Expert Group

Next-Level E-Commerce with Responsible AI

The GDPR-Proof Use of AI in E-Commerce

Takeaways

1. Start with the customer. What are the customer's expectations in terms of their experience and the role of AI? Use the customer feedback to identify any weaknesses in the customer journey.
2. Determine based on the customer journey where and to what extent you can use AI, and in which cases you would like to maintain human interaction with your customers.
3. "GDPR-proof" personal data processing in AI applications? Then step up your information security measures, communicate clearly about how the data is used, and offer a user-friendly sign-out option.

Host

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Putting the Customer First

Businesses are aware that consumers are becoming more selective in the personalized interactions they allow.[1] Combined with the increasingly stringent data privacy requirements, it is important to focus on a relevant and transparent customer experience in order to stay connected to the target audience.

Artificial intelligence (AI) provides many new opportunities for delivering the ultimate customer experience, while at the same time businesses and lawmakers are required to handle this responsibly. We explored how AI might help to offer consumers a relevant customer experience, while at the same time remaining within the bounds of the privacy laws and regulations and consumers' expectations of these regulations.

1. What Constitutes a Relevant Customer Experience?

1.1 Relevant Customer Experience

E-commerce is undergoing rapid changes that provide opportunities for further personalizing the customer experience. Taking successful advantage of these trends within your own business model is a challenge to many businesses, and customers feel there is much room for improvement. All expert group members agree that the success of e-commerce is determined by the degree in which a product or service satisfies customers' needs and the degree to which experiences acquired are relevant. One quarter of consumers also state that personalized offers (products and services) are important to their customer journey.[2]

But what makes a customer experience relevant? It may seem self-evident, but there are numerous examples of the customer experience lacking relevance. For example, you can rent a car at your vacation destination, but you still need to enter your details on arrival at the airport. At another time, you may have to look for a week at personalized ads for the pair of trousers you already purchased. According to the experts, an experience is only relevant if:
  • the customer is pleasantly surprised;
  • a company can meet a customer's need before this has been communicated;

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1   GFK CONSUMER SURVEY 2019 | SHOPPINGTOMORROW. THE SURVEY CAN BE DOWNLOADED AT THE FOLLOWING LINK: WWW.
    SHOPPINGTOMORROW.NL/NL/CONSUMENTENONDERZOEK
2   GFK CONSUMER SURVEY 2019 | SHOPPINGTOMORROW. THE SURVEY CAN BE DOWNLOADED AT THE FOLLOWING LINK: WWW.
    SHOPPINGTOMORROW.NL/NL/CONSUMENTENONDERZOEK

- the customer feels they have received personal assistance, and this experience is authentic;
- the customer's needs are heard and a relationship of trust is built;
- a solution is offered immediately in the case of problems, without any action being required on the customer's part.

The strategy used to create this relevant customer experience varies by company and will be determined by the product or service delivered by the company and the identification of the need. Booking tickets is a different experience than supplying bags, which means the customer journey is inevitably different as well.

1.2 The Role of AI in Optimizing the Customer Experience

Offering customers a relevant customer experience requires more than simply being available at the traditional customer touchpoints. AI plays a key role in this process.

> **What is Artificial Intelligence?**
> Artificial intelligence (AI) refers to technology that is able to
> simulate human behavior. AI technology can make, understand, and interpret observations, perform specific actions based on these observations, and learn from the response to the action. The decisions made are similar to how people would act.

These aspects of AI make it possible to be available to consumers in real time with relevant information at relevant touchpoints, in order to improve the experience. This includes personalized content (and prices), which you receive through real-time visualization, which means you may be able to see a new car in your driveway, for example.

As noted, each product or service is different. The functionality of AI is awe-inspiring and groundbreaking, but it must be used within the context of the company and its customers. Determine based on the company's vision and the desired customer journey which of the company's touchpoints and back-end processes must remain human-driven, and in which cases AI can be used instead. Make sure to put the customer's needs first.

Some important lessons when using AI:
- Use AI to identify your customers and know who is shopping in your store/online store.
- Use AI to optimize the customer journey if you're communicating with the customer.
- Use AI in such a way that customers feel they are communicating with a person rather than a machine.
- Make sure you have control over your algorithm, so as to prevent certain customer categories from being inadvertently disadvantaged. Understand your algorithm, so that situations such as that with the Apple Card (where women were given less credit than men for no reason) can be prevented.[3]
- Your business must decide how far it intends to go in using AI. Where can and can't AI be used to improve your customer experience?
- Always consider your customers' privacy when developing your AI application. Privacy is the most frequently cited reason why customers do not want to be identified while shopping.[4]

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3   VIGDOR, N. APPLE CARD INVESTIGATED AFTER GENDER DISCRIMINATION COMPLAINTS. VIA WWW.NYTIMES.COM/2019/11/10/BUSINESS/APPLE-CREDIT-CARD-INVESTIGATION.HTML
4   BAKER MCKENZIE. (2019). GHOSTS IN THE MACHINE. WWW.EUROMONEYTHOUGHTLEADERSHIP.COM/GHOSTS2/; GFK CONSUMER SURVEY 2019 | SHOPPINGTOMORROW. WWW.SHOPPINGTOMORROW.NL/NL/CONSUMENTENONDERZOEK

2. What Data Do you Require and How Willing Are Customers to Share Data?

2.1 Data Required to Improve the Customer Experience
Depending on what you intend to achieve with AI, you must gain access to different types of data. Experts cite the following data types (list is not exhaustive):

- Customer's location details
- Shopping frequency
- "Frequently purchased together..."
- Customer's interests
- Competition data
- Data aggregated anonymously
- Reviews

- Blogs
- Ratings
- Order history
- Viewing history
- Demographic data
- External sources
- Device details

We can identify several different types of data here: demographic customer data in order to gain insight into different customer categories, behavioral data such as viewing history in order to learn how the customer interacts with your product, and comparative data with other customers in order to be able to predict the customer's needs.

2.2 What Consumers Expect Back and How This Affects Willingness to Share Data
Customers' willingness to share data increases when they are more satisfied and feel this adds value.[5] This added value might be reflected by a positive customer experience, but it may also involve a tangible reward such as a discount voucher.

The experts have identified one key aspect that has an impact on this sense of satisfaction and perceived added value: trust. More than 80% of consumers express willingness to share data so their experience can be personalized.[6] At the same time, customers expect this data to be used and secured effectively. Based on this relationship of trust, customers are wiling to share data and enjoy a superior customer experience.

How you collect and store data, keep your customers informed and process data determines customer trust. You should attempt to find a balance for the data you request from customers, the processing of this data, and the degree to which customers receive a better customer experience in return.

The experts state that you must be aware of downside risk when trying to find this balance. Even if you are compliant with laws and regulations, this does not mean that customers appreciate the personalized range of products/services. In this case: the more personal the data, the more substantial the downside risk. If, for example, a bank offers insurance products based on transaction details, this may make customers wonder whether their interests are being considered first.[7]

5 LEPPÄNIEMI, M., KARJALUOTO, H., & SAARIJÄRVI, H. (2016). CUSTOMER PERCEIVED VALUE, SATISFACTION, AND LOYALTY: THE ROLE OF WILLINGNESS TO SHARE INFORMATION. THE INTERNATIONAL REVIEW OF RETAIL, DISTRIBUTION AND CONSUMER RESEARCH, 27(2), 164–188. DOI.ORG/10.1080/09593969.2016.1251482

6 ACCENTURE INTERACTIVE. (2018). MAKING IT PERSONAL. WWW.ACCENTURE.COM/_ACNMEDIA/PDF-83/ACCENTURE-MAKING-PERSONAL.PDF

7 DUTCH NEWS. BOOKED A FLIGHT AND PAID VIA ING? THEN EXPECT AN OFFER FOR INSURANCE. WWW.DUTCHNEWS.NL/NEWS/2019/06/BOOKED-A-FLIGHT-AND-PAID-VIA-ING-THEN-EXPECT-AN-OFFER-FOR-INSURANCE/

2.3 How to Communicate the Benefits of Sharing Personal Data

Privacy or cookie statements are often presented with the main objective of being compliant and providing the customer with "essential" information. The experts note that these interactions with customers are currently underutilized when it comes to communicating the benefits of sharing customer data, working on developing the customer relationship, and strengthening the relationship of trust with your customers.

At present, customers generally receive information mainly at the start of the customer journey about the data the company requires to provide its (personalized) services. Discussions with the experts show that it is important to think about how customers can be informed and give their consent to sharing personal data systematically and at the right stages of the customer journey.

3. Managing Data Responsibly and in Accordance with the GDPR

Compliance with data privacy requirements (GDPR) is often regarded as a challenge; this is true, in particular, for complex data processing using AI. This section provides a brief overview of GDPR initiatives currently managed by the experts, and their experiences and bottlenecks. We also investigated how their companies should eventually manage the data in their possession.

Transparency about how the company uses customer data and allowing the stakeholder (customer) to decide whether their data can be used is central to the solution to the GDPR issue. This is addressed in more detail in the Retour-rumoer ("Return Regrets") case described below, and based on a practical example we illustrate how even information about complex AI-driven data processing can be communicated in a comprehensible way.

> **Case: Retour Rumoer ("Return Regrets")[8]**
> We are all familiar with the problem: you've ordered clothing online, and it turns out to be a size too large or too small. You need to return the item, since it's certain you're not going to wear it. Online retailers lose tens of millions of euros a year on returns, which also have a negative impact on our climate.
>
> How can AI be used responsibly to improve these issues? To answer this question, our expert group examined whether it is possible to communicate AI solutions with customers in a concise, comprehensible, and straightforward way.
>
> In many cases, you can already predict the likelihood of whether a package will be returned.[9] It is already known whether the sizes of an item run large or small, your order history is documented, and if your shopping cart contains the same sweater in three different sizes, chances are you'll be returning two of them.

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8   SOURCE: NOS. (N.D.). RETOUR RUMOER APP.NOS.NL/OP3/PAKJES/INDEX.HTML
9   FOR MORE INFORMATION ABOUT RETURNS, PLEASE READ THE BLUE PAPER AUTHORED BY THE GET RID OF RETURNS EXPERT GROUP (STARTING ON PAGE 146).

By analyzing various types of data, AI can alert customers already while they are placing their orders to the likelihood of specific products being returned or provide a recommendation for a smaller or larger size. This helps customers to make better decisions and reduce the number of returns.

In conjunction with a "visual thinker," this case was developed and clarified within a single session. The case demonstrates that customers can receive clear information about how their data is used, and the various ways in which they benefit from this (see the image below).
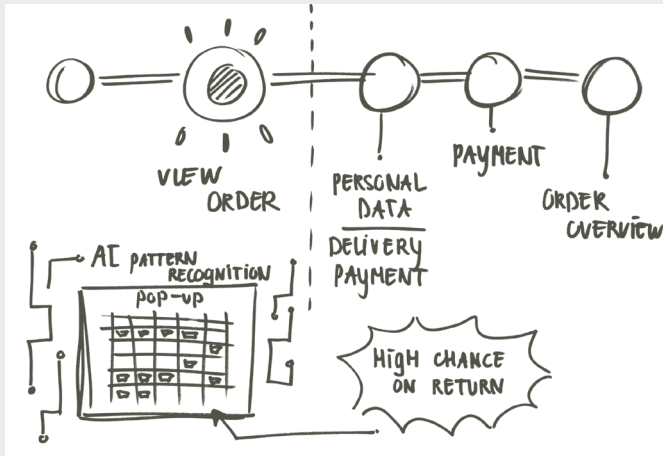
Likelihood of returning items

For full details, see:
www.drawforgood.com/shopping-tomorrow

3.1 Experiences and Bottlenecks Related to GDPR Initiatives

Most companies have undertaken some sort of initiative related to GDPR awareness and training. The challenge is in the organization of the appropriate governance of the GDPR compliance process (e.g., a privacy officer or the processing responsibility within the supply chain).

The bottlenecks raised in discussions with the experts are largely related to the lack of resources available for GDPR-related activities and the lack of time and financial resources. The challenge involved in mapping personal data was also discussed in detail (a process known as data mapping).

3.2 How to Deal with Data Acquired and Further Data Processing?

Section 2 shows an overview of data the experts consider relevant to creating a positive customer experience. It is not always clear in this respect which types of data should be regarded as personal data and are therefore subject to the GDPR.

The image below shows a sliding scale of anonymous details to personal data. The center shows a gray area containing details that, depending on the type and purpose of the data processing, do or do not fall within the scope of the GDPR. It is important to set clear rules for these gray areas as to what types of data are classified as personal data.

Case: Retour Rumoer ("Return Regrets")
Viewing behavior of website visitors
The practice of processing data on the viewing behavior of website visitors falls squarely in the gray area. If we record the viewing behavior of individuals or small groups of people, chances are we are processing personal data. If we aggregate enough visitors, we can reasonably assume we will remain outside the strict regime of the GDPR.

Scale from anonymous to personal data

One key condition for processing personal data is the "legitimacy" of the processing. The following aspects are important in this regard:

- **Initial data processing:** the GDPR provides several options for determining the lawful grounds for processing the initial data. For example, data processing may be necessary for the performance of a contract or agreement (e.g., purchases made from an online retailer), may be regarded as essential to representing the company's legitimate rights (e.g., fraud checks), or the user may give permission (e.g., visitors to a website.)

- **Further processing:** AI, digital marketing or business intelligence often involve the further processing of data already in the company's possession (e.g., purchasing history). Here, the GDPR, in addition to consent, offers another attractive option for legitimate data processing: compatibility.[10]
- **Compatibility:** because consent cannot always be facilitated in practice, compatibility becomes an attractive option/alternative. Without going into the details of compatibility, the following three aspects are particularly important:
  * **Information security:** take an extra measure in data security (e.g., encryption and hashing).
  * **Transparency:** communicate clearly about how the data is used.
  * **Freedom of choice:** offer an opt-out to give the user control over their data.

4. Future Vision of Responsible AI in E-Commerce

4.1 Trends Related to AI in Commerce

The use of AI in commerce has evolved rapidly over the past six years. AI is being used to carry out increasingly complex tasks, which have a growing impact. Both frontrunners and traditional players have taken to using AI to provide customers with more relevant content, both online and in brick-and-mortar retail settings.

In the current market, with its rapid advances in technology and in which consumers' expectations change constantly, the experts have identified three trends where AI will have an impact on e-commerce: hyper-relevance, instant everything, and automated commerce.

Hyper-Relevance and Instant Everything

Customers want to feel unique and receive tailored services instantly and at any time. AI allows us to make real-time and around-the-clock forecasts and recommendations for customers. This might include offering matching products based on the contents of their shopping cart, visually searching for a product or augmented reality, where the customer can see how a particular product (such as a coat or makeup product) looks on her.[11]

In the coming years, AI will become increasingly capable of providing around-the-clock, hyper-relevant content at all customer touchpoints. Deepfakes [12] can be used with increasing effectiveness for this purpose. This gives customers the option to try out products in an even more realistic way and talk with a recognizable and human digital assistant.

10 SEINEN, WALTER, VAN GRONDELLE (BAKER MCKENZIE AMSTERDAM). (2018). COMPATIBILITY AS A MECHANISM FOR RESPONSIBLE FURTHER PROCESSING OF PERSONAL DATA. SPRINGER LNCS, VOLUME 11079 - DOWNLOAD: LINK.SPRINGER.COM/CHAPTER/10.1007/978-3-030-02547-2_9

11 HUGHES, H. (NOVEMBER 18, 2019). AI IN FASHION: INTERVIEW WITH VP OF INSPIRE AND ENGAGE AT ZALANDO. FASHIONUNITED.UK/NEWS/FASHION/AI-IN-FASHION-INTERVIEW-WITH-VP-OF-INSPIRE-AND-ENGAGE-AT-ZALANDO/2019080944674; PYMNTS. (AUGUST 14, 2018). H&M BRINGS VISUAL SEARCH TO UPGRADED ECOMMERCE SITE. WWW.PYMNTS.COM/NEWS/RETAIL/2018/HM-ECOMMERCE-APP-MOBILE-SHOPPING-VISUAL-SEARCH/; SEPHORA. (2017). SEPHORA VIRTUAL ARTIST VIA SEPHORAVIRTUALARTIST.COM/LANDING_5.0.PHP?COUNTRY=US&LANG=EN&X=&SKINTONE=¤TMODEL=

12 DEEPFAKE IS A TECHNIQUE TO CREATE HUMAN IMAGES BASED ON ARTIFICIAL INTELLIGENCE. (SOURCE: WIKIPEDIA)

Automated Commerce

AI also offers the option to create extra virtual touchpoints to complete the customer journey. The emergence of *voice commerce* is a good example of this. Talking to Alexa or Google helps create a completely different type of interaction with the customer, and customers receive better assistance when making a purchase. While the use of virtual assistants to make purchases is not yet widespread, the experts agree that this will become a significant trend in the near future.[13] Examples of automated commerce that have already been developed include grab-and-go services at grocery stores, personal AI assistants, and *voice shopping*.[14]

Current language processing does not yet allow for *human-like* interactions with machines, but in the near future you will be able to conduct a basic conversation with a machine. Whether it's grab-and-go, talking to Alexa or having Google Duplex manage your life: commerce is set to take on other forms going forward. Consider what types of automated commerce are relevant to you, what your brand's voice is, and how you can improve customer loyalty.

4.2 Using Customer Data Responsibly and GDPR-Proof

In communications about data processing, the focus must be on the customer. If users know exactly how their data is used, they can make informed decisions for their data to be processed in your AI application. Transparency is key in this respect.

AI is not too complex to be transparent. The Retour Rumoer ("Return Regrets") case shows that there are creative opportunities to provide insight into complex AI processing. In addition to being innovative with AI, you should also be progressive in communication about privacy aspects. One of the opportunities as we move toward 2025 is the gradual collection of customer data based on needs to build a relationship of trust in this way. This allows you to show customers with every step how their experience is improving, and they can make informed decisions to share their data.

4.3 Conclusion

Start with the customer. What are the customer's expectations in terms of their experience? Bring the customer feedback and data together in order to identify weaknesses in the customer journey. Determine where, and to what extent, you can use AI and where you would like to maintain human contact with the customer. Automation based on AI should not be a goal in and of itself.

You should also consider the risks associated with the use of AI, including the danger of the *black box* and biased data. These are risks that must be considered from the start. Set an ethical limit for collecting and using AI. You should also check the willingness to share data among your target audience. Be ahead of the legislation in terms of innovation, as this always follows after the relevant developments. Respect data privacy, ensure diversity in your data and turn the *black box* into a *glass box* in which you reveal your data processing. In return, this will help you gain the customer's trust. In this way you can use AI in a responsible way in e-commerce and offer customers a relevant experience.

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13 FOR FURTHER INFORMATION, SEE THE BLUE PAPER PUBLISHED BY THE SMARTHOME JOURNEY EXPERT GROUP (STARTING ON PAGE 216)

14 RTL NIEUWS. (SEPTEMBER 5, 2019). ALBERT HEIJN TEST WINKEL MET SENSOREN EN CAMERA'S, MAAR ZONDER KASSA. ("ALBERT HEIJN TESTS STORE WITH SENSORS AND CAMERAS, BUT WITHOUT CASH REGISTERS.")
WWW.RTLNIEUWS.NL/NIEUWS/NEDERLAND/ARTIKEL/4838031/ALBERT-HEIJN-TEST-NIEUWE-WINKEL-ZONDER-KASSA-SCANNEN-GO-ZAANDAM; SOLON, O. (MAY 10, 2018) GOOGLE'S ROBOT ASSISTANT NOW MAKES EERILY LIFELIKE PHONE CALLS FOR YOU.
WWW.THEGUARDIAN.COM/TECHNOLOGY/2018/MAY/08/GOOGLE-DUPLEX-ASSISTANT-PHONE-CALLS-ROBOT-HUMAN

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