples of companies in different industries are collected to demonstrate the main trends.

Tasks of the research is to define key examples for a company to initiate the introduction of AI solutions.

The paper is based on literature survey as research method. From methodological perspective, companies that have

already started to apply AI solutions are in the focus. Economic institutions and the major advisory firms also provide economic reports on expected changes in business management, e-commerce and marketing activities based on applying AI solutions.

Keywords: digital transformation, artificial intelligence, implementation of AI solutions in business

#### 1. Introduction

Looking at the latest developments in the business world, we can see that the latest solutions that have been introduced such as technological solutions – will and already have significantly changed the economic environment of companies. The first technological wave may have contributed to the increasing penetration of personal computers, the global internet network. In addition, numerous company and office management programs have also been installed in the last decades. The latest technological wave has just begun a few years ago. This phenomenon is usually described as digital revolution or digital transformation. The most important features of new solutions are that new digital solutions were introduced in each segment of economy. Looking at the main trends, it has to be mentioned that brand new digital platforms have been created in communication, sales and mainly, in all important management functions. It is also a striking feature in this new change that IT skills have become one of the most necessary knowledge to be adopted by employees, managers and the entire company. All participants have to learn reading and writing in the field of these skills. Mainly, each new way of communication is definitely based on new IT managed platforms. Technically, every communication channel has become more efficient and faster due to the application of these new digital solutions. In addition, a proactive communication method has also become a striking feature within this field (Accenture 2017).

Analyzing today's IT-based trends in business, we also have to describe the impact of intelligent computing in business as well. Intelligent computing applications are making a significant impact on businesses and enterprises today. Companies are applying computing techniques, such as neural networks, fuzzy logic, genetic algorithms, and intelligent agents, to increase their knowledge base. These computing techniques will enable companies to cope with problems which are too extremely large or complicated for humans to handle. The time factor is also a key factor in this procedure. Companies will apply knowledge management systems that will explain these techniques and the differences among them. These systems will also help companies to define how they should manage knowledge in order to reach the important goals of the company.

We also have to see that this phenomenon have led to major changes in the corporate environment. In this case, the participants in this environment have been changed significantly. Practically, the main change may be described in a way that the partners of a company such as suppliers, customers are able to react much earlier than at any point of time before with respect to a business product cycle. These participants may also give feedback right away and may even reply at a much earlier stage than ever before. Companies may also receive customers' opinions and communicate with its customers already in the planning phase.

In addition, cost management practices have also been planned and carried out due to these new technological solutions. Since each customer is able to express its impressions and opinion at a very early stage of the planning phase – even before any production has been carried out. Consequently, the so-called "redundant" service and product thoughts and ideas may not even need to be prototyped or developed if these preliminary customer reactions, impressions suggest it that way. Previously, companies have wasted enormous financial resources relating to these redundant activities. Nowadays, companies applying new technological set of solutions, companies do not need to invest these amounts into these tasks anymore. Companies can actually carry out an entire product development process chain without prototyping or producing activities should customers not prefer the product idea. As a result, a significant amount of development cost can be avoided or saved in this respect (Earley 2014).

These changes have also led to modifications in the services companies render and the way they develop new types of services. Digital services and products are not traditional goods in a sense that they are "only" placed into a digital market environment. Even customers' behavior has changed significantly due to these new technological solutions. Now, the so-called digital customers already have new and different requirements than before. Therefore, these new digital services have to perform in a new and digital environment. The most important focus of companies will be the digital customer and the main purpose is to reach the digital customer satisfaction (Deloitte 2016).

If we review these changes from a technological perspective, we may see that these new changes were introduced in a new, digitally determined environment. Therefore, companies have to act and work in a new digital business platform. The key elements of this new digital platform are (Gole, Kaltenbrunner 2014):

- social media,
- mobile technologies,

- big data analysis and solutions, as well as
- cloud computing technologies.

The elements of this new digital platform provide significant advantages for companies. Social media has opened up new and much more cost-effective communication channels for companies than ever before. Companies can now easily communicate with customers in an easy and cost-effective way. Mobile technologies made communication channels easier to reach. Mobile technologies also created a new platform that enabled companies to install new business developments. In this case, the key elements are applications designed for smart phones. The application of mobile technological and social media solutions have also created a vast amount of customer data in a very short period of time. This enormous amount of data may only be analyzed for company purposes by applying big data solutions. Even the management and the storage of this amount of data would be a huge task for any company. Therefore, the application of cloud technological solutions assisted companies to manage and store huge sets of data in an easy and cost-effective way.

The latest technological trend that will have significant impact in the future is Artificial Intelligence. Moreover to these four main factors listed above, we have to see that not even human beings can create digital networks in the future, but also computers and machines will have the ability for these actions. Computers will also be able to communicate with each other, teach each other and can even create their own digital networks. In addition, these smart machines may also be able to analyze the enormous amount of data produced as a result of these new data-driven technologies. The computers will probably "teach themselves" by analyzing the enormous amount of data they have actually produced (Gole J., Kaltenbrunner R. 2014).

Further to the above, we have to see that Artificial Intelligence (AI) solutions make it possible for machines to learn from experience and teach each other. Machines can also learn to modify their inputs and even to carry out tasks that are performed by human beings today. By implementing these new AI technological solutions, machines and computers may even be taught to perform specific tasks. In this case, machines will processing enormous amounts of data and the machines will also set the set of goals for analysis. The patterns in the data will be determined by them. As a result, machines can be able to replace human workforce in several jobs and at the same time, the introduction of these new technologies will also lead to job creation in different areas as well. The expected impacts are the main focus of my research (Accenture 2017).

# 2. Main challenges for companies based on digital transformation process

The already described new technological solutions have already led to significant changes in the operational patterns of companies. Most of these companies has already begun to modify and optimize its core business operation relating to these new challenges and newly defined tasks. First of all, most of the companies has modified the internal operational ways and methods to understand and to fulfil the customers' needs and expectations in this new digital environment. The most important changes are (Deloitte 2016):

- Significant reductions in the time it takes to make critical product enhancements.
- Testing new product and service ideas quickly and cheaply, withdraw it if there are any problems.
- Major costs reductions by eliminating the development phase of "redundant" features that will probably fail in the market customers' opinions reviewed and evaluated already in the product development phase
- Sharp revenue rise may come from products that are targeting the customers' needs with better features.

To sum up, companies have managed to collect a much larger amount of customer data in a much shorter period of time than ever before. Companies have had to speed up tremendously their data management processes in order to be able to provide immediate replies to the customers' needs. This fast data management process required new IT infrastructural investments and even new data science experts had to be hired as well. As a result, the sudden and complex analysis of these significant sets of data have led to structural changes within the companies' data management structures. In addition, companies introduced data collection methods even for life periods of products in which none or very little data were collected before. The focus of data management in time has been extended from the sales phase to the all previous business phases, especially to the product development phase. As a result, customers became able to express their impressions and opinions with respect to a new product at a much earlier stage. Therefore, only those product plans could get into the production phase that were evaluated positively by the customers in these preliminary, digital planning phase (Deloitte 2016).

Subsequently, most of the companies have started to modify the internal, operational processes to meet these new digital challenges. After learning new ways of customer data collection, companies have started to redesign the internal information channels and the management processes as well. As mentioned above, one of the latest digital transformational challenge may be defined as the implementation of Artificial Intelligence solutions. AI solutions may be integrated into business processes in order to increase production capacities and to reduce labor intensive cost burdens.

Introduction of AI solutions may be challenging for companies for several reasons. In general, to introduce an artificial intelligence cloud solution, companies may be required to carry out preliminary instructions to modify business environment within the company. In addition, cost-benefit analysis of implementing AI solutions also has to be undertaken for business processes to be taken into account. AI implementations may be disruptive to workforce morale. It may be the case when cost reduction is the aim through the substitution of capital for labor. Furthermore, new solutions are also elaborated below.

# 3. Definition for Artificial Intelligence

Artificial intelligence is not a new technology, since it was already mentioned for the first time in the 1950s. In the first phase, Artificial Intelligence had different forms and uses. One of the most popular ones are machine learning, deep learning, or cognitive computing. John McCarthy, who designed the term in 1956, defined Artificial Intelligence as "the science and engineering of making intelligent machines." (Axelberg 2016)

Nowadays, the latest definitions for Artificial Intelligence mainly focus on computer science and how machines can imitate human intelligence. The most common phrase regarding the aim of this system is that being human-like is the focus instead of becoming human. If we put it in a simple way, this is a method to program machines or computers to carry out tasks with human intelligence. Verbal performing with human intelligence in special situations such as responding to queries is also very important. The implementation of algorithms based on numerous data sets and rules to solve problems is also based on AI solutions. In this latter case, human neural networks may serve as a basis for some new models, especially for the ones designed in line with artificial neural networks. As a result, AI systems may also be able to provide human-like responses (Ransbotham S., D. Kiron, P. Gerbert, and M. Reeves 2017).

# 3.1 Main tasks and steps to carry out in connection with Artificial Intelligence solutions

As mentioned above, artificial intelligence provides enormous opportunities for companies in the field of data collection and data analysis. Based on the results of the data management and sensor technologies, machines or computers may be programmed to perform numerous with human intelligence.

Analyzing the main advantages of AI in business, a survey carried out by company executives has defined the following key areas (Dern 2019):

- Types of AI technology, like machine learning, deep learning, natural language processing, and cognitive computing. Understanding what these are and the different types of data and tasks each is good for help to get a better grasp on AI, and understand the requirements and limits of various goals.
- The main types of processing AI, such as image and speech recognition, predictive analysis. This will help companies to give a general sense of what AI is being put to use for. Even governmental institutions, education and science may apply these solutions.
- Use Cases: what specific tasks these capabilities can help with, such as smart agents (for phone, chatbots, and more) identifying computer advantages and threats.

Besides defining the potential implementation areas for Artificial Intelligence, we may also need to look at potential dangers resulting from this system. Implementing AI solutions within a company's internal operational processes will lead to major changes and impacts on different areas of the company as well. The impacts may be similar to an entire transformation process within a company. The main challenges that need to be reviewed are (Dern 2019):

- to understand how the AI system actually in works in the actual company environment.
- to check and analyze the IT environment to apply the AI solutions. The hardware-level virtualization, memory levels, main infrastructural frameworks have to be analyzed.
- to prepare data management environment and techniques for applying AI. Data management is key with respect to proper implementation.
- to choose AI tools that will give clear, actionable results. It is common that endless pages of mostly-unimportant findings may also be produced by choosing improper solutions.

For a company, it is important to choose from AI solutions that already have experiences in operation instead of choosing a product that may still be in development.

# 4. Main trends in business based on Artificial Intelligence solutions

It is highly expected that artificial intelligence will dramatically change and transform numerous industries. We assume that the changes will be carried out from the financial sector and business development to healthcare and real estate. Nowadays, many companies have already started to apply AI solutions and it is expected that even more and more are expected to follow this trend in a short period of time. AI solutions may be implemented to improve efficiency in case of chosen corporate processes. The most common current implementation methods of artificial intelligence are chosen and detailed as follows.

# 4.1. Artificial Intelligence in Finance

Artificial intelligence is already applied in financial technology. This filed is always open to innovations. The harsh development of the digital world has actually revolutionized the financial world. It is common today that the so-called fintech companies are booming. According to a survey by Accenture (Accenture 2017), global investment in fintech companies has already exceeded \$23 billion. Buzzwords such as cryptocurrencies, crowdfunding, and online payments describe the most common innovations in the sector launched lately. Artificial intelligence is actually the newest trend in financial world. We may see that both small start-up companies and major institutions apply AI solutions in order to provide faster and safer services for their customers. The main solutions that are applied in the financial sector based on AI technology are listed as follows.

# 4.1.1. Trading in financial markets based on AI solutions - instead of humans - may help to reduce trading volatility and apply financially successful patterns based on customer data

As a matter of fact, financial analysts as human beings used to track prices and indices in the markets. They also tried to make the best financial decisions. Nevertheless, it was not based on a general system, but it was mainly relying on each person's expertise and good luck (Accenture 2017). AI solutions have made trading transactions easier and less risky. Less risky means in this context that the possible mistakes of human beings may be diminished by applying AI based solutions. Most of the major financial institutions, such as banks and hedge funds, have already begun to apply artificial intelligence solutions in the planning phase. Smart machine learning algorithms may also able to perform "automated decisions" based on big data methods used to analyze enormous sets of data. These algorithms may even assist to manage trading systems based on advanced machine learning and data science. Based on the latest experiences, a company's AI system may set up trading patterns based on new customer data and analyze them in order to prepare immediate replies to the fast and constantly changing market conditions.

#### 4.1.2. AI solutions help preventing frauds in financial markets

As mentioned above, trillions of financial transactions are carried out every day. The regulating authorities are massively challenged in this environment to detecting cases of fraud. The implementation of machine learning algorithms can support authorities to prevail financial security in the markets. Machine learning algorithms can analyze and determine whether a user's behavior may be judged as fraudulent.

The machine learning systems will also be able to reduce to a minimum the number of false positives. AI algorithms will also be able to learn automatically to predict what transactions will be applied by fraudsters. AI solutions will also be able to prevent these fraudulent transactions (Feldman 2019).

Looking at corporate examples, we may see that fraud is a significant concern for insurance companies. These companies wish to minimize losses and to hinder unjust payouts. Therefore, these companies also apply AI-powered solutions, such as the SAS Fraud Framework, to use sophisticated algorithms to uncover fraud and abuse.

#### 4.1.3. Personalized investment plans

Artificial intelligence is advantageous when it comes to personalized investment services. Most of the financial institutions have already introduced robo-advisors to assist customers with investment decisions. Most of these systems may be able to choose the best assets to invest and also analyze the latest market trends. Therefore, these solutions make also continuously adjustments to the initial plans (Richards 2019).

An AI solutions such as an assistant in investment are may increase the effectiveness of investment administration, and can easily personalize each client's portfolio allocation. Portfolio management may also be automated to a high level of extent.

#### 4.2. Artificial Intelligence solutions in Marketing

Besides finance, marketing has also introduced numerous artificial intelligence solutions. The main aim of marketing is to increase sales revenues and to start profit-generating marketing activities. The big data methods and solutions enable marketing to manage and develop new solutions based on AI systems. The main solutions in marketing area are as follows (Walters 2019).

### 4.2.1. More space and time to focus on key tasks by automating repetitive tasks

In many cases, the marketers have to carry out very similar and monotonous tasks. These tasks take a lot of time and have a very depressive impact on productivity. These types of tasks usually refer to social media, email marketing and lead management tasks. Should these tasks be managed by AI solutions, the marketing professionals will be able to focus on creative and new ideas. It is common that machine learning algorithms will make the marketing people able to run email and social media marketing activities merely without any human intervention (Walters 2019).

#### 4.2.2. Increasing sales revenues with images and videos

Images were always key elements in marketing. We just have to think of advertisements on billboards near the roads, on posters, on the beautiful magazines full of images. Nowadays, mainly 2 billion mobile social media users present a very significant potential market for the marketing professionals. Artificial Intelligence solutions also make possible with image recognition technology to identify the exact needs of customers based on the content viewed by the customers.

We assume that machine learning algorithms will be able to process and analyze pictures in order to recognize numerous objects in a picture. This will help generating sales in a very special and fast way. In this particular case, a social media user will probably scan a photo or an image with is mobile and an AI software will find the price for these products in the photo in the nearest shops or online stores. As a result, the customer will be able to manage the purchase right away (Feldman 2019).

In addition, AI solutions will also be able to extract content to analyze from videos as well. The object recognition method in case of videos will also provide advantages to marketing people. Furthermore, these solutions will also provide very effective data analytical tools for a better understanding of customers.

#### 4.2.3. Faster and easier content creation

The main problem is that authors need time to research topics and generate proper texts. Writing cannot be a challenge to artificial intelligence solutions. The AI algorithms will be able to produce relevant content on different topics. Furthermore, artificial intelligence solutions will also reduce costs and time, since these marketing tools and articles can be produced within a shorter period of time than ever before (Hutson 2017).

Content creator AI solutions will be able to write an article and even analyze a topic at the same time. Moreover, these solutions will also be able to carry out a research in this regard. The company's AI algorithm will never produce fraudulent or plagiarized texts, since these will be programmed with uniqueness (Richards 2019).

#### 4.2.4 Artificial Intelligence solutions also develop customer support services

Artificial intelligence solutions will also be able to develop the area of customer support. This activity is mainly about the communication and interaction between a customer and a company. Most of the people usually have questions and problems when dealing with companies or governmental institutions, shops and service providers. These behavioral patterns will also occur in the digital world. People will also ask for support when using online services and apps.

Businesses have to aware of the importance of support in digital world. A positive customer experience in the digital world will also build trust and create brand awareness as it happens in the real, physical world as well. Companies will have to face up to new types of challenges in the digital world with respect to forms of communication, however, customer service will prevail in this environment as well. Artificial intelligence solutions can make these activities much easier in the digital world (Hutson 2017).

Chatbots have become common, since the implementation of artificial intelligence makes them extremely easy and helpful. A chatbot can answer questions of thousands of people at a time. Chatbots are used at call centers and customer support services. Artificial intelligence may also be applied to make a conversation by analyzing the way both the caller and the support specialist are speaking. Due to this technology, business owners can get to know that their clients' problems and these issues may be solved much earlier than ever before (Hutson 2017).

#### 4.3. Artificial Intelligence in Medicine

Medicine and healthcare are also key areas with respect to innovative solutions. The latest approaches and technologies have made medicine more efficient. Nevertheless, the healthcare system must always be developed in order to be more efficient. Artificial intelligence solutions can be a key feature for the future of healthcare system. We may also collect AI solutions that provide advantages for the healthcare system.

#### 4.3.1. Retrieving valuable information from unstructured data

The medical area produces enormous sets of date about their patients. The main part of this data is unstructured. However, this data amount has to be structured to use for analytical purposes. Machine learning algorithms can research and structure medical records for valuable information (Ransbotham, Kiron, Gerbert, and Reeves 2017).

It is a common case that AI solutions may help doctors to predict who is likely to be readmitted. Based on this information, medical professionals may develop cost-effective treatment plans and provide the highest quality of healthcare possible.

### 4.3.2. Data-driven treatment planning

Data is key element in preparing a proper medical treatment for patients. Without proper data, even the best doctors will not be able to come up with the most suitable and efficient treatment plans. In case of healthcare, the data of past periods of time are also relevant, not just the current test results. Artificial intelligence solutions can store and aggregate these sets of data. The artificial intelligence solutions can even offer several treatment plans to choose among (Richards 2019).

# 4.4. Artificial Intelligence Solutions in Real Estate

Real estate has always been open to innovations. This is a very challenging industry. The buyers always want better locations, economical apartments, clean areas and acceptable prices. It is always a challenge for real estate agents to finding the properties that fully meet the clients' expectations. Artificial intelligence may also assist real estate agents to optimize their activities and property owners do their jobs better, faster, and easier, and consumers can get what they want without year-long searches. Here are the most common applications of machine learning in the real estate industry (Walters 2019).

#### 4.4.1. Better and Faster Communication between agents and buyers with chatbots

Usually, it takes long time until a buyer defines its requirements regarding the main features of the property the byer wishes. Artificial intelligence solutions are able to assist agents to better understand the clients' expectations by applying real estate chatbots. Chatbots are already applied in many industries, and even in real estate business. The AI-enabled system in real estate business may process the information received from the buyer. It can also analyze the data and prepare offer options (Hutson 2017). Machine learning algorithms and chatbots may also analyze the main features of each property offered in the market.

#### 4.4.2. Artificial intelligence solutions in property valuation

In real estate business, property valuation is a very important part of the real estate agents' jobs. To determine the exact value of a real estate may be a very lengthy procedure. Many aspects have to be taken into consideration such as location, neighborhood, demographics, green areas and more. Developers, agents, and homeowners can apply artificial intelligence to automate property valuation (Richards 2019). AI algorithms may collect and analyze relevant data about properties, saving time for real estate agents and investors in case of very lengthy and inefficient work. Property valuation AI solutions are indeed being developed.

#### 4.4.3. Promotion solution in rental booking based on AI

Today, tourism is developing at an enormous annual rate. In this case, the rental industry for summer season showed a dramatic increase in the latest years. More and more millions of people choose to find rentals on their own instead of staying at hotels or asking travel agents. To find a pleasant accommodation has become easy due to many online vacation booking services such as Airbnb that have been launched in the recent years (Accenture 2017).

Since the competition in this market is very high, the hosts have to determine reasonable prices. Artificial intelligence may help hosts to manage pricing by providing price tips. AI solutions will also increase the probability by attracting

new clients. The algorithm will also analyze data about each property (local events, neighborhood, and number of reviews) and presents hosts a suggested price range. As a result, hosts will be able to choose the right business strategy and increase revenues.

# 4.5. Artificial Intelligence in Retail

The retail business has gone through dramatic changes due to the appearance and booming of online trade. Selling is actually the key element the modern free market. This boom can be continued by applying AI solutions. AI solutions offer numerous advantages for customers and marketers as well.

#### 4.5.1. Relevant product recommendations

In a conventional store, a sales assistant can only recommend product items that a buyer might wish. This is totally different in an online store. Most of the internet users do not spend hours by looking through many products. Instead, they want shopping to be fast and simple (Accenture 2017).

Artificial intelligence solutions may provide customers with relevant product recommendations. AI algorithms may also analyze user behavior and big sets of data that may be applied to provide personalized recommendations. As a result, different customers receive totally different product suggestions. Moreover, artificial intelligence solutions may also assist marketers, since an AI solution may also send personalized emails with product recommendations. Similar AI algorithms are extensively used by large companies such as Amazon.

### 4.5.2. Customer engagement

Previously, digital retailers were not be able to provide a personalized customer experience. In many cases, customers were just reading through menus on a website without buying anything. Nevertheless, artificial intelligence solutions now offer robotic assistants and chatbots. Due to machine learning algorithms, chatbots are smart enough to manage meaningful conversations. Moreover, the latest-generation chatbots even support payments. An AI solution may also support ecommerce companies to communicate interact with their clients. These solutions may also provide customer support. A chatbot for email conversations that analyzes emails from clients and may also help sales people to prioritize with respect to customers' needs. Nowadays, not only large companies, but also small and medium-sized enterprises may also apply the AI solutions in this field (Hutson 2017) (Accenture 2017).

#### 5. Future Trends to Watch – new industries to come

Artificial Intelligence within computer science dates back to the 1950's, it has only been applied and has become popular in the past decade in the corporate world. In this new digital transformation wave of businesses, several types of AI solutions have become available to companies of all sizes. Data collection has gained new tools and data analysis is also redesigned. As a result, the real time data analysis may have led to the development of machine learning patterns.

These patterns may be applied in numerous industries. This is due to factors like continuing hardware price/performance improvements, cloud computing, big data and advances in Artificial Intelligence methods and solutions. At the same time, computing trends like big data, IoT, self-driving vehicles, and speech and image recognition have produced more and more subjects that AI tools can analyze.

The scope of application will be wider and wider. Companies have to be aware of these new tools. Companies also need to acquire and manage these tools to stay competitive, to become more effective and even to keep valuable human workforce. I have demonstrated that the application of AI solutions have already started in the field of medicine, marketing, finance, customer support and real estate business. This trend will, however, be extended to newer and newer industries as well. We expect that this transformational trend in the future will also our daily routines in business and even those in our private life. One of the most debated and expected are where both parts of our life may transformed is transport such transport of goods and public transport or traffic. In addition, education is also an area for further development where AI solutions will probably to a large extent. We have to predict and understand these changes to stay successful in the market.

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