CUSTOMER DIALOGUE 2025

A Dialogue Between Intelligent Systems

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MANAGEMENT SUMMARY
Customer Dialogue 2025

These are the eight key findings of the study:

The customer dialogue of the future will be a dialogue between intelligent systems. Today, customer dialogue is still primarily an exchange between human beings. In the future, however, it will become a dialogue between artificially intelligent systems. Introducing and implementing this transformation will require energy and most of all time. Companies that want to be future-proof for tomorrow should start this process today.

1. For customers, customer dialogue means maximum individualization with minimum effort. From the customers' perspective, dialogue with companies will no longer be necessary in the future.

2. Customers will expect individualization, simplicity, speed, automation, and consideration and sympathy.

3. Customers will use bots to simplify their daily lives, delegate tasks, and automate processes. Bots will provide customers with information, analyze this data, advise them, and eventually manage their affairs. In the near future, bots will specialize in individual areas of life.

4. Data will be the key to the customers' needs, and this data will be generated through customer interaction.

5. Customers will only release their data as long as they receive added value from companies.

6. Companies will rely on intelligent systems to analyze data and provide a more precise customer dialogue.

7. Customers will expect a high level of intelligence in corporate dialogue. In bulk business, this will be impossible to implement without the use of intelligent bots.

8. Bot-to-bot communication will shape the customer interaction of the future. The customer dialogue of 2025 will be a dialogue between the customers' bots and those of the companies.

Based on this future picture of the customer dialogue of 2025, we present six key strategic recommendations:

1. Do away with customer segments and start focusing on individuals. Those companies that still group their customers into customer segments in 2025 fail to acknowledge the unique nature of every individual person.

2. Radically simplify communication for your customers – in the long run, make it unnecessary. Predictively identify and fulfill customer needs and automate your processes.

3. Let your customers decide when they want to communicate with you and which channel they want to use. Give your customers the opportunity to individually shape customer dialogue as called for by the situation at hand. Be adaptive.

4. Use your staff and infrastructure to pave the way for individualized and adaptive customer dialogue.

5. View customer dialogue as a component of your overall value chain.

6. Practice insourcing instead of outsourcing. Customer dialogue will become the profit center of the company.

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FOREWORD

Dear Reader,

Dialogue is the most natural form of human communication. Dialogue allows us to outwardly voice our needs, interests, desires, and visions, and give individual experiences a joint meaning. This is why excellent communication with customers is the essential factor for success, especially in business.

We now live in a time where not only interpersonal communication is carried out primarily through digital channels – we have also started communicating with artificially intelligent assistants. Siri, Alexa, and Cortana have already become part of our daily lives, which not only makes life easier for their users. For companies in particular, this opens up a completely new possibility for interacting with their customers.

The present study names the main drivers for the future of customer dialogue. It explains what players are driving which trends, and for what reasons.
Using the roadmaps, plans, and expectations of trendsetting stakeholders, it compiles a picture of the future of customer dialogue through 2025. And, based on our concrete strategic options, this trend study shows what steps you must take to shape the future of customer dialogue.

The trends described in this study are to be understood as long-term support for strategic orientation.
Be skeptical of trend studies which forecast that customer dialogue will completely change overnight. This is pure nonsense. The present study invites you to shape the future. Develop new future approaches in manageable pilot projects in order to incrementally explore new customer- and business areas. Your success in doing this – or lack thereof – will decide whether you will number among the winners or the losers of today's trends in 2025.

Due to our cooperation with Genesys and IBM Deutschland, we are able to present this study to you free of charge. Please do not hesitate to contact us or our partners if you would like to use the results of this study to review your strategies. We would love to help.

We expressly wish to thank our study partners for their kind and constructive help. They enabled us scientists to undertake an independent and unbiased analysis of the future trends. We wish our readers the same open-minded approach to the challenges of customer dialogue, and to plan their futures with the awareness that we can only influence change by actively shaping it. Make your company future-proof!

We would be delighted if this study helps you to do so.

We wish you an inspiring read and, most of all... a great future!

Michael Carl
Managing Director Research & Consulting
2b AHEAD ThinkTank

Maria Lübcke
Senior Researcher
2b AHEAD ThinkTank

FOREWORD

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Dear Reader,

Today, both customers and companies see how communication is changing. A multitude of connected technologies such as digital assistants, chatbots, social media, and messaging apps now create a flood of information (which will first have to be successfully managed before anything else can happen). Nevertheless, this challenge is above all an opportunity, and this is what we at Genesys have been advocating for many years: More information is the foundation – the prerequisite even – for ongoing automation and maximum communication convenience between customers and companies. If digital assistants have sufficient information, they can autonomously search for fitting solutions on behalf of their users. If companies have all the relevant information on the desires and needs of individual customers, they can create custom-tailored and personalized offers.

The present study has confirmed these assumptions – and explores other exciting questions as well. Ongoing automation could, for example, make it possible that a percentage of future communication will take place between the bots of customers and those of the companies. Here, bots will negotiate the best offer, for example when purchasing products. However, even in 2025, there will be no single super bot that solves all problems. On the contrary, various expert bots will take over diverse tasks for humans.

In addition, a proportion of tomorrow's customers will still prefer interpersonal communication.

Here, the use of technology will optimize providers' work as customers will be paired with the ideal team members.

This may sound visionary for some. However, 2025 is already within reach, and those who want to take this challenge as an opportunity need to make the right decisions today: Companies have to be able to connect all available customer information at one central hub in order to receive as comprehensive a picture of the customer as possible. To achieve this, both companies and customers will need a technological platform that is able to integrate different communication channels and bots into one system, thus allowing for seamless interaction and a central interface. Companies are very diversely positioned for this challenge – some pioneers are far ahead in their implementation, while others are still at the starting line. We see it as our responsibility to meet our customers at their individual point in this process, to support them in further improving customer dialogue and to prepare them for the challenges ahead. The goal has to be the optimization of customer dialogue for both sides – companies as well as customers.

We hope that you enjoy reading this study, and that it will help you on your way to future-oriented customer communication.

Heinrich Welter

Vice President and General Manager, DACH Region at Genesys

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FOREWORD

Dear Reader,

I am very excited to present you with the study "Customer Dialogue 2025 – A Dialogue Between Intelligent Systems."

Digital progress continues to be on everyone's lips. Due to the global introduction of computers, the prevalence of the internet, and the spread of mobile end devices, information technology has changed virtually every industry and workplace, as well as the major share of customer dialogue over the last two decades. Predicting the future seems like an almost impossible task.

Backed by the expertise of the 2b AHEAD ThinkTank – the largest independent trend research institute in German-speaking Europe – and supported by numerous expert interviews, this study provides an outlook on how intelligent systems will transform the decade ahead.

This trend study mainly focuses on opportunities and possibilities, but also covers some risks related to the use of AI-enhanced virtual assistants in customer dialogue.

At first glance, the term artificial intelligence generates very individual expectations for each of us and is often shaped by our personal understanding of the term intelligence. It should be made clear that with today's information technology, when it comes to artificial intelligence we primarily mimic individual human cognitive abilities rather than creating machines with the consciousness of a human being.

In customer dialogue, we want to understand natural language, the content of images, and correlations in large amounts of data. We want to respond empathetically to customers. We want to proactively provide customers with the expected answers and solutions.

We at IBM want to pave the way for all of this with cognitive systems. The sum total of the numerous cognitive abilities possessed by an intelligent system leads the way to the term artificial intelligence.

The purpose of artificial intelligence and cognitive systems in customer dialogue, developed and used by IBM, is to expand human intelligence. Our technological products and services are created with the intention of expanding and improving human capabilities, competencies, and potential.

We are convinced that cognitive systems cannot realistically achieve consciousness or become independent entities. Instead, they will be increasingly embedded in the processes, systems, products, and services that make business and society work, which will – and should – all remain under human control.

This study reveals the dynamics of customer dialogue through 2025 and provides a better understanding of how the successful companies of tomorrow can already use intelligent systems in customer dialogue today, as well as what opportunities, challenges, and requirements will develop from the technological advancements of the next decade.

Enjoy your read!

Stephan Schwebe

Executive Partner – IBM Watson AI & Data
IBM Global Business Services

THE STUDY
Trend cycle analysis – Not megatrends

This is not a study on megatrends. Those who work with megatrends do so on the assumption that there are a limited number of drivers that affect all business areas equally. This is wrong. Trends exist only because industry developments are driven forward or blocked by those individuals who have the resources or authority to do so and to lead others in doing so.

Human behavior – and thus also investment decisions – always follows specific interests, desires, and compulsions. These vary by industry and by industry sector. We trend researchers are able to observe this behavior on the part of decision makers; we can try to understand it, we can analyze driving and blocking factors, and we are able to generate forecasts regarding where this behavior on the part of industry players will lead. In the sciences, we call this qualitative research. The following study is based on this approach. Unlike with other industry studies, you will find no lists of percentages in the following pages. Futurists know that the future can neither be measured nor quantified – because it has not happened yet. For the most dead-on forecast possible regarding what will happen in your industry in the years leading up to 2025, no representative survey of customers or so-called experts will help, no matter how large-scale it may be.

The only possible way to come close to a reality that is still in development is to speak with trendsetting companies and industry players who are driving the technologies and trends that we will all meet in the future through the decisions they are making today. We spoke with these industry players to understand their motives and compulsions. Where their statements intersect, we can see those trends that are being pushed – or blocked – most forcefully. This provides the basis for the most realistic picture of the future of your industry that researchers could possibly offer you. You will find this picture on the following pages.

The trend research institute the 2b AHEAD ThinkTank specializes in the identification of driving and blocking factors, the analysis of opportunities and risks, and the development and implementation of business models for the future – all specifically tailored to the trend cycle of the individual company.

Those who handle their future responsibly will not run after the one-size-fits-all megatrends of supposed trend gurus, but will base their strategies on the goals and the roadmaps of the leading attackers and defenders in their markets. This is our mission. We would be thrilled to hear that this study has helped you succeed there, too.

INTRODUCTION
Customer dialogue 2025

In the past, customer dialogue referred to communication between two human beings – the customer and the representative of a company. In the future, however, this will be a dialogue between AIs.

In this trend study, we evaluate the impact of digitalization on the dialogue between customers and companies. In five trend areas, we paint a picture of the future of customer dialogue in a digitalized world, exploring changed customer needs and new requirements for companies.

In the first trend area, we analyze how the customers' communication needs will change in the years leading up to 2025. We show how the need for individualized communication will grow and how simple and automated communication will be dominant: In the future, the customers' guiding motivation will be maximum individualization with minimum effort. In the following section, we highlight how new technologies will shape the customer dialogue of the future. Here, we explain how digitalization will provide more knowledge about customers and how this new data will be the key

to customer needs. In the end, the use of artificial intelligence will create a more precise understanding of customer needs, increasing the relevance of customer dialogue for customers. In Trend Area 3, we focus on the dominating communication form of the future: communication through intelligent bots. We show how customers will communicate via bots in the future and what tasks these bots will carry out on their behalf. What impacts will changes on the customer side and in technology have for your company? – This question is the focus of our fourth trend area. There, we discuss how companies will deal with the customer needs of tomorrow and how they will make use of technology themselves. In Trend Area 5, we compile these developments into a picture of the future which is home to a civilization of bots, and we analyze the challenges for regulators.

Based on this future picture of customer dialogue, you will find 32 strategic recommendations at the end of this study. These will help you future-proof your customer communication for the business environment of 2025.

INDIVIDUALIZED, ADAPTIVE, PREDICTIVE
How customer needs will change

For customers, customer dialogue means maximum individualization with minimum effort. Customer communication behavior is characterized by individualized and situational decisions regarding the communication channel of choice. Customers expect individualization, simplicity, speed, automation, and on a human level consideration and sympathy. Ultimately, they will want to put in as little effort as possible – meaning no effort.

"A lot of companies are big believers in cohorts, in segments and third party data for identifying users and understanding who they are. The problem: each user is changing in every moment in time. You are influenced and therefore different based on what you just saw. It's crazy to try to put you into a box and then only feed you information that's relevant to that box. What LiftIgniter builds, via machine learning personalization, enables you – as a business – to react to your end-users in real time. We enable that dynamic conversational flow between each user and the company's website that they are on and that users have been trained – thanks to Google and Facebook – to expect."

Adam Spector, Co-Founder & Head of Business, LiftIgniter

No two customers are the same. No two customers have the same needs for consumption and communication, nor to the same degree. Rather there are different customers with different demands. This is not a new concept. For decades, customers have been lumped into customer segments based on shared needs. The traditional market pyramid consists of the economy, standard, and premium segments. However, with the rapidly advancing transfer of business models into the digital world, this segmentation is increasingly losing importance. At first, this means that the standard segment will be eroding steadily while economy and premium will become more important.

But why will standard vanish? So far, the standard segment has been characterized by standard communication and standard products at standard prices. As digitalization progresses, products, services, and customer communication will become more and more individualized. Based on customer data, companies will increasingly adapt their products to individual customer needs. Telecommunications providers will offer individualized mobile contracts, and textile companies will sell custom-fit clothing.

The result? Customers will no longer be happy with standard products and services and will progressively stop purchasing them. This will cause the economy and premium segments to grow, but will also change their underlying mechanics. While the weighing of quality against price has been a significant element of all segments in the past, this will only hold true for economy in the future. In contrast, customers in the premium segment will look for products or services that express their individual identities to themselves and their surroundings.

Which identity or identities they want to express will differ from customer to customer – and can also change over time.

When viewing this development, it is essential to remember that the economy and premium segments are by no means monoliths. In fact, there are several subgroups which share the same underlying principle. The differences between these groups can be described using the different customers' needs, their values, their degree of digitalization, their trust in technology, their willingness to release personal data, and their proactivity level as consumers. This allows for identifying different communication needs and communication behaviors on the part of the customers.

For companies, customer dialogue means significant effort in terms of time and money – customer dialogue is expensive. The more individualized customer dialogue is, the better resources can be allocated. The higher the degree of individualization, the more targeted the interaction and the higher the gains for everyone involved. Consequently, customer segments and generalized categorizations will increasingly take a backseat across the board. At the end of this journey will be the consideration of the individual with their personal and situational needs.

Individual communication behavior

"Ten years ago, people were willing to gather in front of the TV at a fixed time to catch the news. The number of people still doing this has significantly dropped today as you can watch the news on your smartphone 24/7 – no matter where you are. We have become used to consuming information, movies, TV shows, and games wherever we want to."

Thomas De Buhr, Managing Director, Twitter Germany

Digitalization will increasingly enable humans to shape their world as they like. Today almost everyone in the industrial world has a smartphone and uses the mobile and stationary internet as a natural part of everyday life. Customers can access their messages 24/7, listen to their favorite music, do their weekly grocery shopping, use entertainment services, or take out insurance policies and open bank accounts. Customers are increasingly adapting to an ever-growing flexibility of solutions and services – the new is becoming the norm.
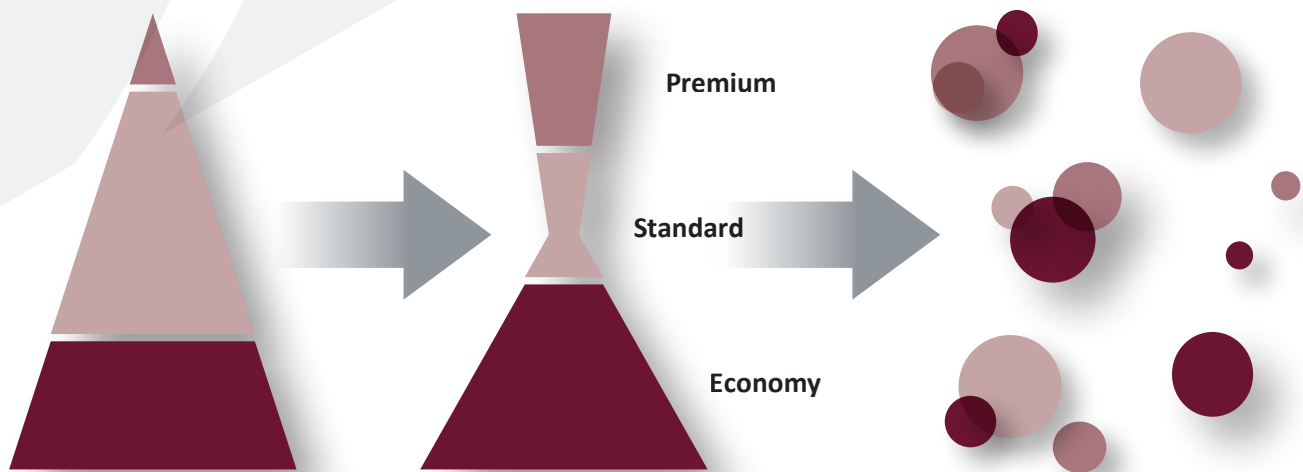
"I think that the changes smartphones have brought give people the opportunity to better express themselves in an individual way."

Thomas De Buhr, Managing Director, Twitter Germany

This need for flexibility is also reflected by customers' communication behavior. In 2025, customers will expect to be able to enter a dialogue with companies over the channel of their choice – be it through apps, emails, stationary retail, or bots. Then, customers will not have to decide on one communication channel, but are free to use the channel that best fulfills their individual and situational needs. The decision for a channel will depend on the customer's current **environment**, their **habits**, and their **mood**. Their **technological affinity,** their **trust** in technology, and their willingness to become active themselves or to share **data** will also influence their decision.

The use of synchronous (real-time) communication for urgent matters and asynchronous communication for non-time-sensitive issues is part of a logical framework that has no place in tomorrow's market: Technology will shrink the speed gap between these two forms of dialogue. In the future, the use of AIs and a high degree of automation will cause the overall communication speed to grow. Automated replies to messages, responses from intelligent systems regardless of channel – the pace is picking up significantly here. This means that the reaction speed on asynchronous communication channels will approach that of synchronous channels. For some time now with needs or problems that require a fast response – a burst pipe, a stolen credit card, the right dress for the evening – the solution has screamed for more than a call to customer service or a visit to the shop. In the future, automation will at the same time create a feeling of security for customers. Up to now, customers have been using asynchronous communication when they want to make sure that their information has been received by the company. In the past, customers whose credit card had been stolen would call the bank because they wanted to make sure that the bank had actually received this information.

If customers can achieve the same result using an app, and have had the experience that this information transfer works securely, then the difference between synchronous and asynchronous communication will become increasingly obsolete.

However, this **growing speed** does not mean that customers will always need an immediate response. In the future, there will still be issues that can be addressed several hours or even days later. Booking the next trip, moving to another city, and similar situations are topics that can still be addressed with asynchronous communication. This means that customers will continue to prefer asynchronous communication in the future when it comes to comparing offers and making a decision. Many individuals will still prefer taking their time here and will not want to be pressured by synchronous communication.

Customer communication needs

Individual communication behavior is based on the individual communication needs of customers. In 2025, customer dialogue will be driven by five key communication needs. The customer dialogue of the future will be:

1. **Individualized**
2. **Considerate and sympathetic**
3. **Simple**
4. **Fast**
5. **Automated**

1. Customer dialogue 2025: Individualized

"Every digital touchpoint that can be personalized should be personalized."

Adam Spector, Co-Founder & Head of Business, LiftIgniter

Regardless of which communication channel customers will opt for in the end, they will expect to be treated as individuals on every channel. Customers will no longer want standard communication. They will expect individualized communication throughout the entire customer journey.

This starts with the fact that customers will no longer want to receive generic offers. Mass mailings, standard newsletters, standard catalogs, and standard ads will prompt customers less and less to make actual purchasing decisions. Instead, customers will expect individualized offers at individualized prices. Even when customers contact companies themselves, they want to be recognized by their counterpart – regardless if this is an employee or an intelligent system. Here, recognizing does not only mean knowing who they are, but also how the communication with the company has been carried out so far, what products and services they have been interested in, and what their needs are. When customers – whether they are existing customers or new ones – contact a company, the company needs to understand quickly and effectively what issue has brought the customer to them at this exact moment. Companies thus need to analyze and understand the customer's intentions immediately. When it comes to customer service, most customers do not want to retell their story to each new contact person or on different channels – even today, this is old news.

The key driver here will be that customers know about the growing amount of data that companies have access to. They know that companies have more and more information and thus knowledge about them or can acquire this knowledge – and they expect companies to use it. To learn more about the importance of data and data use, please see Trend Area 2.

2. Customer dialogue 2025: Considerate & sympathetic

Even in the future, there will still be customers who prefer **human interaction** during customer dialogue. Those customers still want a human contact person in the future – for a wide range of reasons.

In the heavily digitalized future, some customers will nonetheless have **no trust in technology.** For them, human interaction is the foundation of their trust. The contact with human representatives will encourage them to buy a product or service. These customers will also prefer human contact with customer service issues.

They will consciously choose close contact to human beings – on the phone, via message, or by returning to the store. For these customers, human contact will still be important in 2025 despite mass digitalization and intelligent bots.

Other customers will prefer human interaction in customer dialogue as doing so allows them to express their **identities**. They will seek a personal consultant or go to a shop to emphasize that they are part of a community, even though human consultation may be entirely fee-based in 2025 (as long as the same service could also be delivered by a computer system).

Additionally, visiting a **stationary business** is also driven by the search for a unique experience. For some customers, testing a rain coat in the mall's rain room, trying a new couch, or testing a new sound system are reasons to visit a store. Here, the store is to be understood as a kind of "marketplace" where individuals meet, attend workshops, and rent space. Buying products will be secondary: Instead, social interaction, the experience, is paramount. In 2025, shopping malls will look entirely different than today, and will longer be called shopping malls. At the same time, the customers' desire to experience the products will also drive the spread of virtual reality – the addition of another visual layer to stationary trade which will in turn attract tech-savvy customers.

"What customers want is the removal of their problems. If you can do that faster then I think they are all for it. They don't care if theyhad a human interaction with some-body who they will never see again – they only care that the problem is solved."

Josh Ziegler, CEO & Founder, Zumata

For a growing number of customers, the desire for efficiency will decrease the need for human contact throughout the entire customer journey. Customers will use **technology** to compare and select suitable products, when buying products, and during customer service.

During interpersonal communication, we need to adhere to social conventions such as courtesy, but here this is perceived as an unnecessary slow-down. A small proportion of these customers will initially still turn to human beings for complex, critical, or high-risk requests, problems, or disputes. As the performance of technology grows, this proportion of customers will become smaller and smaller, and they will increasingly expect automated customer service. These customers will progressively want to put in as minimal effort as possible. Efficiency and simplicity are the key drivers for their behavior in customer dialogue.

However, technology will open the door to more individualization. The use of technology will create better fitting solutions, products, and services for customers. This experience will increasingly shape our living and working environments over the next few years, and expand the number of customers who use technology in customer dialogue.

3. Customer dialogue 2025: Simple

"It's just about customers wanting efficiency – the least amount of hassle to get what they want."

Josh Ziegler, CEO & Founder, Zumata

Digitalization will make life increasingly easier for customers, so they will also expect entering interaction with companies to be easy. This need for **simplicity** will influence the customer's choice of communication channel and preferred form of communication.

For decades, customer dialogue focused on direct communication with customers in stationary business. With the spread of the internet in the 1990s, websites became more important for customer dialogue. Customers started using their browsers to inform themselves about companies and their products and to interact with them. Due to the growing mobility of customers – driven by new, faster, and more affordable mobile solutions – smartphones and thus smaller screens gained importance in the 2000s.

Since the mobile internet was not as developed as today and was ultimately too slow, customers began to download information via apps. At the same time, messaging apps and communication platforms have increasingly replaced emails as the primary communication channel, because the high degree of formality and etiquette of the latter hinders quick problem-solving from the customer's point of view. Messaging and social media offer easier and faster communication.

"Over the next few years, we will let go of the app zoo – an app for every provider and every topic – and use a messenger platform that integrates everything. On this platform, I can use the services of every company I need without having to use a specific app for each one. Speech-operated assistants are an example of this."

Jörg Knoop, Head of Contact Centre Capabilities, Vodafone GmbH

By now, the capability of the internet has massively improved – it is no longer necessary to download apps in order to use any features. The future perspective of apps? They will successively be replaced by **conversational agents** – digital assistants. This development will begin with those apps that have not yet made it into the user's top ten. The majority of users do not need an app for every pizza delivery service, every textile company, and every mobile provider. Those apps that serve the customer's core needs will last the longest: communication, mobility, navigation, health, education, finances, organization, data management, shopping, and entertainment. Most companies will not make it to the customer's top ten in 2025. This is why they will need to focus on other options – and when these options prove to be more efficient, they will be able to exert pressure on major players.

In the future, the majority of communication will successively be carried out by digital assistants: In 2025, they will be the easiest and most efficient way for customers to interact with companies. Please see Trend Area 3 to learn more about the importance of digital assistance systems.

Best Cases

WeChat is the all-around messaging system in China. Aside from the usual instant messaging, users can also order groceries, call taxis, or pay invoices. The app even makes it possible to book doctor's appointments or look for jobs. At least 100 million of the roughly 762 million users are located outside of China. Within China, WeChat has now become THE central social medium for private and professional interactions.

Customers will not only prefer the simplest solution for communication channels, but for forms of communication as well. This is why the spoken word will become more important as a form of communication over the next few years. Whether with computers or with other humans – **language** is the most natural form of communication for human beings. It is in our nature to engage in dialogue and to exchange information. This will further drive the spread of conversational agents such as chatbots. Customers will not have to learn how to communicate with these bots: They will be able to talk to them intuitively.

"In the long or mid term, however, we believe that traditional interfaces like websites and apps will vanish and be replaced by conversational agents. I also believe that someone like my father will be more inclined to use a system like that to book a flight than a website in the future. Simply because this is an easier interface where he will not need to learn how to use it."

Alexander Weidauer, Co-Founder & CEO, Rasa

Even easier than communicating via spoken words is thought-based communication. In 2025, we will see the first interactions through **thoughts**. These interactions will primarily concern interface control. Even in 2025, we will not be able to read thoughts – meaning to put information into context. Communication through thoughts can initially be used to control interfaces. Within a decade, non-invasive brain-computer interfaces will be an active part of numerous control mechanisms and intuitive interfaces.

The challenge for companies will not only be to provide this interface for customers, but also to keep up with this new speed. Thoughts are faster than words.

Best Cases

Elon Musk's latest offshoot *Neuralink* works on ultra-fast broadband connections between the human brain and computers which are to be secured through invasive neuroprostheses and electrodes within the brain. At first, these brain-computer interfaces are intended for use in the treatment of brain diseases and neurological disorders. The long-term goal of the company is to develop the capacities of human cognition quickly and extensively enough to keep up with the rapid progress of artificial intelligence. With this technology, it may be possible for humans to have "telepathic" conversations in the future. This concept is called *consensual telepathy.*

4. Customer dialogue 2025: Fast

While a proportion of customers will actively seek solutions themselves in the future, the majority of customers will prefer quick answers and results. They will not want to be put on hold. Regardless of which communication channel they will use to interact with a company – they will not want to wait. **In 2025, patience will disappear across the entire customer journey.**

"Humans almost by definition are lazy. I don't want to spend a lot of time looking for something. If I can't find it immediately and I can't discover it then I will go somewhere else to get the answer."

Adam Spector, Co-Founder & Head of Business, LiftIgniter

Most customers do not want to search. The majority of customers will want to be actively supported when choosing the right product. They neither want nor need to spend unnecessary time to look for something. New possibilities for data collection and analysis will provide companies with the tools to adapt product recommendations, newsfeeds, and service offers to individual

customer needs **without the customer needing to mention them explicitly.** And customers know that! This has already begun. Consumers have already become used to accessing the needed information, solutions, and products immediately and comfortably – who bothers looking at the second page of Google's search results? Users will expect all possible questions about products or services to be **answered in advance.** They will want to be **proactively** informed. If customers do not immediately find a solution during the interaction with the company, this company will increasingly lose relevance.

"Consumers have less and less time. They want to spend more time looking forward to and enjoying the product experience – in our case the flight. Everything that could have or has gone wrong leading up to that point ideally shouldn't require any customer action. This is why the customer service of the future will solve all problems in the background – at best before they have happened, or at least never leaving the customer in doubt about what happens now or what has to be done."

Martin Sassenfeld, Director Product Development Customer Services, Lufthansa Group | Austrian Airlines, Lufthansa, SWISS

In the future, customers will not only demand proactive, but also **predictive** communication and services. Downtime, repairs, and waiting time should be avoided and companies will be expected to predictively communicate solutions. Customers know that the intelligent washing machine of the future will autonomously know when a seal becomes porous. Customers will also know that mobility providers will be able to avoid traffic problems. Be it products or services: In a digital world, customers expect data to be used for their benefit. Here, the company's benefit needs to take a backseat.

5. Customer dialogue 2025: Automated

"I don't think customers want to communicate. Communication is a waste of time and effort. My digital assistant will communicate on my behalf. And I will communicate with my digital assistant to express my preferences and all that kind of stuff and I will do that by recording the data in my personal data warehouse. I want to spend my energy with my family and friends and loved ones."

Stephen Brobst, Chief Technology Officer, Teradata Corporation

If companies do not offer the service desired by customers, will they take matters into their own hands? This is a picture of the past. In the future, self-service will only hold a benefit for proactive customers. The majority of customers will consider the lack of a simple, quick, and straightforward customer communication as a burden. Due to their tight daily schedules, customers are even motivated to take active steps to prevent unnecessary interactions. Time is our greatest asset and its value will continue to increase – up to the point where every **activity that is not purposefully and independently chosen** will actively be perceived as a burden or even harassment. This can be repeating your own contact history in the service center, the recurrent personalization of your customer profile in an online shop or the unsuccessful search for a suitable mobile phone contract – customers will no longer want to deal with these tasks.

In the future, they will **view these disturbances of their life rhythm even more critically than before.** Switching providers might be the most drastic step. It is more likely that customers will gradually delegate tasks to their intelligent bots. The bots will look for information on products, compare and order them, and also handle service issues.

The consequence for companies? They will lose the direct customer interface because customers will consider direct interaction with companies to be a **waste of time.**

DATA THINKING

The real value of customer dialogue is created through content

Data is the key to the customers' needs, and the key to accessing customer data is interaction with customers. Consumers will only release their data if they receive added value from companies. Companies will create this added value primarily through the use of artificial intelligence. The intelligent analysis of newly collected customer data will create a more precise understanding of the customer's needs. Intelligent bots will ultimately identify customer needs and also react to them.

In the analog world, customers had to walk into a store or pick up the phone so companies could learn about their needs, questions, or problems. Data – and thus information and knowledge – were created through direct customer communication. In the digital world, however, this relationship will be reversed. Due to digitalization, in particular the Internet of Everything, companies' knowledge about customers will grow constantly – even without direct communication.

Those who still talk about the Internet of Things today – a portion of devices are interconnected – need to realize that development here will pass this intermediate stage. In 2030, all objects that can receive enhanced functionality by being connected will become internet devices.

Every object will eventually have its own IP address and become a data point – this will not be limited to food, clothing, and cars, but will also comprise machines, offices, and even entire cities. This means not only the amount of data points will grow, but also the performance of sensors. In the future, we will not only collect exponentially more and increasingly diverse data, but also higher-quality and contextually more precise data.

Best Cases

The IoE has already started to overcome the limitations of our bodies. Recently, the first digital pill – *Abilify MyCite* – has been developed which collects data within the human body and sends it to a smartphone app. Patients can share this data with their doctor or loved ones and provide information on absorption time and dosage impact. The product was created to help treat mental disorders and ensure correct medication intake. The sensor in the pill becomes active as soon as it comes into contact with gastric acid. Signals are received by an electric bandage on the user's chest and sent to the app. Critics are concerend about the potential for abuse of the pill in terms of monitoring.

In the future, companies will be able to collect additional data about their customers during the use of their intelligent products. This way, bicycle manufacturers can record the average speed at which a bike is ridden or learn if the cyclist pedals consistently. Textile providers will know their customers' body temperature. Customer data gives telecommunications providers information on customers' movements and smart homes can record residents' emotions.

This information about customers does not only stem from the use of the company's own product or the use of a service – which mostly concern existing customers. Communication behavior also provides information about customers – even new ones. As soon as custom-ers make contact with companies – regardless of the channel – these companies can collect various informa-tion: What is the customer's mood, are they in a hurry, do they have time, are they looking for something specific, or do they not yet know what they want?

However, what will companies do with this data? How will this **loose data** become **consolidated information**? How can manufacturers of smoke detectors use data on air quality for their customer dialogue? How can banks use data on the customer's cash receipts and outgoing payments? How can vehicle manufacturers use data on the driver's road handling? One of the key challenges will be to analyze these newly created masses of data (grouped by purpose), transform them into consolidated information, and apply them to targeted measures to improve and personalize customer dialogue.

Customers will have sovereignty over their data

In 2018, the new **General Data Protection Regulation** (GDPR) will come into force. This legislation will give customers sovereignty over their data. Customers will then decide what data companies can collect and store, whether they will be allowed to track users or not, and how consumer data can be used. According to the law, customers will then have control over their data.

"We need to educate the general public so everyone of us can independently decide what data to share with whom and understand any possible consequences for themselves. I believe this is a very important topic that will concern us in the future."

Andrea Martin, CTO IBM DACH, Technical Executive IBM Global Markets, IBM Distinguished Engineer

Companies will increasingly grant their customers **access** to their data so customers can edit the data stored about them. We can already see initial concepts today: Amazon customers can, for example, mark a product purchase as a gift to avoid irrelevant ads. Spotify customers can mark songs they particularly like in order to receive better recommendations. A win-win situation for companies and customers: Customers can edit their data and companies have the opportunity to tailor their solutions to the customer even better than before.

However, in times of data analysis and smart prognostics a growing number of customers will want to know what data will be used by companies and what the suggestions by intelligent assistants are based on. **Transparency** is the foundation of their trust. In the future, companies will let these customers know what their data will be used for. Only then can customers make the choice to consciously share data – or refrain from doing so.

"Corporations will have data and their data warehouses, but you as a consumer will have your own data in your own perso-nal data warehouse in the cloud. Companies that sell BI tools to those big corporations will want to figure out how to sell tools to consumers directly. Consumers will have visualization tools and dashboards for understanding personal finance, health and wellness, etc. and ultimately the digital assistant will have algorithms for making recommendations in the best interest of the consumer. This evolution to consumer intelli-gence will create opportunities for software to be created for the consumers – personal recommendation engines, personal visualization tools, personal dashboards, and so on."

Stephen Brobst, Chief Technology Officer, Teradata Corporation

Companies are not the only ones who will store data (collected through products, services, or customer interaction) in a data pool. In the future, a proportion of customers **will also gather their own raw data** centrally in their individual data warehouses. Here, data about their health, daily routines, driving behaviors, social interactions, and smart homes will be stored. In this case, the customers themselves will be responsible for data storage, protection, and security. As soon as all data about a customer can be stored in one central place, it is generally possible to receive a holistic picture of the customer. The requirement for this will be to analyze raw data, combine, and evaluate it. The prices for technologies that analyze this data will sink over the next few years, which will make it possible for customers to use them on their smart devices.

The result? Customers will no longer necessarily rely on companies for data management. However, companies can still offer them added value as they will always have a technological leading edge over systems on end devices – at least in the case of ordinary citizens.

"There is an untapped marketplace around consumer consumption of data using VRM (Vendor Relationship Management) digital assistants and consumer intelligence and personal recommendation engines. However, I believe that in a time frame of 10 years or less this area will start to get major traction. Software vendors make a lot of money selling business intelligence capability to corporations and basically zero money is made selling consumer intelligence – but in the future this opportunity will be monetized using a consumer friendly SaaS model of deployment."

Stephen Brobst, Chief Technology Officer, Teradata Corporation

While companies used to only see a single facet of the customer – health data, daily routine, browsing habits – a central data hub will provide a comprehensive picture. In the future, companies will contact customers to receive access to their data – for example telecommunications providers who want to have access to health data, or car producers who want

to receive data on entertainment needs. Customers will decide what part of their data they want to share with whom and for what purpose. **In the future, data sharing will take place between companies and customers.** Customers will decide which company they trust and whether or not they want to share their data.

"I know it seems that Google and Facebook have masses of data, but they only have some of your social, some of your web-browsing, some of your searches, some of your position. There is all your health data, genomics and wearables they don't have. There is no use of all of your financial data, all of your purchases, all your taxes, everywhere you have been, your music and video listening – they are not really used. They are all stuck in stove pipes that are not able to be used dynamically. Because you are the only person who can integrate all of that information and if we don't have that we are always guessing at who you are and the services are therefore always never really truly personal."

Julian Ranger, Founder and Executive Chairman, digi.me

If customers decide to share their data – be it health data, data about mobility preferences, or their favorite band – their gatekeeper will establish individual **terms and conditions.** Companies that want access to this data will have to accept these terms and conditions. This development will additionally be driven by the GDPR, which will put pressure on trade with third-party data, since this will contradict the core principle of customer data sovereignty. And incidentally, the sharing of customer data between companies is also prohibited under anti-trust law. As soon as two competitors share data, they gain an advantage over third parties which means they violate antitrust law.

The majority of customers will not handle this process themselves. Data management means work that some customers do not want to put in. Instead, they will delegate data management to an intelligent bot. In this case, the bot will act as the customer's VRM system (vendor relationship management) and allow for automated data management. More on this topic can be found in Trend Area 4.

The deal: Data use for added value

In the future, customers will only continue to share their data in exchange for added value. This added value could be a resulting service, more convenience, better products, or even compensation. As soon as companies use customer data exclusively for corporate marketing purposes, this will lead to frustration and rejection on the customer's side. What added value can companies offer their customers?

"The sharing of data by customers will mainly be driven by convenience or actual benefit. This means if I, the user, share my mobility profiles, then I will receive more relevant information or better personalization. So if users give their consent, they will receive significant added value for the information they are willing to share – the system makes sense for both sides."

Till Faida, Founder & CEO, eyeo GmbH

Companies will especially benefit from the digitalization of their own products. **Intelligent products** will collect data on how they are used and thus provide insight into the customer's habits. The intelligent toothbrush will send data to its manufacturer about how often and how long it is used. Due to the increasing performance of sensors, in the future toothbrushes could be able to collect data on oral flora. What if the toothbrush tells consumers to visit the dentist before tooth decay sets in? Data will be the foundation of new added value – value which may even be far removed from the traditional product.

For services, added value based on data analysis could mean transporting customers faster to their destinations when the company has access to their location data. If customers have booked a package holiday, the travel provider could proactively handle preparations for them. Providers can organize a doctor's appointment for the required vaccination, let customers try out necessary equipment for their trip beforehand at home, and then make it available on location – a wetsuit or an evening gown for a gala event.

Energy suppliers can grant customers access to their consumption data and let them know precisely which products are more energy-hungry than others. This way, it could be possible to improve the customer's ability to save resources.

Worst Case

The fact that smartphones send their location to their manufacturing company is not new. However, the assumption that this also happens even if the localization feature is disabled, and even if no SIM card is inserted, proved to be true. Google admitted to Quartz magazine that their Android smartphones were collecting and sending data at all times. Google assured that the data were neither used nor stored and that this practice will now be terminated. This breach of trust is now being followed by legal investigations. Other smartphone manufacturers are now being investigated as well.

"Consumers will get smarter about the value of their data. They may be willing to share with trusted vendors, but they will no longer give data away for free as in the past. Willingness to share will require transparency and value creation from vendors. If the consumer isn't getting value from the vendor's use of personal data, they will just cut off access to the vendor. Once the GDPR (General Data Protection Regulation) goes into effect, the consumer in Europe will have power to control what data gets collected and how that data gets used and the ability to have the data deleted from a vendor database if the consumer feels like there is not enough value or transparency."

Stephen Brobst, Chief Technology Officer, Teradata Corporation

The role of companies is to understand customers' immediate context and to offer them appropriate services and relevant products. For some customers, customer dialogue therefore not only means buying a product, but rather **constant interaction.**
Other customers, however, want companies to permanently show restraint, and to know the moment when the customer desires interaction.

When these customers experience constant interaction, they are annoyed rather than reassured, and see no benefit to the situation.

Best Cases

The British insurance provider *Direct Line* offers a discount of 5% for customers who drive their Tesla car on autopilot and share data with the company. This way, the insurer not only wants to promote the spread of autonomous cars, but also to find out if autonomous driving really leads to more road safety, which will in turn make it possible to adapt their insurance premiums accordingly. The insurance provider offers discounts to receive access to the customers' data and learn from it.

Over the next few years, the increasing capability of artificial intelligence alone will make it possible to generate information from data and create customer benefit in the first place. The crucial parameters of this development are the increasing capability of processors and the vastly growing amounts of available data.

Open data and data as a service

"There will not only be infrastructure as a service, platform as a service, or software as a service, but also data as a service. I believe this will increasingly become a business model. Theoretically, we already have this: At IBM, you can for example use weather data on the weather channel through a cloud service and integrate it into your own application."

Andrea Martin, CTO IBM DACH, Technical Executive IBM Global Markets, IBM Distinguished Engineer

Aside from user-centered data, in the future companies will also use open data, meaning publicly available information. This does not only include data on the weather or other environmental data, but also information about political, technological, or social developments. The goal is to achieve new insights and eventually offer customers added value.

Obviously, not all information is relevant for every company: Political developments can be relevant for mobility providers while not being applicable for textile companies.

In the future, there will be more and more companies that will use open data, analyze it, and offer it to other companies as a service. At the same time, there will be companies that will purchase non-personal data from companies for analysis. The companies that use this service will not store this data in their own company, but instead will use a public cloud.

The increasing capability of artificial intelligence

How can raw data be turned into sound information – actual knowledge about customers? In the future, not only the amount, diversity, and precision of data will grow, but also the **opportunities to intelligently analyze this raw data** and implement it.

Artificial intelligence refers to computer technologies inspired by the way human beings use their nervous system and body to feel, learn, explain, and take action. Among AIs, there is a distinction between **artificial narrow Intelligence (ANI), artificial general intelligence (AGI) und artificial superintelligence (ASI). ANIs** are applications specialized for a certain area or a certain task such as understanding texts, recognizing images, or recognizing emotions. In contrast, **AGIs** are able to perform any intellectual task humans can perform. **AGIs** are therefore also called human-level AIs. Super-intelligence, however, comprises brainpower which far exceeds human cognitive abilities. Various applications and methods of AI will drive the evolution of customer dialogue through 2025. Major drivers will be the growing performance of machine learning, natural language processing, conversational agents, emotion analytics, and robotics. Let's briefly examine some of these terms.

Machine learning, deep learning, and neural networks

Machine learning is a subdomain of artificial intelligence. This describes mathematical techniques which enable computer systems to learn – here, data is fed into a system and then analyzed. After that, the system tries to find patterns and regularities in order to define rules and make predictions. **Deep learning** is a specialized method of machine learning. By using neural networks, machines are able to recognize patterns in data sets, to define rules, and to evaluate these results in order to autonomously improve themselves. Deep learning employs statistical data analysis instead of deterministic algorithms.

There are various options for training intelligent programs. While supervised learning is the most-used form today, unsupervised learning will become more important over the next few years. During **supervised learning,** data scientists act as a guide for the algorithm, teaching it the correct result. This means the output generated by the algorithm is already known. Arguably the most well-known example for this is AlphaGo – an AI that learned the game GO with the help of supervised learning. Data scientists taught the system the rules of the game and trained it using millions of game positions from human matches. Now AlphaGo can play GO better than the world's best human player. Next, possessing only knowledge of the game rules, AlphaGo Zero taught itself Go from scratch using unsupervised learning – in only three days and by playing against itself with no human input. The result? AlphaGo Zero not only taught itself new know-how, but has also come up with methods previously viewed as unconventional, and has taken creative new steps. From the other side, **unsupervised learning** enables human beings to ask questions, solve problems, and generate new ideas according to patterns that they have not thought of before. Unsupervised learning can be used in customer dialogue to observe customer behavior and identify new correlations, for example between product purchase and purchasing behavior, emotions and the use of services, choice of channel and location and so on.

Neural networks are not only able to recognize patterns, but also to actively take action. Due to the statistic calculation of these patterns, they learn how to react in this environment – the almost evolutionary learning process of **reinforcement learning.**

By employing machine learning, the mass of a customer's raw data can be analyzed and then used. Machine learning can show new correlations between data. The benefit for companies? Customer recommendations will be improved, which will allow for the increased personalization of offers, products, and services.

Natural language processing

Machine learning will also drive the performance of **natural language processing (NLP).** NLP refers to the ability of computer systems to receive spoken words, and then process, understand, and react to them. In other words: It enables humans and machines to communicate using natural language.

An essential part of NLP is improved performance in the area of **natural language understanding (NLU)** – the true understanding of language. This is not only about knowing the meaning of words, but also understanding the grammar and context in which these words were spoken. Siri, Cortana, and Amazon Echo already understand questions such as "How is the weather going to be tomorrow?" However, narrow AI currently still has great difficulty understanding metaphors. Expressions such as "I'm hungry as a bear" require some extralinguistic knowledge of the world: in this case the fact that bears are animals that eat vast amounts. For most humans beyond a certain age such metaphors are easy to grasp – but not for AIs, which lack this general knowledge. This means that today it is simply impossible for narrow artificial intelligence to appropriately react to unexpected input such as metaphors.

General AIs, however, can handle this and are able to

understand metaphors, colloquial language, exaggerations, etc.

> **Best Cases**
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> A Chinese AI company has developed a cost-free software that translates Chinese spoken language into other languages and dialects as text. In addition, the software can also be used as a chatbot for call centers, as transcription support in court, or as language assistance in cars. In order to guarantee this comprehensive service, *iFlytek* has been analyzing language data taken from all sectors with the help of deep learning since 2010. By now, more than 500 million people have used the app, and the number is growing.

Next to collecting and understanding the input, it is equally important to reproduce the collected and analyzed data to written or spoken language. **Natural language generation (NLG)** converts structural, analyzed data into understandable text. In customer dialogue, this will improve automated responses to questions stated in natural language.

Emotion analytics

"If you want to understand the person you talk to you have to understand the emotions of the person. The intonation is the key to our emotions. When we were children we were listened to the intonation of voices and understood the emotions of our parents. But when we grew up we stopped listening to the intonation and began listening to words. That's our mistake as humans. With technology we are returning to listening to emotions."

Dr. Yoram Levanon, Chief Science Officer, Beyond Verbal Communication, LTD

The ability of computer systems to recognize the emotions of their counterparts with the help of emotion analytics will also grow in parallel to the increasing capability of artificial intelligence. Voice analytics will make it possible to identify the real meaning of a message. Emotion analytics will bring human beings closer again. In addition, emotion analytics will increase the personalization and precision of customer dialogue, as this will expand opportunities for companies to adapt to the individual – and in particular situational – needs

of customers. In 2027, the recognition of emotions will be a standard tool for companies in customer dialogue.

> **Best Cases**
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> "We give AI emotions," says *Emotibot*, a Shanghai startup. Emotibot has developed an emotionally intelligent bot that recognizes the user's intention with a "multimodal emotion recognition technology" based on written or spoken language and reacts to it in an intelligible way. With growing customer contact, the bot will understand natural human communication and its underlying emotions. Emotibot is slated for use in call centers, finance companies, and private homes. The bot can, for example, support making travel plans and hotel reservations and can be used via apps or in web browsers. With solutions like this, artificial intelligence is entering the daily lives of human beings.

Conversational agents

The growing capability of artificial intelligence, especially machine learning and NLP, will drive the use of conversational agents in customer dialogue. Conversational agents are computer-aided dialogue systems that imitate natural interactions between humans. Here, natural language is used as the form of communication. Customers can interact with these agents through written or spoken language. Conversational agents can not only receive input, but also generate output, and carry out certain tasks following the dialogue. One of the most well-known forms of conversational agents are **chatbots**.

The first chatbot was called ELIZA. This was a computer program developed by Joseph Weizenbaum in 1996 which was capable of holding dialogues in a space defined by human operators. Such **goal-oriented conversational agents** use pattern matching algorithms to lead a dialogue to a defined goal. This means, when a customer tells a chatbot on a textile provider's website *"I'm looking for a new pair of shoes,"* the chatbot will provide all shoes in the database.

In customer service hotlines, chatbots are able to refer customers to the required department according to their needs. Airline chatbots can find customers the most affordable or fastest flights. Chatbots have already been capable of answering standardized questions for a few years now. Today's most well-known chatbots are arguably Amazon's Alexa, Apple's Siri, and Microsoft's Cortana. However, current chatbots reach their limitations when humans take initiative and ask for information the chatbot is not specifically programmed for. As soon as rule-based pattern matching no longer works, the chatbot cannot fulfill its task.
What is the future perspective here?

"I actually think chatbots in their current form will disappear to be replaced by something better. That something will be ridiculously intelligent."

Adam Spector, Co-Founder & Head of Business, LiftIgniter

The growing capability of artificial intelligence will open the door to a more advanced form of what call chatbots today. Over the next few years, intelligent bots will gain importance. This refers not so much to an app or a program on the customer's device, but to a web-based assistant in the cloud. Machine learning is paving the way for these systems to gradually enrich their databases with new knowledge. Intelligent bots can learn that different expressions can have the same meaning. In complaint management, they are able to learn that the phrases "My Wi-Fi doesn't work" and "The router is broken" share the same customer intention. At the same time, intelligent systems will learn if customers are angry enough to warrant an apology, or if a quick polite answer is enough. Machine learning will enable these systems to recognize different kinds of input and react to them. Initially, this does not necessarily mean a universal bot – a general AI – but instead different expert bots – narrow AIs.

In 2025, artificial intelligence will still not have reached the level of human intelligence; **intelligent systems** will instead improve in their respective **vertical**. For customer dialogue this means that there will be bots in the future that are experts for customer dialogue in the mobility segment. They will not only know the current traffic situation, but also predict potential traffic problems and adapt the traveler's route accordingly. There will also be bots that will become health coaches or assist customers during shopping.

The **intelligence of conversations** will also increase in parallel with the growing intelligence of chatbots. In the future, the focus will not only be on expressing information in clear sentences, but also on asking smart questions. Intelligent chatbots will not only give answers – they will be genuine conversation partners.

This means bots can be used on websites or in instant messaging, can talk to customers on the phone, or can serve as voice assistants on the users' smartphone like Siri and Alexa today. While we have often seen software-based dialogue systems over the last few years, in the future there will also be **embodied conversational agents** housed in humanoid robots or other physical representations. China is already using robots as service personnel in hotels to counterbalance demographic change and the shortage of skilled workers. By 2025, bots will be used in **every communication channel.** They will even play an essential role in interpersonal communication. See Trend Area 4 for more on this topic.

In the future, both customers and companies will have access to these intelligent systems. There will be a **digital arms race** between customers and companies in the field of information procurement and information provision. How will customers and companies then use these new forms of artificial intelligence?

THE CUSTOMER'S BOTS

Customers will communicate through bots of their own

In the future, customers will be surrounded by a variety of bots. Bots will provide customers with information, analyze the data, advise them, and eventually manage their affairs. These bots will be specialized to individual areas of life. In the future, there will be expert bots for mobility, health, finances, social matters, or data protection. These bots will be able to interconnect, which will give customers the impression of communicating with one single bot.

In the future, there will still be customers who do not use the latest technology or who prefer human interaction. Nonetheless, the majority of customer dialogue will be carried out through bots in the future – and this development has already begun. Amazon's Alexa, Apple's Siri, Microsoft's Cortana – customers already use chatbots to find out how rainy the week will be, how long it takes to get to their workplace, or what year the U.S. president was born. The use of bots will be driven by the customer's need for simplicity, speed, and automation.

"Apple's Siri, Amazon's Alexa, or even Google with its home assistant and Microsoft's Cortana – these are attempts that all fail at the limitations of their respective ecosystems. The real art is to comprehensively integrate this service into the customers' daily lives, where they can easily use it."

Jörg Knoop, Head of Contact Centre Capabilities, Vodafone GmbH

Driven by the limitations of today's chatbots regarding their own ecosystems and the capability of artificial intelligence, systems still will not be able to cover all topics and task areas in 2025. In the next few years, we will see different narrow AIs that are specialized for isolated areas – from mobility bots and health coaches to finance manager, socializers, and gatekeepers. In the future, the market will consist of a conglomerate of bots to fulfill all customer needs. These bots will be able to communicate with one another. Customers will want things to be as easy as possible, therefore they will want to have the impression that they are only communicating with one bot.

These bots will accompany customers every day. They will record the customer's habits, daily routine, needs, emotions, and decision-making criteria. Based on this knowledge they will fulfill a range of diverse roles for the customer.

Information provider, consultant, manager

Even today, one of the easiest exercises for bots is to **provide information.** Whether customers buy a new sleeping bag, book their next trip, or look for the best tango lessons – bots collect all existing solutions and analyze them at the same time. Then, bots compare the products' characteristics according to certain criteria

that are particularly important to the customer. This way, bots know that the customer prefers to wear fleece jackets during winter, has to protect their skin from UV in the summer, likes to spend their spring holidays with friends, or chooses to do weekly Pilates exercises in the morning. Bots know the customers' daily routines as well as their habits and preferences. After all, these bots accompany the customer every step of the way. With this knowledge, they analyze the product landscape. This means that bots will not only have to **know and understand** customers and their needs, but also **product landscapes** – a new challenge for the company's' customer dialogue.

In the future, bots will recommend **the right products** to customers. So far, product recommendations have been a fixed activity of company marketing. They have primarily been driven by the company's commercial interests. In contrast to this were only the peer recommendations; however, these were not very targeted and more random in nature. Bots will change the balance of power for product recommendations: They will not take the company's needs into account, only those of the customer. In the end, customers will only rarely decide for or against products – in many cases, bots will do this instead. Thus companies that will want to keep up with bots in 2025 will have to offer their customers the most fitting product and not the one that makes the most profit or gives the company the best reputation.

Given the growing number of options – be it when choosing a job, an outfit, communication channels, product configurations – customers have less and less time and inclination to make all of their decisions themselves. Instead, customers will **use bots that act for them** in the future. Even today, we can see first approaches for administrative tasks. Intelligent systems contact the customer's friends or partners to coordinate schedules. Due to the growing capability of artificial intelligence, in the future the customer's mobility bot will be able to book trains and flights on a given date and within specific parameters.

"But once my personal bot comes in the picture, it can optimize and say: "I am getting 1% interest extra in this other bank." So it may switch my account. My bot has no problem filling out forms. It prioritizes value over "loyalty for convenience's sake." If it gets me good value I'll stay with you; if not I will go to somebody else. Also, it will never be late, it will never forget a payment, it will always be on time, avoiding penalties through which banks earn substantial revenues. So now you have much more efficient and rational decision making."

Beerud Sheth, Co-Founder and Chief Executive Officer, Gupshup

Bots will then continuously optimize the customer's environment. This means, as soon as data analysis reveals that other **retailers** offer the pair of shoes at a more affordable price, the energy efficiency of the apartment could be optimized by a new fridge, or the pizza of a different provider offers better value for money, the bot will suggest a change of providers or will switch autonomously.

As the capability of artificial intelligence progresses, intelligent bots will take over more and more tasks for customers. Customers can decide themselves when they want to take part in the bot's decisions and actions on their behalf. At first, the majority of customers will still monitor the bot's decisions. However, as soon as customers notice that the bot is actually acting according to their wishes, their need to monitor its work will decrease. In the end, customers will only see the result of the intelligent bot's actions and will want to receive as **little information** as possible.

Customers will give their bots parameters within which they are free to act. This means that in 2025 emotional – and thus **irrational** – decision criteria will still influence the decision-making process for products. Bots will only prevail if they detect their users' emotions and also accept irrational decisions. Otherwise they will be **replaced**.

The customer's bots

Bots will provide customers with information, analyze this data, advise them, and eventually manage their affairs. Over the next few years, we will see different intelligent systems that are specialized for a task, a topic, or an area of life. In the future, bot solutions will consist of a conglomerate of bots to fulfill all customer needs.

In the future, these bots will be able to communicate within a network through APIs for bot-to-bot communication. This way, the health coach can communicate with the mobility bot and suggest the bike as a recommended mode of transport. The finance manager will contact the bank's bot to cancel an account. Bot-to-bot communication will enable bots to solve problems together. They can exchange information, help each other, and ultimately optimize the results for the customer. Due to the increasing complexity and growing number of bots, a managing bot will be needed to coordinate the stream of information between bots in the future. It will be the interface between the customer and the civilization of bots.

However, what will happen if the socializer suggests dinner with a friend and the finance manager has no budget for this? In the years leading to 2025, as soon as there are disagreements between these systems, the bots will provide the user with all information, show the various options, and let the user decide and eventually learn from their decision. Along this learning process, bots will also increasingly be able to provide customers with potential for optimization. This optimization will stem from the larger perspective and from oversight of the customer's living and working environments.

It is self-evident that not every customer has the same needs or uses the same bots. Instead, customers will choose individually which bot they need and which bot fits the best. This means not every customer will use a health coach, a finance bot, or a gatekeeper.

At the same time, customers will choose the bot that fits best – the one they like the most. This is an instinctive decision. Even in 2025, there will be no bot-of-all-trades.

HEALTH COACH

"Good morning Thomas. I wish you a great start to the new day. Today, your health score is 810 out of 1,000. You are 19% sick," the bathroom mirror announces. These are the first words Thomas hears that morning. He gets in the shower. The shower takes his vital signs, which are then immediately analyzed by the health coach. "No need to worry, Thomas, your body temperature, weight, and motor skills are fine – but you need to take it easy today and stay at home. I can only let you go back to the office when you have reached a score of 850. This is to protect both you and your colleagues. You could be contagious right now." Thomas rolls his eyes, but goes back to bed obligingly. The last time he declined to act according to this health coach's recommendation, two days later he ended up stuck in bed with the flu.

In a few minutes, Thomas' household robot comes to his bed with a breakfast drink. The health coach reports back – this time through the bedside lamp: "Thomas, I have ordered you this drink which contains the right amount of vitamin C. When analyzing your data, I also detected a germ in your system and ordered personalized medicine for you at the pharma point around the corner. This is now being prepared and will be delivered to us by drone. The estimated delivery time is in 23 minutes." Thomas is suddenly very tired again. He turns around to catch a bit more sleep.

CONSUMER BOT

"The AI has to understand the products really well – and the consumer needs. Then they can start matching those."

Andy Pandharikar, Co-Founder & CEO, COMMERCE.AI

Finally, Sarah no longer has to spend minutes in front of her wardrobe wondering what she should wear. Since she got the consumer bot, she gets up in the morning, stands in front of her intelligent full-length mirror, and picks one of the three outfits presented to her. Her consumer bot compares offers and products, then negotiates the degree of individualization and ultimately the price.

However, the bot not only takes care of Sarah's clothes: He also helped her choose her apartment furnishing, her autonomous car, and tons of everyday objects. The consumer bot knows what is important to Sarah. He knows her values and what she likes. "I'm so thrilled that I no longer need to look for the right products. And that I am finally safe from falling for empty product promises." Sarah thinks about her day: Her consumer bot can analyze her colleague's emotions during the product presentation and find out if the product really delivers as promised.

EDUCATION BOT

Today, Clara's education bot has already sent her three notifications. The reason for this is that the university finally offers a program for artificial intelligence. She is now signed up. Her education bot knows her profile, is informed about her acquired knowledge and her soft skills, and helps her to improve all around. Only one week ago, he enrolled Clara for a five-day boot camp in New York.

The reason? Her empathy skills had decreased by 10% over the last three months. Clara's education bot accompanies her every day and constantly analyzes her skills, interests, and needs. This way, the bot can support her in reaching her long-term goal to help shape the nature of humanoid robots.

FINANCE MANAGER

"*When customers have a personal assistant on their smartphones which has access to their calendars and so on, this assistant will almost be like Siri and can negotiate with insurance companies, providers, and waterworks – I believe this is technologically feasible.*"

Dr. Florian Krause, Director Software Engineering/Development, Performance Advertising GmbH

Ms. Miller has never liked managing her finances. "She just doesn't work well with numbers," her daughter is always saying. With Ms. Miller's new finance bot, everything has finally become easier. The bot always pays her bills on time, so she never has to pay overdue fees. It has an overview of her income and spending as well as her taxes. The finance manager also takes care of her insurance policies. The bot adapts these in real time as soon as offers (or Mrs. Miller's circumstances) have changed – of course always to her benefit. The bot is loyal only to her.

After consulting Ms. Miller, her finance-bot has now also built up reserves since a coordination with the socializer revealed that Ms. Miller will soon be a grandmother. Recently, she has also decided to instruct her bot to carry out financial investments – she is interested in cryptocurrencies. Her friend has had some positive experiences in this field, and now Ms. Miller wants to try her luck. The great advantage? Her finance manager can trade in fractions of a second, which makes it must faster than any human.

SOCIALIZER

"The chatbots or virtual assistant will have their Facebook: They can find friends that are similar in their attitude to my attitude and then they connect us. My assistant will look for my new friends."

Dr. Yoram Levanon, Chief Science Officer, Beyond Verbal Communication, LTD

Since Paul had crossed the 1,000 friends mark on social media, he has used a socializer to manage his social contacts. This bot is not only responsible for sending automated personalized birthday wishes: It also organizes meetings between old class mates, friends, exchange partners, and acquaintances.

At first, Paul was a bit skeptical whether a bot could really provide any added value – until the first time his socializer connected him with interesting people. Based on Paul's social media account, the bot looks for other users in social networks with the same or complementing interests, habits, or preferences – in a business context as well. Since Paul has used a socializer, he always shares autonomous vehicles on the way to work, to a meeting, or to an appointment abroad with new, interesting commuters – real added value for Paul.

GATEKEEPER

Susan was annoyed – since the Internet of Everything had taken over, there was no end to the bings, pop-up ads, and voice messages with the latest and best offers. She no longer wanted this and has been using a personal gatekeeper for a week now. This gatekeeper filters any information that comes her way. This could be product recommendations, newsletters, or an invitation to an event – the gatekeeper has quickly learned what information is relevant to Susan and what isn't. "Hey Susan, how are you? I just received a message from your entertainment provider. They have produced a TV show right up your street and I put it into your media library. Enjoy the show!" Her gatekeeper manages the information flow with companies.

"The ad blocking of the future will control the input, meaning which information users are willing to share about themselves. (...)

Controlling the output – which adversiting actually reaches the customer – is in a way already given through the user's consent."

Till Faida, Founder & CEO, eyeo GmbH

Susan is at the university and writes a short message to her gatekeeper. "I need a nice top for our Christmas party, preferably in white." Her gatekeeper replies: "Already done. It will be in your wardrobe this evening." After her classes, Susan wants to shop in the digital world herself. She activates her gatekeeper to ensure anonymity. "I really don't want everyone to constantly know everything about me. If someone wants my data, they'd better come to me about it first," Susan thinks as she starts looking for Christmas presents.

ARTIFICIAL INTELLIGENCE AND COMPANIES

How companies will handle the customer needs of tomorrow

By using artificial intelligence, customers will increasingly meet companies on equal footing. This increases the need for companies to use AIs themselves. In the future, companies will store customer data in a central knowledge hub, analyzing it through intelligent algorithms to understand the customer's needs and to implement these findings in product development. The future of customer dialogue will be a dialogue between intelligent systems.

Due to the use of intelligent bots, customers will become "superhumans." Bots have an infinite memory and infinite amounts of time – as well as options – for data analysis. At the same time, they will be driven by customers' conscious decisions. The result? Customers will increasingly meet companies on equal footing.

"There has always been this asymmetry between consumers and businesses. Companies have built their businesses based on human habits and the limitations of consumers. With bots helping them, consumers will gain "superhuman" capabilities – matching those of the businesses.

Beerud Sheth, Co-Founder and Chief Executive Officer, Gupshup

The consequence for companies? They will also use more and more technology in the future to stay at least on the same level as customers. This is no longer simply about establishing omnichannel management. Omnichannel management is an approach that consolidates the entire corporate communication (with customers, stakeholders, and suppliers) on every communication channel, touchpoint, and tracking point along the entire customer journey in the customer interaction center and provides all employees with the knowledge about the customer in real time on every channel. It will no longer be enough to connect the customer service department with the Facebook team. Driven by their need for simplicity and speed, customers will expect companies to implement omnichannel management. In 2025, the requirement for a company's success will shift from omnichannel management to an entirely new form of corporate activities and working.

Intelligent data analysis for individualized communication and the rapid satisfaction of needs

"It makes no sense to lump everyone together and bombard them with ads whether they are interested in them or not. The more companies target their advertisements in a granular way – behavior-based, location-based, based on any information companies have about customers or potential customers – the more efficiently they can approach customers."

Dr. Florian Krause, Director Software Engineering/Development, Performance Advertising GmbH

As described in Trend Area 1, customers want to be recognized as individuals, and therefore addressed in an individualized way. In order to be able to offer personalized communication, companies have to collect the customer's data in a central knowledge hub, analyze it intelligently, and then **personalize their communication accordingly.**

"CRM systems will still be significant if not more significant than they are today – so long as those CRM systems gain intelligence. Every piece of data will feed them and, if they use automated intelligence, that data will flow to the appropriate customer in an automated, dynamic fashion. Today's CRM systems are too confusing and burdened by an overwhelming amount of data. The amount of data, however, is not the problem. Instead, the problem is the ability of the CRM to use that data in a smart way. Machine learning enables smart use of that data without the burden of a human needing to manage every aspect of every decision."

Adam Spector, Co-Founder & Head of Business, LiftIgniter

Even in the future, the company's central knowledge hub will be the CRM system, whose key task in 2025 will also be to store and manage all customer information. The CRM system not only stores the data the company has collected with the consent of the customer – either through its products or in customer dialogue. The data that customers have proactively made available to companies is also stored there. In the future, companies will create interfaces for this purpose.

The knowledge hub and the intelligent analysis of data are the foundation for understanding and predicting customer needs. In order to optimally analyze customer data, more and more companies will employ data scientists. Here, companies will occasionally also include publicly available data in their analyses. This not only includes weather and traffic data or other environmental parameters, but also information about political or technological developments and information from social media. The companies' goal is to understand their customers better and better.

In 2025, the majority of customers will no longer have patience. They will neither want to search nor wait for anything, and will be increasingly accustomed to receiving suitable product recommendations and predictive solutions based on their data. The challenge for companies? Here, human consultants are too slow. This will drive the use of technology on the part of the companies.

"The value of a recommendation is much higher when it's faster and smarter. It is already a given that good recommendations have to be made in real time and must be contextually aware of location, buying preferences, and so on. And recommendation engines have to be able to learn in real-time as well. Machine learning and deep learning platforms allow vendors to automate the process of being fast and smart. Humans will be less and less a part of the process – because humans are slow, they are inefficient, and they are inconsistent."

Stephen Brobst, Chief Technology Officer, Teradata Corporation

In order to **immediately identify customer needs in the future, companies will use** predictive analytics based on historic customer data of the company's knowledge hub as well as just-in-time analysis of real-time data. Due to the predictive analysis of historic data, in the future companies will be able to identify what customers will want next in some situations and then predictively fulfill this need. Initially, companies will want to avoid complaints – so to speak, to find out that the router is broken before the customer does – and proactively send

a new one, proactively organize a different travel route following a train malfunction, or proactively adapt the insurance policy if the customer's driving behavior changes. Customer service is the largest cost factor for companies, and complaint management is one of the most important tasks, because in a digital world customers will share the experiences they've had with a company within their communities. Along with the prevention of complaints, companies will use predictive analytics to proactively offer customers products and provide them with added value according to their data analysis. Travel companies will proactively offer customers insurance products before a trip. Providers will proactively send customers a suit for the weekend trip to the theater or change the address if they notice that the customer has moved. The closer companies are interlinked with customers, the better they understand them and the more individualized products they can offer them – a self-accelerating process after which the customer will never leave the company: customer loyalty through ongoing engagement.
However, if companies overload customers, the opposite effect will happen and in the worst case they will lose customer contact. In the future, companies will also use customer data to offer the ideal amount of interaction.

"Predictive analytics is based on historical information: If you've booked a five-star hotel in the past, you're probably gonna book a five-star hotel in the future. This is the assumption, but that's not necessarily the case. I think there is certainly some relevance of past data in predicting the future, but I really think on-demand personalization is more powerful. So I think both are important, but they serve different purposes."
Josh Ziegler, CEO & Founder, Zumata

Comprehensive prediction is a utopian concept that does not create sufficient added value in all areas – which in turn is also not always possible. Emotions are for example volatile snapshots that are only predictable to a limited degree. In 2025, the recognition of emotions will be a standard tool of companies in customer dialogue. Companies will use voice analytics to identify the real meaning behind a customer's statement. Companies will analyze real-time data to understand just-in-time

what customers will search for or need, even if the customers do not yet know this themselves.

In 2025, not all customers will be willing to constantly share comprehensive data about themselves with companies, as highlighted in Trend Area 2. This will also drive the companies' need for just-in-time analytics. In the future, companies will collect data on consumer behavior in stationary retail or search behavior in digital communication channels and immediately analyze it to identify the customer's need and ultimately fulfill it. The goal? Companies will identify what customers need (even before the customers know it themselves) and recommend the right product. The prerequisite for this? The customer still communicates themselves and has not yet delegated their communication needs to an intelligent system.

"If you are willing to share information like when I show up at the hotel, I want to make sure there is a coke in the room and I want to have 4 towels and I want XYZ ... If you want to share that information, then of course it can be used in the future, but I don't think most people will share that information willingly – and it won't be shared between brands. If I go to the Hilton it won't be shared with the Marriott, and it won't be shared with the next hotel. If I go to a different hotel each time this information won't matter. I think it comes to back on-demand servicing and giving me what I want this time, on this trip, at this particular time – which is likely to be different than the last time. So historical or collected data can play a role, but I think on-demand is gonna be necessary in the overwhelming majority of cases."
Josh Ziegler, CEO & Founder, Zumata

The customer's communication through platforms – which is common, for example, in the hotel business – will make it difficult for companies to predict customer needs at an early stage. Today, in the worst case hotels do not get to know their guests until they walk through the door. The consequence? Hotels have started to use an increasingly intelligent environment to identify the customer's needs.

There is basically a symbiotic coexistence between just-in-time and predictive needs recognition in which both

forms meet customer dialogue at different points and supplement one another to produce the best offer.

Customer dialogue as part of the value chain

"So we say that the best way is to listen to customers in their natural environment and translate that back to brands and retailers. That feedback loop can be automated by AI. And when that happens not only the independent improvements to the product can be suggested by AI, but AI can now start recommending a new product altogether."

Andy Pandharikar, Co-Founder & CEO, COMMERCE.AI

The use of artificial intelligence, especially machine learning, will enable companies to obtain new insights when analyzing customer data. In 2025, unsupervised learning in particular will identify patterns which humans are not capable of seeing.

Due to the intelligent analysis of data, new product ideas will be developed in the future. The customer's data, which can be collected during customer dialogue, will then be the foundation for the product development of the future. **This development is largely driven by the customers themselves. In the future, they will increasingly be used to** receiving products that match their individual needs. This customer demand for personalization will drive the need for companies to establish seamless customer dialogue. In the future, customer communication will be the company's profit center.

"Customer service is an excellent tool for companies to optimize their products. If you strictly analyze customer service according to when, why, and what questions customers have or what support they need, you can find out precisely what needs to be improved for the customer. This knowledge then has to be rigorously implemented during product development."

Martin Sassenfeld, Director Product Development Customer Services, Lufthansa Group | Austrian Airlines, Lufthansa, SWISS

At the same time, companies will use the information generated through the customer's use of the product to optimize their own processes and products. This way, their products will also become more attractive for other customers as well. Companies will no longer only selectively include customers in product development processes. Instead, measurable customer needs will be the starting point of each product development.

The employee / machine organism

A proportion of customers – though small – will still prefer to communicate with human beings in 2025. Furthermore, complicated interfaces along the entire customer journey will repeatedly cause human fallback over the next few years. So companies will still employ human staff for customer service in 2025 as well.

Best Cases

The artificial intelligence *Cogito* by the Cogito Corporation can evaluate the speech patterns of employees in customer service and give them supportive tips to establish better customer communication. Cogito recognizes, for example, if employees talk very fast, if they often interrupt customers, or if they talk too loudly or too quietly, and if they emphatically cater to the customers' inquiries. Over time, Cogito learns to better predict interaction patterns and send appropriate advice ahead of time.

"All you have to do is meet your customers' needs and they will be very happy. But if you fail to meet their needs, then it's catastrophic. Actually the biggest driver of poor service is human involvement – which includes people being angry, not answering the right questions, etc. Research indicates 50% of all customer questions aren't answered accurately by the service agent providing the service. With automation, there is consistency to how the questions are being answered, as well as improved accuracy."

Josh Ziegler, CEO & Founder, Zumata

This development will also bring the optimization of employees' work through technology. Companies will use emotion analytics to connect customers with a suitable team member: Customers will only be paired with employees that match their profile. This matching will promote a positive experience for customers. In direct customer dialogue, employees will also use intelligent analytics tools in the future – this can be used to suggest customers the right product just-in-time or better cater to their emotions. Traditional editorial and content systems will no longer help employees in the future. In addition, the personalization and thus the growing complexity of products and customer inquiries will drive the use of technology. **Employees and machines will form a symbiotic organism.**

The core task of humans in customer dialogue is to make customers feel comfortable. Processes in hotels will be automated to a degree that human employees no longer have to deal with check-ins, orders, or bookings. Their only responsibility is to be the customer's feel-good manager.

Bot-to-bot-communication – The future of customer dialogue

By 2025, companies will have gradually replaced human interaction through technological solutions across the entire customer journey. In the future, companies will also use intelligent bots to communicate with customers. Initial fields of application are already familiar – be it the bot on the telephone, the chatbot on websites, or the automated email response. Here, companies are driven by customers themselves who are looking for an ever-faster and more precise satisfaction of their needs. Technology means huge cost savings for companies due to more efficient processes and higher customer satisfaction thanks to the faster handling of issues and more personalized support in customer dialogue.

At the same time, customers will increasingly carry out the majority of their activities – including customer dialogue – through intelligent bots.

As described in Trend Area 4, these bots will take over various tasks for customers. Companies will be responsible for presenting their products in a way that wins the customer's bots over to the product. This can also mean that companies will offer the bots products whose parameters can be adapted to the customer's preferences – for example design, features and functionality, or price. If customers order a pizza through comparison platforms today, they will either see organic or sponsored content. The sponsored providers are those who pay to appear at the top of the customer's selection. How will this work with a bot as an intermediary? Will providers pay the bot in order to secure the customer's order?

"Brand advertising will die. If you think about brand advertising, it exists because we humans have limited memory. A consumer can only remember two or three brands for anything – for shampoo or ketchup or whatever – and therefore vendors spend a lot of money to influence our minds to keep their choice of those two or three brands in the forefront of consumer buying consciousness. In contrast, consumer bots can remember hundreds of brands. And the personal data warehouse will remember the reported experience from a consumer on what was good and bad about each brand. When it is time to buy, the bot will sort through all of the price and product offers, together with stated consumer preferences around experiential value, and provide a recommendation to the consumer in the consumer's own best interest – rather than in any particular vendor's best interest – and the consumer will then approve to purchase or provide additional guidance as to which product to acquire."

Stephen Brobst, Chief Technology Officer, Teradata Corporation

In the future, those bots will not only be powerful, but also capable of communicating with each other. This means that the company's bot will interact with the customer's bot. They will negotiate – about product configurations, price, or useful lifespan. Bot-to-bot communication will replace the majority of the communication between companies and customers while increasing efficiency at the same time.

THE CIVILIZATION OF BOTS

Bot-to-bot communication will shape the future of customer dialogue

In the future, autonomously acting expert bots will be able to communicate with each other, solve problems together, and perform tasks. Here, the intelligence of the individual bots will be backed by the group. This will lay the foundation for a civilization of bots. At the same time, the pressure on lawmakers to create robot rights will increase.

"If there are a million bots – are we humans going to have to talk to every one of them? That might be so confusing and overwhelming! Very likely we`ll just have a personal assistant bot, so there is only one bot we deal with, but that bot is now capable of dealing with every other bot. That reduces the complexity for the human consumer."

Beerud Sheth, Co-Founder and Chief Executive Officer, Gupshup

Even in 2025, the capability of artificial intelligence will not have reached the level of a general AI. In 2025, there will not be one super bot that solves all problems. On the contrary, there will be various expert bots that will take over different tasks for humans. Every company, every department, every individual will have their own bot. These bots will consult, manage, coordinate, inform, and act. For customers, these will be bots such as the mobility bot, the health coach, the finance manager, the socializer, or the gatekeeper.

On part of the companies, there will be bots that interact directly with customers and others that optimize the work of human staff. Beyond that, companies like Bazillion Beings are working on digital beings that will not be assigned to any direct user. Instead, these intelligent beings will have to be viewed as acquaintances. They will help various persons at the same time, but belong to none.

Best Cases

With their independent online life forms, in short lifos, *Bazillion Beings* have created a self-developing digital species. These digital life forms have a data-driven metabolism, meaning parts of the absorbed information are used for the growth and learning process of the lifos. These digital helpers are able to introduce users to other persons or show them potentially interesting websites or apps. They can independently play games, have competitions among each other, and create photos and videos which they can share with other users. Over time, they will be able to create varying copies of themselves that carry new characteristics. The lifos are not intended to be personal assistants, but supportive yet independent acquaintances. This way, they will be able to establish relationships with various users at the same time.

In the future there will be millions or billions of bots – much like websites and apps today. In the future, these bots will be able to communicate within a network through APIs for bot-to-bot communication. Bot-to-bot communication will enable bots to solve problems together. They can exchange information, help each other, and ultimately optimize the customer's result. The future will not be about individual intelligence, but collective intelligence.

Best Cases

With the slogan "The Leading Bot Platform," Gupshup provides developers with the tools and knowledge to build their own bots. They are especially focused on enabling bot-to-bot communication. In the future, bots should be able to communicate with each other, learn from one another, and upgrade themselves. Thanks to their leading role for chatbots at MarketsandMarkets, Gupshup has received the title *visionary leader,* which puts them in the company of Facebook, Microsoft Google, and IBM.

Despite the many expert bots that will surround customers, users will perceive this environment as one intelligent system. Bot-to-bot communication essentially allows users to deal with only one bot which will in turn communicate with the relevant expert bots. This also means that bots will connect customers with other intelligent bots from companies. The user experience will be like using an intelligent search engine.

"In my opinion, this will be like a bot network, meaning I will have real experts for individual things that I know I will need for this exact case. For customers, this feels just like an interface."
Jörg Knoop, Head of Contact Centre Capabilities, Vodafone GmbH

2025 – And beyond?

Best Cases

The DAO (decentralized autonomous organization) is a form of organization that does not need any mediating instances. Smart contracts are stored in the blockchain and are to be understood as automated, consensus-based rules for organizational cooperation. They define authorizations and action fields. These novel organizational forms are especially used in fintechs.

Companies that are autonomously governed by technology are no longer a utopian vision. The DAO is an autonomous organization residing in the blockchain. Due to the growing capability of artificial intelligence, more and more autonomous companies will emerge in the future. As soon as intelligent systems will be authorized to open their own accounts, they will be able to earn money and use it themselves. This will drive the development of a bot economy.

"Bots will enable new industries – providing and buying services from each other. Bots will have their own economy – they'll negotiate and transact with each other. Bots will have their own civilization – bots will be able to self-replicate or create other bots. Of course, bots will interact very closely with humans as they go about these activities."
Beerud Sheth, Co-Founder and Chief Executive Officer, Gupshup

In addition, intelligent systems are already able to replicate themselves, which makes them better than all human-made intelligences. With the development of AutoML by Google Brain, this scenario will become a reality. AutoML is an intelligent program that uses "children" AIs for specific tasks via reinforcement learning. One of these children is called NASNet, which can identify and categorize physical objects, and constantly learns more things entirely without human input. This will drive the development of a civilization of bots, one that bots can virtually call their own.

Robot rights

The increasing capability of artificial intelligence and therefore of bots and robots will drive the development of legislation. In today's **legal system,** in case of third person damage, a natural or juridical person will always take responsibility. However, what happens if the decision made by an autonomous bot causes damage? Who will be hold accountable? Who will take responsibility? Who will pay compensation?

"At the moment, there is a shared responsibility between manufacturer, data provider, network provider, and user. This is why we proposed the idea of giving the different intelligent robots a fictional personality. Then, there will still be the question of who has to pay, but everyone involved will have to agree on the answer. This is primarily to ensure compensation for victims, even if no human agent can be held responsible for the damage."

Mady Delvaux-Stehres, Member of the European Parliament, Vice-Chair of the Committee on Legal Affairs, Chair of the Working Group for Civil Law Provisions for Robotics

At the beginning of the year 2017, the Committee on Legal Affairs of the European Parliament already recommended "[...] creating a specific legal status for robots, so that at least the most sophisticated autonomous robots could be established as having the status of electronic persons with specific rights and obligations, including that of making good any damage they may cause, and applying electronic personality to cases where robots make smart autonomous decisions or otherwise interact with third parties independently."[1] The fact that legislation reacts to new phenomena retrospectively is normal and understandable. In the case of robot rights, however, the necessary reaction is still missing.

"You have to take a look at the robot's field of action and ask: What kind of regulation do we need for this application? There are obviously principles that apply to all, nevertheless specifications are needed. This is why we had the idea to classify and register intelligent, autonomous robots to avoid lumping all types of robots together."

Mady Delvaux-Stehres

However, there are also various types of robot rights. In the future, one challenge for lawmakers will be to consider the different fields of action for robots. There will be robotic vacuum cleaners, digital assistant systems, autonomous vehicles, surgical robots, military robots – in the future the legal challenges regarding liability will vary according to the field of application and functionality.

"Every computer has a number, human beings have numbers, cars have numbers, engines have numbers, so robots need to have numbers, too. When creating an e-personality, you have to know for which kinds of robot. But to be honest, we haven't come any farther in answering the question "What can be viewed as a robot?"

Mady Delvaux-Stehres

If lawmakers will not find a way, companies will go their own way. The Swedish car manufacturer Volvo, for example, already announced in 2015 that they will take full responsibility for accidents with self-driving cars. Up to this point, the drivers had been held responsible.

State actors have also driven the topic of artificial intelligence in society: The state of Saudi Arabia has granted citizenship to the robot "Sophia" by Hanson Robotics. Up to now, this has certainly been merely a media stunt, but it is nonetheless becoming clear that the social image of robots and their relevance in society are changing. With a Ministry for Artificial Intelligence and an AI minister, the United Arab Emirates is also promoting the relevance of the topic of AI in society.

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[1] http://www.emeeting.europarl.europa.eu/committees/agenda/201701/JURI/JURI(2017)0112_1/sitt-3764889

STRATEGIC RECOMMENDATIONS
How to make your company future-proof

For customers, customer dialogue means maximum individualization with minimum effort. Customers expect individualization, simplicity, speed, automation, and consideration and sympathy. In the end, they want to put in as little effort as possible – meaning no effort. For customers, the customer dialogue of the future will be invisible. It will be the companies' responsibility to work towards these customer needs. Companies will have to invest more work into their customer communication to minimize effort for customers. While this will primarily mean extra effort for companies, it will also become the foundation for customer satisfaction.

Based on theoretical research work, interviews with experts, and influenced by proven methods of strategy and innovation development, the 2b AHEAD ThinkTank presents the following strategic recommendations. These recommendations will help companies to prepare for the future – and will put them one step ahead of their competitors: Because one thing is certain: Innovation speed and market dynamics will grow rapidly in the near future.

With the help of 2b AHEAD's trend cycle method, we can develop strategic recommendations for your company with regard to your customers, your value proposition, your customer approach, your use of resources, your production, and your cost and revenue models.

Those companies that still group their customers into customer segments in 2025, and target their communication and production towards those segments, fail to acknowledge the unique nature of every individual person. Dissolve customer segments and start focusing on individuals.

1. Use your existing data and the knowledge of your customers and start personalizing your products and services.

2. Personalization requires data. Enrich tangible products with a "digital layer" to get access to this customer data and thus identify and fulfill their needs.

3. In the future, the personalization of products and communication will only be possible in Europe if customers share their data. Identify those customers who are willing to share their data for added value and approach them specifically.

Radically simplify communication for your customers – ultimately, make it unnecessary. Predictively identify and fulfill customer needs, automate your processes, and be autonomous.

4. The easiest communication for customers is through their intelligent bots. Create interfaces to enable dialogue between your intelligent system and the customer's. In the future, the dialogue between companies and customers will be a dialogue between intelligent systems.

5. Make things as easy as possible for your customers: they have no desire to ask or search themselves. Use just-in-time analyses of temporary data and predictive analytics of historical data to identify customer needs before the customers themselves have identified these needs.

6. Do not lean back and relax once you have automated your processes. Next, add intelligent systems that can act autonomously to your to-do list.

7. Get to know the customer! Not only the customer's intelligent system should get to know their preferences and decision criteria. Gradually get to know the customer's bots, too. Adapt your communication to these learning processes. This needs to be a constant process as the customers' bots will change as much as the customers themselves.

8. Autonomous processes that make communication obsolete will be the foundation for brand loyalty.

9. Develop pilots to create customer loyalty programs for bots.

Let your customers decide when they want to communicate with you and through which channels. Give your customers the opportunity to individually develop customer dialogue depending on the situation at hand. Be adaptive.

10. Develop your sales channels from the customer's point of view. Customers should be able to buy products where they want to. Offer every communication channel your customers use.

11. Standard newsletters, mass offers, or mail merges will no longer catch the customers' interest. Replace ads for mass markets with a personalized and targeted customer approach that offers added value.

12. Mobile end devices are the most important communication channel for customers. Adapt your communication to this.

Use your staff and infrastructure to pave the way for individualized and adaptive customer dialogue.

13. Standard processes will be digitalized and automated. Standard communication will vanish. In the future, employees in customer dialogue will become the customers' feel-good managers. They will react to the customers' emotions and translate automated data analyses into experiences. Human staff will complement bots when it comes to creating authenticity.

14. Do not establish a feel-good department, but use a feel-good manager for customers everywhere they come into contact with you.

15. Automate processes. For those customers who still prefer human contact in customer dialogue in 2025, offer personal support through human representatives – fee-based of course.

16. The human / machine organism: Support your employees with the use of technology. Not every employee needs the same tool – your staff members are also individuals and need individualized support for different topics and tasks.

17. As a company that offers customer dialogue, you will only need feel-good managers and AI experts. Then the needed skills in customer dialogue will bundle in the areas of soft skills and technological expertise.

18. Look for those team members in customer dialogue who can increase the company's skills regarding natural language processing, natural language understanding, and natural language generation.

19. Use emotion analytics to better understand customer needs and well-being – both in analog and digital communication environments.

20. AI is a must-have: Establish in-house expertise for artificial intelligence. Look for experts in machine learning – and especially deep learning – to join the company, and learn from them.

21. Become the communication manager for each customer! Be an interface to other intelligent systems in the customer's living environment or establish an intelligent expert system yourself.

22. Automation in customer dialogue will drive backend development speed. Digitalize and automate internal processes to avoid bottle necks here.

23. Your most important collaboration partners are the companies that built the customer's intelligent systems. Partner up with these companies and learn from them.

View customer dialogue as a part of your value chain.

24. Expand the customer perspective by focusing on their ecosystem. Only a broad view will make it possible to specialize in individual topics. The evolution of platforms and ecosystems will drive each other.

25. Enter partnerships to optimize the customer's individual experience. Also, collaborate with companies that appear to work in different fields. Cooperate with partners from other industries or competitors to open the door to personalization and the satisfaction of customer needs (coopetition).

26. Let your customers control your production. Create interfaces to collect, process, and ultimately cater to customer feedback. Link your product development to customer dialogue. The product of the future will be developed through customer dialogue.

27. Increase your development speed by offering MVPs (minimum viable products) free of charge to your customers for testing.

28. Use predictive maintenance to learn from your customers' use of products – for the benefit of the product itself and of production as a whole.

29. Optimize your logistics processes with the help of distributed ledger technologies.

Insource instead of outsourcing: Customer dialogue will become the profit center of the company.

30. Use the majority of your budget for the technologization of your company: Acquire more expertise and team members for digitalization and artificial intelligence.

31. Saying no to generic communication and generic products also means saying no to generic prices. Create dynamic and individualized price models. Offer your customers pay-per-use models.

32. Use freemium products to learn more about your customers. Based on the newly collected knowledge, you can then offer them individually suitable products.
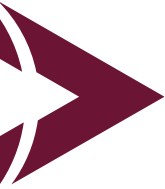
METHODS
The Delphi method and qualitative expert interviews

The present study is a qualitative, empirical study using the Delphi method. This is a future-studies method that takes its name from the famed oracle of ancient times. It was developed during the middle of the last century in the US and is used for the generation of forecasts. Because hardly any expert in these complex times is able to successfully observe several mutually influential fields of expertise at once, Delphi method studies draw on the assessments of several experts, each with their own specialist knowledge. The interviews are conducted using a two-stage process.

During the first phase, the experts are asked individually to give their personal assessments on specific topics during the course of guided expert interviews. In the second phase, in contrast, they are presented with the collective results of the first round. The experts are then asked to hold to their initial positions or to integrate the results of the first phase in a revised assessment of the subject matter.

The selection of the expert study participants is particularly important for this scientific approach to trend research. For this reason, a so-called "trend cycle" is compiled in a workshop format after an extensive desk research phase covering existing topic-related studies and publications. The trend cycle constitutes a list of all of those companies within and outside a given industry whose resources are sufficient to ensure that the strategic decisions they make today will have a significant effect on the future of customer dialogue,

either because other players are sure to follow their example, or because they can successfully push their business models thanks to the influence they have over the market. One expert was chosen out of each relevant group of industry players who did not merely speak about their own company, but was also able to give an overview of their group. The pool of experts consisted of technology providers, communication experts from the telecommunications, mobility, and hotel industries, as well as representatives from social media.

In both interview waves, the experts' investment decisions, business expectations, and statements on industry trends were analyzed and evaluated using guided expert interviews as a foundation. A total of 15 experts were chosen. In the context of one-to-one interviews, the experts were confronted with various theses and asked to give their assessment of the relevant future developments. The statements given by the experts subsequently underwent a qualitative analysis and were organized into five trend areas. The trend areas condense the essential statements of the expert participants concerning the future of customer dialogue.

To close the study, strategic options were derived from the trend areas. These recommendations are based on a synthesis of the exploration of the trend areas, the statements given by the experts, the future scenarios, and also the expert knowledge of the 2b AHEAD ThinkTank in innovation management strategies.
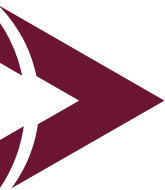
THE EXPERTS

Investment decision makers, strategy leaders, and future experts

Stephen Brobst
Chief Technology Officer, Teradata Corporation

In 2014, Stephen Brobst was voted the fourth most successful CTO in the United States by ExecRank just after Amazon, Tesla Motors, and Intel. He is our study expert for data, data analysis, and data use.

Jörg Knoop
Head of Contact Centre Capabilities, Vodafone Deutschland GmbH

Jörg is driving the digitalization of customer dialogue and is our industry expert for telecommunications.

Thomas De Buhr
Managing Director, Twitter Germany

Thomas De Buhr is our expert on social media for the study. We discussed the impact of new media on customer dialogue with him.

Dr. Florian Krause
Director Software Engineering/Development, Performance Advertising GmbH

Dr. Florian Krause has been working at companies such as AboutYou and REBELL and is our expert for technology and advertisements – in particular for the textile industry.

Mady Delvaux-Stehres
Member of the European Parliament, Vice-Chair of the Committee on Legal Affairs; Chair of the Work Group for Civil Law Provisions for Robotics

As member of the European Parliament, Mady Delvaux-Stehres drives the development of European rights for robots. She is our study expert for legal matters.

Dr. Yoram Levanon
Chief Science Officer, Beyond Verbal Communication, LTD

Emotion analytics is the specialty of Dr. Yoram Levanon. He is driving the use of technology in customer dialogue.

**Till Faida**
Founder & CEO, eyeo GmbH

Adblock Plus by eyeo allows for the selection of information, news, and above all ads. With his technology, Till Faida drives the self-determination of customers.

Andrea Martin
CTO IBM DACH, Technical Executive IBM Global Markets, IBM Distinguished Engineer

Andrea Martin enriched our panel from an IT specialist's perspective. She is an expert for the areas of IT transformation and the optimization of corporate IT environments.
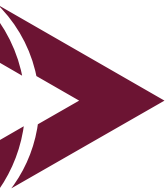
THE EXPERTS
Investment decision makers, strategy leaders, and future experts

Andy Pandharikar
Co-Founder & CEO, COMMERCE.AI

Self-driven commerce is Andy Pandharikar's vision. He uses AI to analyze customer feedback on products for implementation in product development.

Adam Spector
Co-Founder & Head of Business, LiftIgniter

Adam Spector is promoting the just-in-time analysis of customer needs with his company LiftIgniter. He contributed to our study as an expert on the personalization of interfaces in real time.

Julian Ranger
Founder and Executive Chairman, digi.me

His technology gives customers data sovereignty. With digi.me, Julian Ranger is driving the implementation of privacy by design.

Alexander Weidauer
Co-Founder & CEO, Rasa

As founder and CEO of Rasa, Alexander Weidauer is driving the importance of AI in customer dialogue. He enriched our panel with his comprehensive knowledge of conversational agents.

Martin Sassenfeld
Director Product Development Customer Services, Lufthansa Group | Austrian Airlines, Lufthansa, SWISS

Martin Sassenfeld enriched our panel with his expertise in the customer dialogue of one of Europe's largest airlines.

Josh Ziegler
CEO & Founder, ZUMATA

With Zumata, Josh Ziegler is driving the use of AI in the customer dialogue of the hotel industry.

Beerud Sheth
Co-Founder and Chief Executive Officer, Gupshup

With the slogan "The Leading Bot Platform," Gupshup provides developers with the tools and knowledge to build their own bots. Beerud Sheth is particularly driving the development of inter-bot communication.

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Scientists, trend researchers, and strategy consultants

Michael Carl

Michael Carl is Managing Director Research & Analysis at the 2b AHEAD ThinkTank. He is responsible for the methods and content of the 2b AHEAD ThinkTank's future studies, oversees their implementation, and guides the development of specific strategic recommendations. He is also a sought-after keynote speaker on trend- and future-related topics. After his studies in Theology in Germany and Great Britain, Michael was active in journalism, working as an editor and moderator for various public and private radio broadcasters.

After several years as personal deputy to an ARD radio director, he moved to the corporate sphere. Initially Michael established and managed the strategy office of Berlin-Brandenburg Broadcasting, where he was responsible for major structural, strategic, and HR projects. He also built up significant expertise as an independent consultant for strategic and organizational development. Michael's passions are music and his literature blog.

Maria Lübcke

Maria Lübcke holds the position of Senior Researcher in 2b AHEAD's department of Analysis and Studies. She is responsible for the conception, coordination, and the independent scientific implementation of future studies and analyses. She also coordinates the company's various research projects. Prior to this, Maria played an important role in the organization of the Future Congress, where she was primarily responsible for participant management.

She received her university degree in Cultural Sciences, studied in Spain, and then began her career at Leipzig's noted Grassi Museum in the field of Public Relations and Event Management. In her spare time, Maria's passion for hiking and rock-climbing often takes her to extraordinary places.

COOPERATION PARTNERS
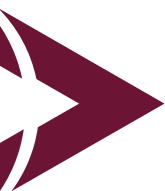
2bAHEAD
tomorrowing your business

The 2b AHEAD ThinkTank is Europe's largest independent future institute. Scientists and strategy consultants are employed here. In real scientific trend studies, the 2b AHEAD ThinkTank analyzes the opportunities and risks presented to our customers by current trend developments, based on research specifically tailored to their businesses. The 2b AHEAD ThinkTank not only analyzes within the target industry, but across industry boundaries, incorporating all stakeholders that will shape the future of the respective business model. With its analysis, the 2b AHEAD ThinkTank helps its customers to understand who or what is driving their relevant trend environment, and for what reasons.

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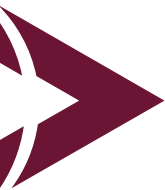
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GLOSSARY

adaptive products
Product feature which describes products or services that are both individualized and situational, and adapt to the respective needs of the user even after purchase.

assistance systems, digital
Software (e.g., smartphone apps) for customer advice and support which gives recommendations based on data analysis. Services providers and third parties can – among other things – offer customers individualized products. The precursors of this system are today's comparison portals.

big data
Denotes enormous heaps of data which are too large to be evaluated by human effort alone. This data results mainly from the evaluation of internet use, but also from other devices such as cameras, microphones, etc. In order to process this mass of data, new technologies and analytical systems are necessary.

blockchain
Blockchain technology makes it possible to transact digital exchanges without a middleman. All transaction-related information is stored in a decentralized system, which increases transparency and also means that information in the system can no longer be altered. The most common examples are the cryptocurrency Bitcoin and smart contracts for insurance policies with Ethereum.

cloud
An IT model in which data is not saved on in-house hardware, but on the internet, and is thus accessible at anytime, anywhere, for any authorized person. A more secure version of cloud computing is so-called fog computing.

cognitive computing systems
Cognitive computer systems develop the ability to understand humans, to learn from them, and to independently make decisions based on learning algorithms and artificial intelligence.

customer journey
This term refers to the totality of all points of contact between customer and brand, in direct communication with the company or in indirect communication about the company or product – either before, during, or after the sale.

human / machine organism
Point of contact and interaction between humans and devices, often with the use of technological support from sensors or displays, etc.

Internet of Things / Internet of Everything
The Internet of Things refers to the increasing networking of all objects in everyday life and business. Every object will have an IP address.

omnichannel management
A continuation of the multichannel or cross-channel approach. It entails the coordination and control of all activities of all company divisions according to the strategy of creating a unified one-to-one experience for the customer across all communication- and touch points and without media interruption.

predictive analytics / smart forecasting
Predictive analysis refers to an approach which combines various statistical methods – such as data mining and fact finding – in order to generate forecasts. This technology enables, for example, early recognition of customer needs and thus the ability to offer a product that has already been individualized to meet these needs. The approach is dependent on customer interest and consent.

smart home / smart building
Buildings will become intelligent through the use of technology. While the term smart home refers to private homes, rented apartments, or condominiums, the term smart building comprises intelligent functional buildings such as public buildings, hotels, or company buildings.

supervised learning
In this form of machine learning, computer systems are trained with the use of human assistance.

trend cycle
A compilation of all those businesses – both within and beyond a given industry – which possess sufficient resources that the strategic decisions they make today will have a significant influence on the future of the industry.

unsupervised learning
In this form of machine learning, systems act independently and attempt to identify processes and patterns without human assistance.

IMPRINT

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