Expert Group

Innovative Retail Technology

How Innovative Technology Serves the Retailer:
The Store Sales Cycle model

shopping tomorrow

Takeaways

1. Innovative technologies are transforming retailers' sales processes.
2. With the emergence of innovative technologies, brick-and-mortar stores are increasingly serving as decision support systems.
3. The newly launched Store Sales Cycle model provides insight into the role of various types of technologies during the various stages of the sales process.

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How Innovative Technology Serves the Retailer: The Store Sales Cycle model

As a result of online competition and changing consumer behavior, retail sales have become increasingly erratic, with generally low profit margins. Bankruptcies have become commonplace, and this is not likely to improve in the coming years. At the same time, we are seeing a growing number of *retail solutions* designed to increase footfall in brick-and-mortar stores. It is mostly innovative technologies such as mobile loyalty apps, digital changing-room mirrors, heat mapping, interactive screens, *geofencing* and augmented-reality applications that represent promise for the future for retailers. The big question, however, is how these technologies can be deployed most effectively, and whether they truly are beneficial to retailers at the end of the day. We have no answer to this question as yet, and retailers have a clear need for more information about the specific opportunities provided by digital technology.

The Innovative Retail Technology Expert Group aims to help retailers gain insight into the effectiveness of innovative technology, and is advancing an approach that places the retailer center stage. This is the first of two blue papers authored by the expert group. In this blue paper, we will detail the workings of the *Store Sales Cycle* model. This model provides insight into the role of various types of innovative technologies during the different stages of the retailer's sales process. In the second blue paper, we will use several real-life examples to assess the impact of various types of technology during the different stages in the sales process. Taken together, these blue papers offer a detailed overview for the retail sector and provide individual retailers with operational control information that allows them to make decisions regarding the use of innovative technologies for their stores.

1. The Guiding Principle: Technology Supports the Customer

1.1 Customer Decision Support

Retailers have long acknowledged the importance of customer support. Meeting customers' needs and offering them targeted support makes them more likely to buy from you. The decision-making process is often regarded as central to effective customer support. This process, also known as the "purchasing process" or the "customer journey," consists of a series of steps that customers must complete when making a purchase. These steps, and the corresponding activities, are shown in the table on the next page.

Stage in the decision-making process	Customer's main activity
Need recognition	The need arises to purchase a product and, in doing so, satisfy an underlying need. The customer decides whether or not to turn this need into action. Once they choose to take action, the next stage of the decision-making process is activated.
Information search	The customer searches for information about products that may be able to satisfy their need, drawing on their own memory as well as looking for and consulting information available in their surroundings (including the retail environment they have access to).
Evaluation of alternatives	The customer compares alternative products and narrows down their list to a limited number of contenders. They then make their choice from this selection.
Purchase decision	The choice of a product may or may not be converted into a purchasing decision. This purchasing decision consists of a series of decisions: Will I buy something? How many units/items will I buy? When will I make this purchase? How do I intend to pay for it?
Consumption	The customer decides whether to start utilizing the product straight away or at a later stage, making use of it as they see fit.
Post-purchase evaluation	The customer assesses the consumption of the product and is satisfied to a smaller or lesser extent.

The customer decision support process[1]

Although the idea that serving customers at the various stages of the decision-making process pays off is not new, it has regained traction since the emergence of online retail. Driven by the opportunities provided by existing and new *web-based* technologies, online stores can be regarded as *web-based customer decision support systems.*[2] Viewed from this perspective, the purpose of an online store is to provide decision support during all stages of the decision-making process. This support can take the following forms:

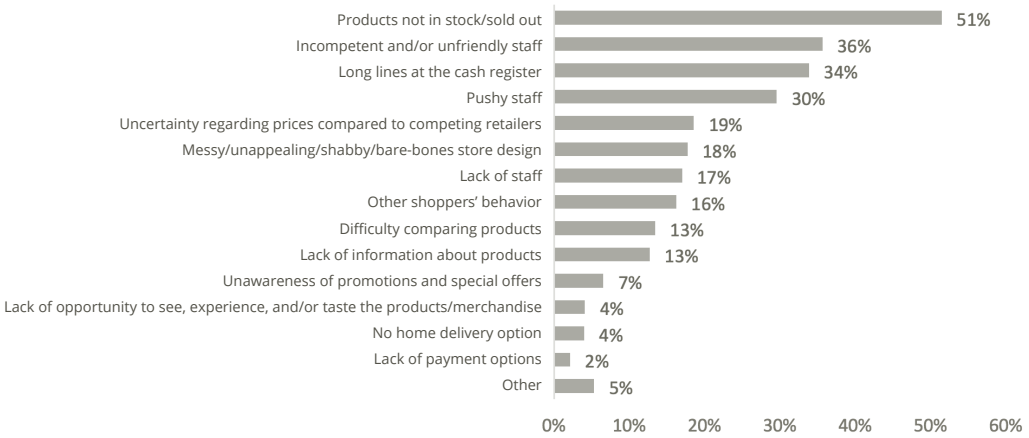
- personalized offers and promotions (*need recognition*);
- product descriptions and product visualizations based on augmented reality (AR) and virtual reality (VR) (information search);
- comparative modules and chatbots (evaluation alternatives);
- a wide range of payment and delivery options (purchase decision);
- manuals, customer service, and customer communities (consumption);
- review and ratings systems (post-purchase evaluation).

By providing customer decision support in this way, potential hurdles in the decision-making process are eliminated, and customers arrive at a sales solution more efficiently.[3] This results in a conversion funnel centered on supporting the decision-making process through web-based technologies.

1 BLACKWELL, MINIARD & ENGEL, 2005; DARLEY & BLANKSON, 2010; LEMON & VERHOEF, 2016
2 O'KEEFE & MCEACHERN, 1998
3 SEE: WESTERMAN, TUCK, BOOTH & KHAKZAR, 2007

1.2 Customer Decision Support in Brick-and-Mortar Stores

It is clear that technology can support the customer decision-making process, but what are some of customers' common pet peeves when visiting brick-and-mortar stores that technology may be able to address? And do visitors to brick-and-mortar stores even want in-store technological innovations to support them in the decision-making process? Out-of-stock items are the number-one source of frustration for visitors to brick-and-mortar stores, followed by incompetent and/or unfriendly staff, long lines at the cash register, and pushy staff (see the figure below). Staff is cited twice in the top 4 of retail customers' greatest sources of irritation, when this is an asset that brick-and-mortar stores could leverage to set themselves apart from their online competitors. We note that a significantly larger percentage (44%) of people aged 50+ are annoyed by incompetent staff compared to 15 to 35-year-olds (24%). The same applies to a lack of staff on store floors: this is a source of annoyance for 26% of customers aged 65+ versus 8% of the under-35 age bracket.



Consumers' main pet peeves during the in-store decision-making process, in percentages, 2018 (n = 1,004)*[4]

*Respondents could cite a maximum of three annoyances.

Many of the irritations faced by consumers can be eliminated at least in part through the use of technology, for example with options like self-checkout or cashless payments to solve the problem of long lines at the cash register. Around 42% of consumers expect that in the future, all retailers will use technology to make the shopping experience easier, while 20% believe this is extremely unlikely. Men (47%) and those aged 15 to 35 (45%) are more inclined to believe that all stores will go on to use technology than women (37%) and those aged 65 and over (35%).

Yet for the majority of consumers in 2018, technology is not a reason to specifically seek out certain stores over others: only 16% tend to choose stores that use technology over those that do not. Men (21%) are slightly more likely to be swayed by the presence of technology in stores than women (11%). Does this mean, then, that consumers believe the use of technology by retailers has no added value? Most certainly not. In fact, 25% of consumers expect shopping to become more fun if stores start making more use of technology. In addition, 40% believe that in-store technology can help them to make better decisions. Men (48%) and the under-50 demographic (48%) are more likely to believe that in-store technology will improve the decision-making process than women (33%) and those aged 50 and over.

This leads to the conclusion that in-store technology, from a consumer perspective, mainly needs to be functional and help them in their decision-making process.[5] But how do you achieve this as a retailer?

2. Put the Retailer First

2.1 Sales Decision Support

The fact that new technology allows retailers to eliminate in-store barriers for customers provides significant opportunities. But what about the retailers themselves? Just like customers, they are faced with all kinds of decisions, even though retailers are ultimately mainly interested in generating returns from their sales process. As described in the Harvard Business Review by Edelman and Singer (2015), the time when retailers were focused mainly on facilitating the customer's decision-making process as effectively as possible is basically over. Retailers are increasingly taking a more proactive role, designing the customer's decision-making process based on their own sales-oriented perspective. This essentially involves two parallel processes, with all activities carried out by the retailer being aimed primarily at selling their products or services, but serving to facilitate the customer's decision-making process at the same time. Examples of these kinds of dual-purpose activities include:

- attracting the attention of potential customers (need recognition);
- displaying an extensive range of products (information search);
- providing detailed information about various products (evaluation of alternatives);
- providing purchasing advice (purchase decision);
- and the provision of high-quality services once the purchase is completed (consumption, post-purchase evaluation).

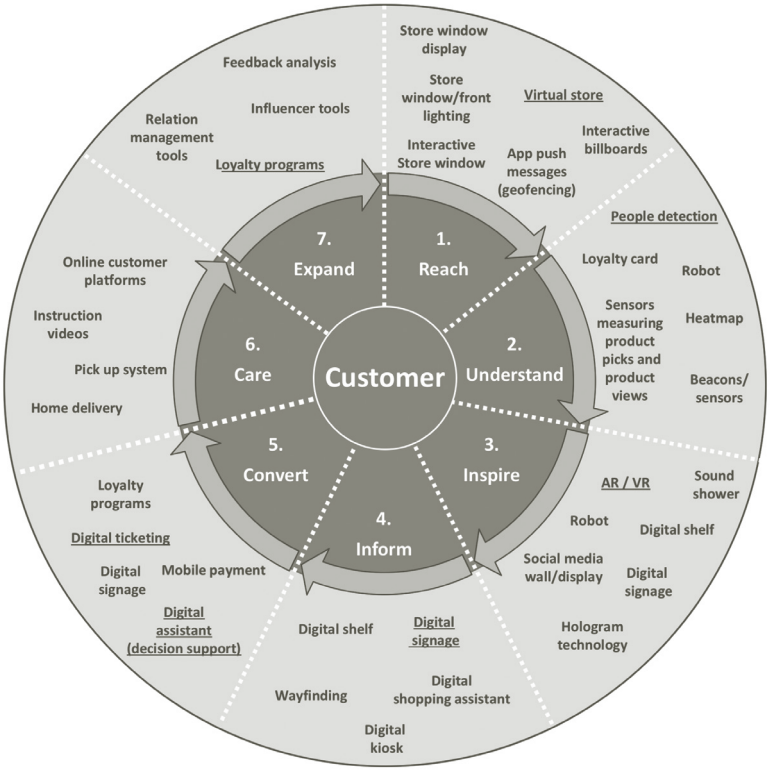
Innovative technologies play a crucial role during these stages in the sales process and, in doing so, are gradually transforming stores into *"sales decision support systems."* For example, *retail analytics* is used to send offers targeted at specific customer segments, interactive screens ensure a wide range of items is available, smart mirrors help by giving advice, and *scan & go* systems make the completion of a sale significantly easier. These kinds of innovative solutions support the sales process and help retailers achieve their sales targets. In addition, innovative technology supports other sales-related goals and targets, specifically increasing footfall (e.g., through location-based messaging) and cutting sales expenses by automating part of the sales process or having customers do certain things themselves (for example through the use of self-scanners).[6]If we look at stores as sales decision support systems, we end up arriving at a fairly thorough understanding of the potential applications and value of innovative technology. In order to visualize this notion and bring some structure to discussions on the use of innovative technologies, in the next paragraph we will introduce the Store Sales Cycle model.

2.2 The Store Sales Cycle Model

We use the customer service life cycle model created by Blake Ives et al as the basis for this model.[7] This service-based B2B model shows that information technology can help retailers to effectively manage the ordering process. This approach ensures that customers receive high-quality services, and after using the product purchased, they are more likely to remain loyal and place additional orders in the future. If we apply this model to a retail setting, focusing on the sales process and the technology that

5 SEE: VERHAGEN & MOES, 2017
6 INMAN & NIKOLOVA, 2017
7 IVES & LEARMONTH, 1984; IVES & MASON, 1990, PICCOLO, SPALDING & IVES, 2001

facilitates sales decision support, this results in the model shown below. We refer to this as the "Store Sales Cycle model" (see the image below).



The Store Sales Cycle model

The model is designed to provide retailers and technology companies with a framework for identifying and discussing the use of innovative technologies. The customer forms the heart of the model; serving them is central to the sales process. The circle around the customer includes the various stages of the sales process. These stages are the result of discussions within the expert group and a review of the relevant scientific literature. Our aim was for the stages to accurately reflect recent sales trends and the opportunities for responding to these developments that innovative technology provides. We distinguish between the following stages:

1. **Reach**: Reaching out to the customer in order to make them aware of your store and/or products.
2. **Understand**: Understanding the customer and their needs and adapting the sales process accordingly.
3. **Inspire**: Inspiring the customer by allowing them to experience the store and/or its products.
4. **Inform**: Providing the right type, quantity, and quality of product information.
5. **Convert**: Encouraging the customer and facilitating the purchasing process.
6. **Care**: Looking after the customer after they have made their purchase, including the delivery of, and instructions for the use of, the product.

7. **Expand**: Continuing the relationship with existing customers and/or promoting the store and/or its products based on positive customer experiences.

In order to design or support the various stages, a number of different innovative technologies can be used. These technologies are included in the outermost layer of the Store Sales Cycle model. Although we can think of other types of technology,[8] the current overview does give you a clear sense of the options available. While most of the technology is focused on a single stage of the sales process (e.g., *geofencing* and *digital ticketing*), there are also technologies which can be deployed at multiple stages (including*digital signage* and loyalty programs). This underlines that we are not concerned with the technology itself so much as with the key support it is able to provide during one or more stages of the sales process. We also note that technology is only a means to an end: at each stage of the Store Sales Cycle model, non-technology-based resources can also be used to support customers in their decision-making process. This might include providing training to staff, designing or redesigning stores, and organizing events. However, retailers tend to have a lot of questions about innovative technologies in particular.

3. How Innovative Technology Serves the Retailer

Various technologies have become fixtures at brick-and-mortar stores in recent years, including smart cash registers, free Wi-Fi for customers, smart detection gates to measure footfall, and self-scan cash registers.[9] Other innovative technologies, including AR/VR, robots, *digital shelves*, heat mapping and retail analytics, are not nearly as widespread at this point, as many retailers aren't convinced of the usefulness and necessity of these innovations, are afraid that they will be unable to earn back the often substantial investment required, or are uncertain as to which technology adds the most value. In addition, retailers tend to follow each other's lead in what can be an unconsidered way. The members of the expert group regularly encounter retailers who want to implement the same technology as their competitors, without really thinking about whether this is the most effective solution for their particular situation or the specific challenges they are facing. Through the Store Sales Cycle model, we aim to encourage retailers to start thinking in a more systematic way about the use of innovative in-store technologies. However, it will take more than this for many retailers to overcome their reticence to adopt new technologies,and to promote the successful implementation of technology.

Specific questions relating to the use of technology that many retailers struggle with include:

- For what purposes can a specific technology be used?
- How much does the technology cost (including purchase, use, maintenance, and deployment of staff)?
- What is needed in order to successfully implement the technology?
- How can I measure the result of the use of a specific technology (including through generated data and by defining and using KPIs)?
- Above all: what demonstrable benefits does the technology provide (to retailers, customers, and/or employees)?

8 SEE: WILLEMS, SMOLDERS, BRENGMAN, LUYTEN, & SCHÖNING, 2018

9 VERHAGEN & WELTEVREDEN, 2016

The challenge is to develop tried-and-tested expertise in order to help retailers in their decision-making and implementation process. That's why, in its second blue paper, the Innovative Retail Technology ShoppingTomorrow Expert Group wants to show, based on the systematic analysis of twelve practical cases, what the implementation of innovative in-store technologies involves and what specific results they yield. In selecting the cases, the group attempted to include at least one case from each stage of the Store Sales Cycle model. The technologies discussed in the cases for each specific stage are underlined in the model included on page 246. The main purpose of the second blue paper is to inspire retailers with practical cases and to provide them with specific guidelines to help them make well-informed decisions regarding the use of technology and the successful implementation of these technologies.

This second blue paper will be available for download through the ShoppingTomorrow website from March 2019.

Download the second blue paper

4. The Expert Group

The Innovative Retail Technology ShoppingTomorrow Expert Group is an initiative by CLICKNL, INretail, the Chamber of Commerce, the Dutch Retail Agenda, Tuinbranche Nederland, and UNETO-VNI. These parties serve as the hosts of the expert group, while the Centre for Market Insights at Amsterdam University of Applied Sciences serves as its chair. A total of 12 experts from nine organizations based in the Netherlands and Belgium which are highly experienced in the implementation of innovative in-store technologies are responsible for delivering the cases to be presented in the second blue paper: DOBIT Solutions, Hello Customer, PXL University of Applied Sciences and Arts – Expertisecentrum PXL Innovatief Ondernemen (PXL Innovative Business Expertise Center), IceMobile, Joyn Belgium, xXess360, Quince Solutions BV, Free University of Brussels, and xplace.

In addition to the Innovative Retail Technology Expert Group, ShoppingTomorrow also has a Connected Stores Expert Group. While both expert groups are concerned with the same issues, they each have a distinct focus and approach. Working from an organizational and process perspective, the Connected Stores Expert Group addresses the question of what retailers need to do to create mature, connected stores. Technology is one of the elements they discuss and is considered from a data perspective. The Innovative Retail Technology Expert Group, meanwhile, focuses entirely on innovative technology, considering tech from a sales/customer perspective and providing an overview of the empirical results of various in-store technologies. You will find the blue paper published by the Connected Stores Expert Group on page 252.

Those who are interested can use the QR codes below to find more information on research into the added value of innovative technologies for retailers conducted by Amsterdam University of Applied Sciences, the Free University of Brussels and PXL University of Applied Sciences:

www.cmihva.link/store-innovation-lab

www.cmihva.link/VUB-MARK

www.pxl.be/innovatiefondernemen.html

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HOSTS

Marije Hovestad
Team Manager, Projects and Resources
Chamber of Commerce

Tessa Vosjan
Policy Advisor
Retail Agenda

Jann de Waal
Board Member
CLICKNL

Marcel Evers
Interests & Policies Manager,
INretail

Rob Wierenga
Head of Consumer Electronics & Retail Installation
UNETO-VNI

Frank van der Heide
Director
Tuinbranche Nederland

CHAIRS

Mayke Steeman
Project Manager
Amsterdam University of Applied Sciences

Jesse Weltevreden
Lecturer in Digital Commerce
Amsterdam University of Applied Sciences

Tibert Verhagen
Associate Professor of E-Business
Amsterdam University of Applied of Sciences

Expert group members

Bernard de Burlin
CCO
Joyn Belgium NV

Bram De Vos
Account Director EMEA
Hello Customer

Dennis Lanson
Strategic Partnerships Manager
Quince Solutions BV

Floor Wijnen
Data Scientist
IceMobile Agency B.V.

Helma Vonk
City Ambassador
Joyn Belgium NV

Ludwig Landvreugd
CEO
xXess360

Hermien Raedts
Retail Innovation Researcher
PXL University of Applied Sciences and Arts – Innovative Business Expertise Center

Malaika Brengman
Professor
Free University of Brussels

Marco Muthing
Commercial Director, Benelux
xplace

Stephanie van de Sanden
PhD student
Free University of Brussels

Tim Gielen
Digital Retail Experience Manager
Dobit Solutions

Evi Knuts
Head of Research
PXL University of Applied Sciences and Arts – Innovative Business Expertise Center