KPMG

Consumer Barometer

Focus topic:

Technologies in retail: the autonomous checkout process

Issue 03/24

About this issue

The targeted integration of innovative technological solutions in stationary retail not only allows back-end processes to be optimized, but also improves the customer's shopping experience on the sales floor. These developments go hand in hand with the increasing digitalization of consumer habits, which is also making itself felt beyond the stationary point of sale (PoS). The increased use of smartphones, tablets and laptops along the entire customer journey has significantly raised customers' expectations in terms of speed and convenience. In addition, for some customers, social interaction with sales staff is no longer an essential part of the stationary shopping experience. There are numerous reasons for this change, some of which can be found in the increasingly digital interaction and consumption processes as well as the social experiences of the corona years. From a retail perspective, it is important not to lose these customers to e-commerce, but to create offers and service options that take into account the needs and wishes of consumers and also reduce their data protection-related concerns and barriers.

In addition to interactive interfaces that support the advisory process and provide specific, product-related information as well as serving as a digital extension of the physical salesroom, autonomous checkout systems are increasingly being installed to make shopping more efficient. Technologies such as self-checkout checkouts, i.e. checkouts at which customers can scan and pay for their purchases independently without the help of checkout staff, are no longer a marginal phenomenon, but are increasingly becoming a standard feature, an integral part of modern stationary retail. From a retailer's perspective, autonomous checkout systems enable cost savings as fewer staff are required, which is an increasingly important competitive issue, especially in times of growing shortages of skilled workers. In addition, these systems aim to increase efficiency by speeding up processes and reducing long queues. In particular, the reduction of waiting times has been repeatedly discussed by both customers and retailers in recent years as a key potential for optimization in retail.

However, waiting times are just one aspect among many, that influence the decision to use or not use self-checkouts. This edition of the Consumer Barometer examines precisely these aspects and provides insights into consumer behavior. The study examines which barriers make use more difficult and which different factors influence the decision to use. It also examines the customer's perspective on the advantages and disadvantages of artificial intelligence (AI) in these systems and on the camera systems installed on the sales floor that are relevant to these technologies. The results provide both retailers and manufacturers with valuable information on the integration, usability, further development and distribution of such systems. Retailers can optimize the use of self-checkout systems by gaining a better understanding of the barriers faced by customers. The aim is to make the shopping experience more efficient and accessible, thereby increasing customer satisfaction.

About the Consumer Barometer

KPMG's Consumer Barometer examines current developments, trends and drivers in retail and the consumer goods market three times a year. For this edition, the EHI Retail Institute Cologne surveyed 1,000 consumers online in a short representative study on their opinions about the topic of "autonomous checkout systems" and analyzed this data for KPMG.

The digital version of the Consumer Barometer is also available to you as a free subscription:
www.kpmg.de/consumerbarometer

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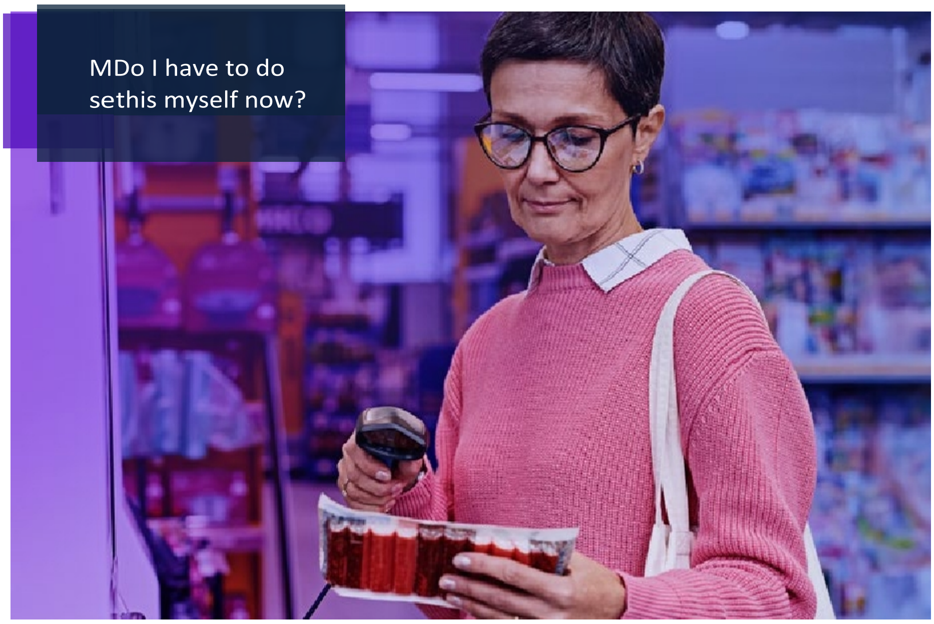

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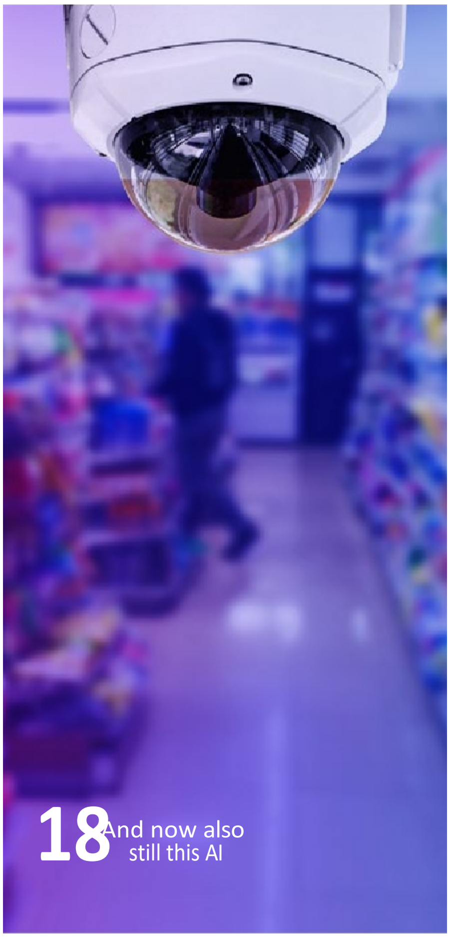
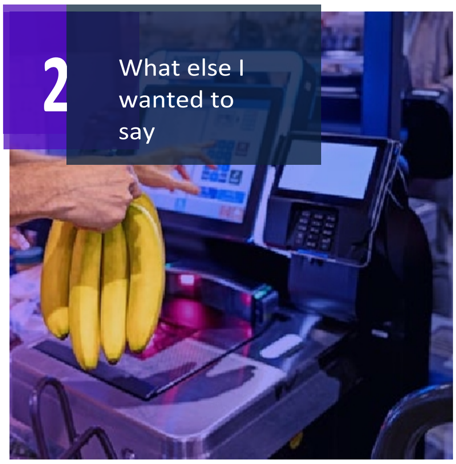
sethis myself now?



18 And now also
still this AI



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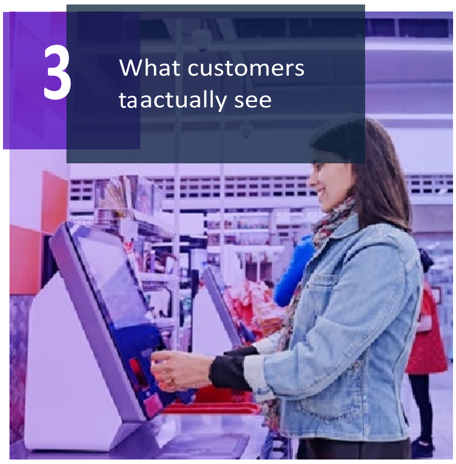
What else I
wanted to
say



3
What customers
taactually see

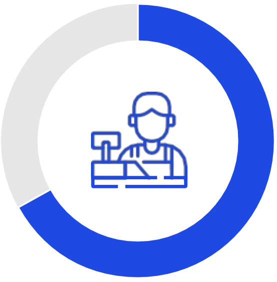
The most important figures

82 %

of consumers who very regularly use self-checkout checkouts rate their shopping experience in stationary retail positively.

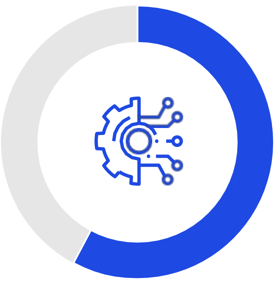
71 %

of consumers in the age segment up to 24 years often to regularly integrate self-checkout checkouts into their shopping process.



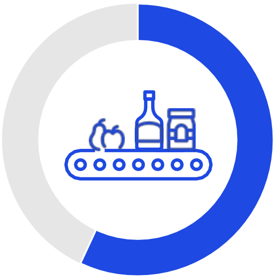
67 %

wish during the checkout process the support of a human being.



58 %

tend to prefer a stronger technological presence in the checkout area.



57 %

still tend to use traditional checkout lanes.

01

Advantages that are obvious

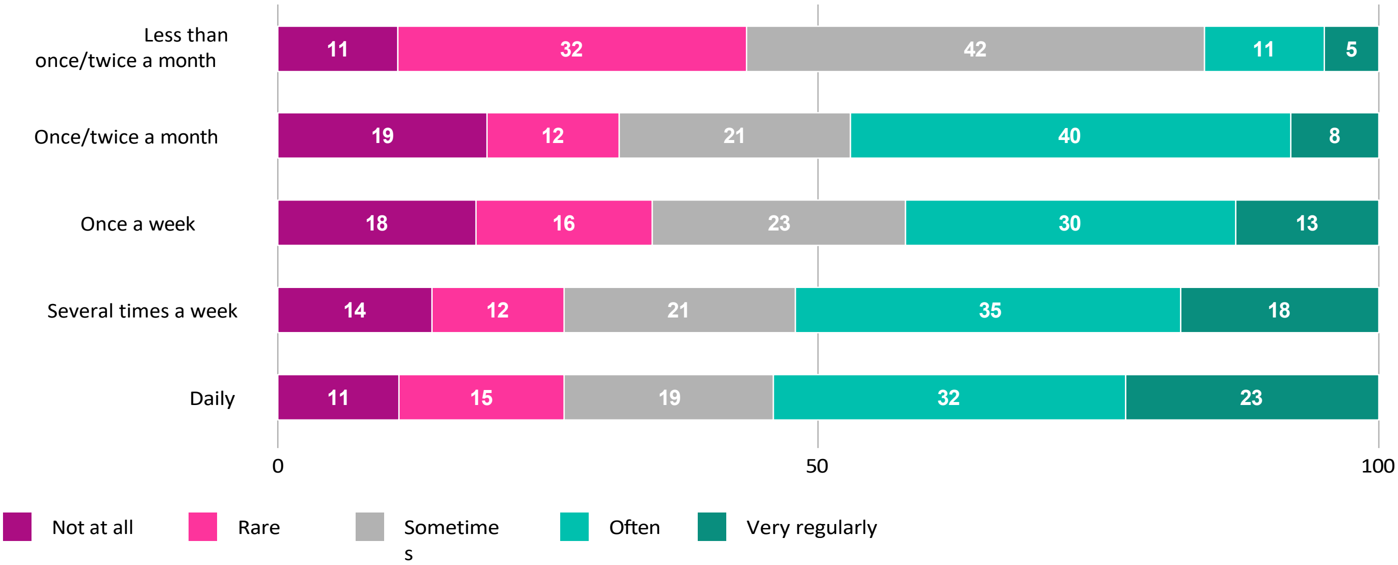
Do I have to do this myself now?

Self-checkout tills: More visits, more acceptance?

From a retailer's perspective, self-checkout tills enable greater flexibility and faster processing of the payment process at the end of the purchase. With regard to the willingness to use self-checkout checkouts, broken down according to the frequency of visits to bricks-and-mortar retailers, it is clear that regular use increases with increasing frequency of visits and passive non-use decreases. This rate differs by as much as eight percentage points between the group that shops once or twice a month and those who are there every day. It is also worth noting that the regular use among the group that visits brick-and-mortar stores once or twice a month is 8 percent, but increases by 15 percentage points to 23 percent with a daily visit frequency. It can therefore be argued that the frequency of visits has a fundamentally positive influence on the usage behavior of customers, as an almost daily visit frequency noticeably increases the regular use of self-checkout checkouts.

Interestingly, the number of rejecters in the group that visits retailers less than once or twice a month is just as high as in the group of customers who visit them every day, namely 11 percent.

Figure 1: Usage behavior of self-checkout checkouts by frequency of visits to brick-and-mortar retail stores



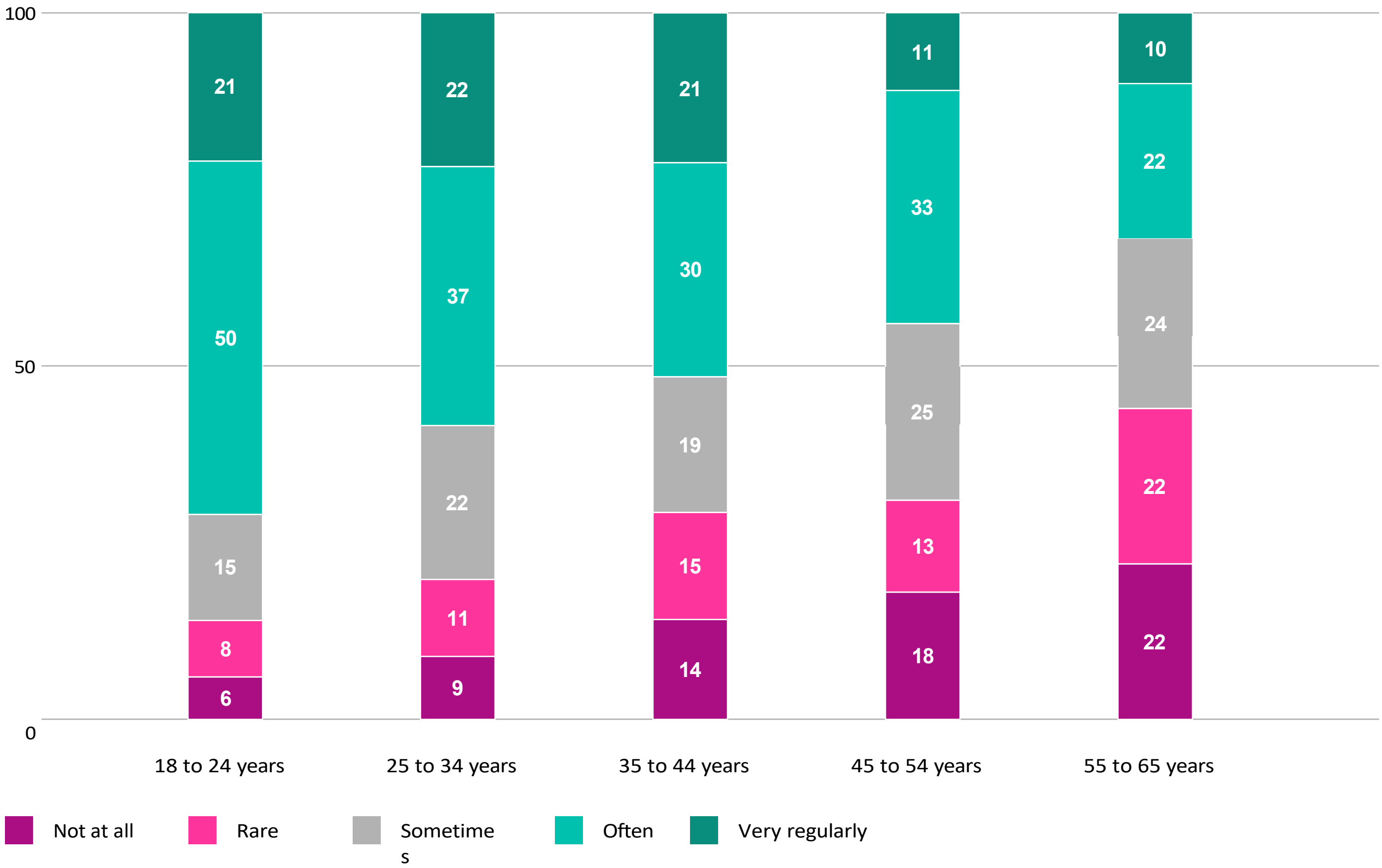
n = 1,000; figures in percent, deviations from 100 percent are due to rounding Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

Self-checkout tills are not only popular with young consumers

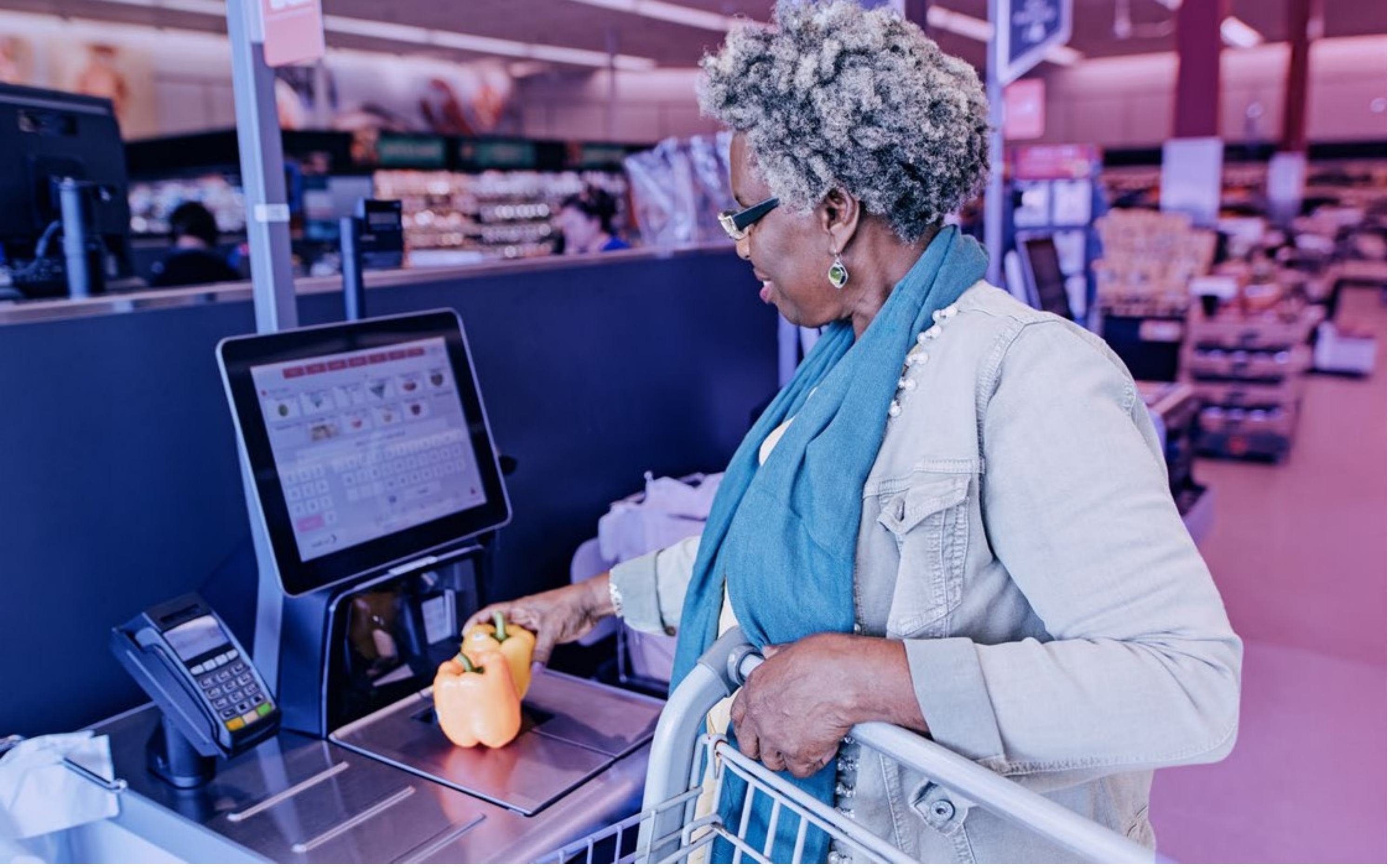
The use of modern technologies in the shopping context, such as self-checkout tills or digital information platforms, is generally age-dependent. Younger generations who a r e familiar with digital media are usually more open to technological i n n o v a t i o n s and take their use for granted. The affinity for self-checkout checkouts therefore also shows clear differences between the age groups.
For example, 71% of customers in the age segment up to 24 often to regularly integrate self-checkout checkouts into their shopping process. The 25 to 34 age segment also has a high rate of 59 percent.

Acceptance and regular use of these autonomous checkout systems. In the subsequent age groups, usage tends to decrease: 51% of 35 to 44-year-olds regularly use self-checkout checkouts, while only 44% of 45 to 54-year-olds still prefer this checkout method. Use is lowest in the 55+ age segment, where only 32% of customers regularly u s e self-checkouts. It is striking that more than one in five in this group do not use this option at all. This indicates that older customers are more reluctant to use technology-based checkout methods, possibly due to uncertainty in dealing with the technology or a stronger preference for traditional checkouts with personal service.

Figure 2: Usage behavior of self-checkouts by age segment



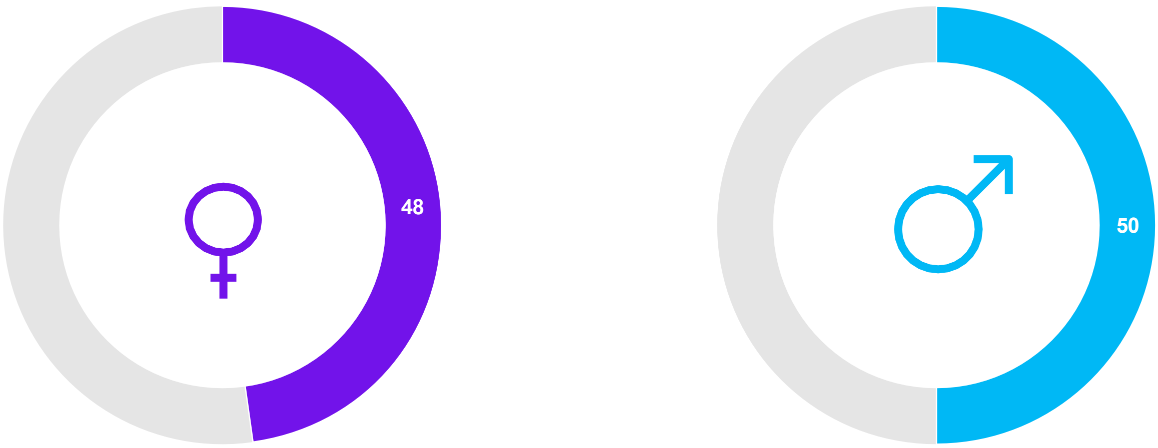
n = 1,000; figures in percent, deviations from 100 percent are due to rounding Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024



A key explanation for these results lies not only in the intensive integration of digital media into everyday life and shopping, but also in the increasingly natural use of increasingly digital retail spaces, which has developed over a long period of time. The younger generation has come to associate the shopping experience in bricks-and-mortar stores much more strongly with digital extensions to the physical sales area, such as interactive screens or other technological solutions such as apps. This also applies to the potential created by omnichannel strategies that link brick-and-mortar and online retail.

The results also show that there is no significant difference between female (48 percent) and male customers (50 percent) with regard to the regularity of using self-checkouts.

Figure 3: Breakdown of female and male customers who use self-checkouts often to very regularly (in percent)



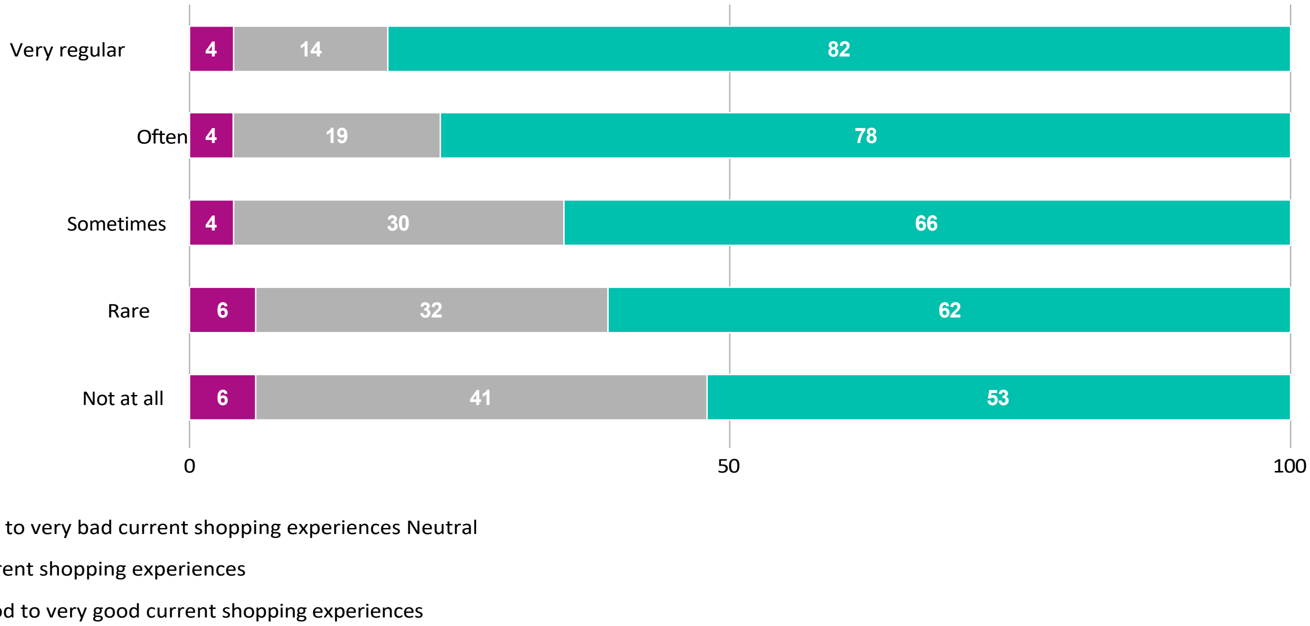
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

Regular self-checkout users rate the shopping experience more positively

In an in-depth analysis, a correlation was found between the use of self-checkout tills and the individual evaluation of the shopping experience.
in brick-and-mortar retail. This shows that customers who very regularly use self-checkout checkouts rate their shopping experience in brick-and-mortar retail more positively (82 percent) than user groups who choose this option less frequently. Conversely, it is clear that customers who do not use self-checkout checkouts at all are most likely to rate the shopping experience as neutral or worse.

Based on these results, it can be assumed that customers who regularly use self-checkout tend to have a more positive assessment of their overall shopping experience. These customers seem to appreciate the advantages that autonomous checkout systems offer, which is ultimately reflected in an overall positive perception of their shopping experience. On the other hand, customers seem to be more positive,
who prefer the traditional checkout method are less satisfied with the overall experience.

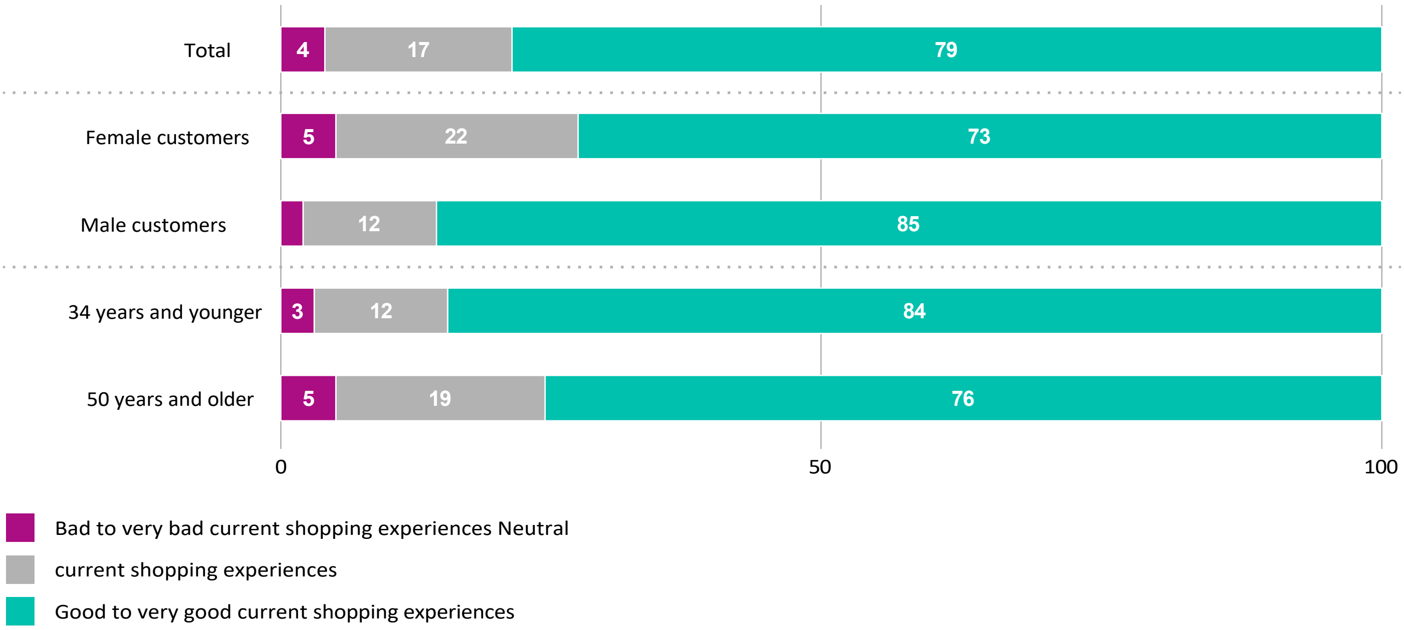
Figure 4: Assessment of the current shopping experience of customers in stationary retail according to the frequency of use of self-checkout checkouts



n = 1,000; figures in percent, deviations from 100 percent are due to rounding Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

In a further in-depth study, the groups with more intensive use of self-checkouts (answers "often" and "very regularly") were brought together and differentiated with regard to the socio-demographic characteristics of age and gender in order to analyze their individual assessment of the general shopping experience. It turns out that for men customers (85 percent) and customers up to the age of 34 years (84 percent), a more pronounced use of self-checkout checkouts leads to a positive assessment of the associated shopping experience. In contrast, this figure is only 76 percent for customers aged 50 and over who use them frequently, and only 73 percent for female customers.

Figure 5: Assessment of the current shopping experience of customers in stationary retail according to the frequency of use of self-checkout checkouts in the groups "often" and "very regularly"



n = 1,000; figures in percent, deviations from 100 percent are due to rounding Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

More convenience and freedom: self-checkout impresses young consumers

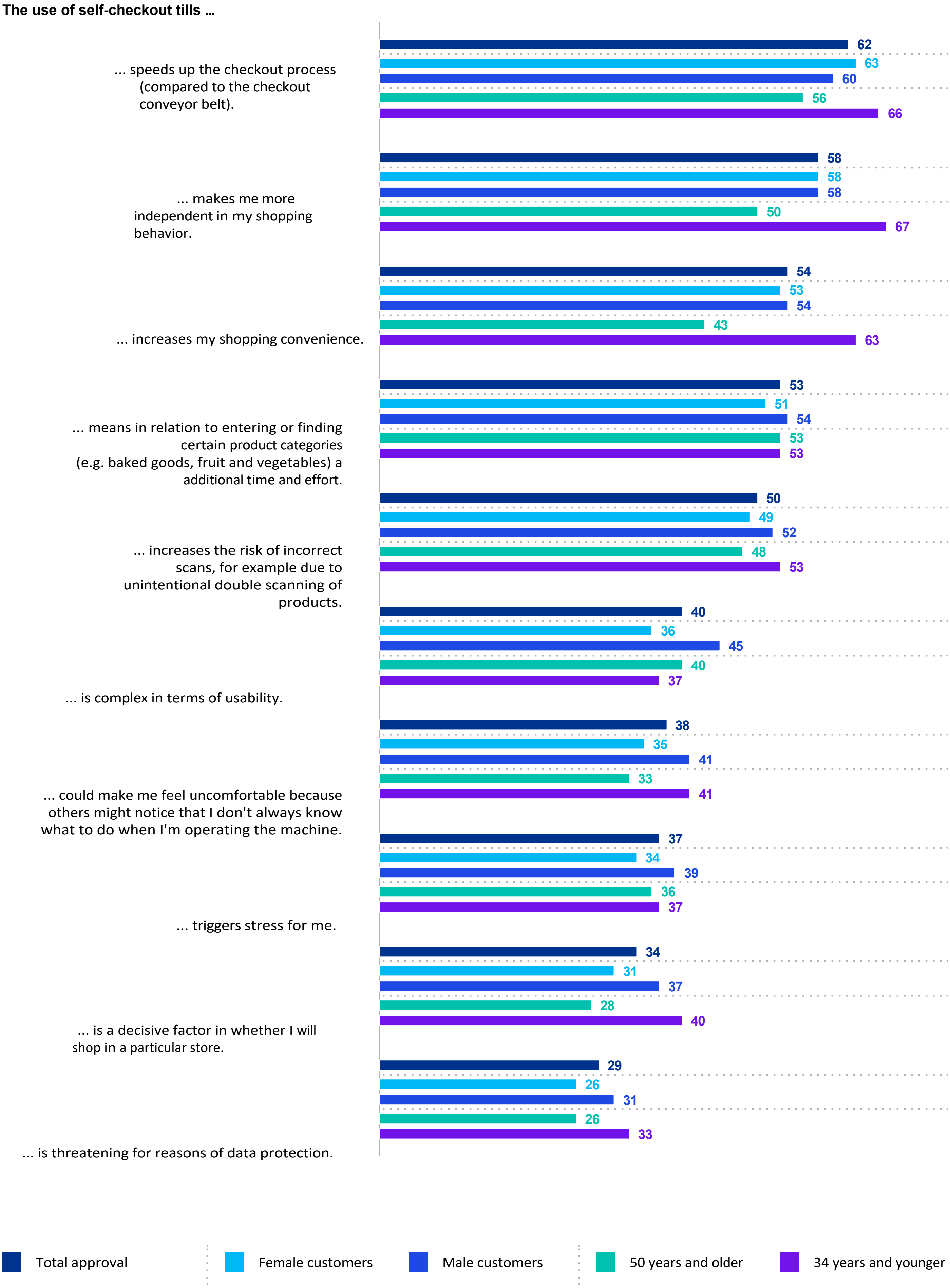
With a view to the specific barriers, challenges and potential of self-checkout checkouts, we will now examine what proportions of the individual user groups have expressed their clear approval of the use of autonomous checkout systems.

In general, the results show that self-checkout is a decisive factor for over a third of all customers (34%) when choosing a place to shop. Interestingly, this value is not evenly distributed across all user groups surveyed. Male customers (37%) were six percentage points more likely to agree with this than female customers (31%). This difference is even more pronounced in the age segments. Customers aged up to 34 years of age have an overall approval rating of 40 percent, while only 28 percent of customers aged 34 and over agree.
50 years of age see self-checkout as an essential criterion for visiting a particular shopping location.

In addition, it can be seen that the aspect of speeding up the purchase process is considered to be true by 62 percent of customers, with a clear difference between the younger (66 percent) and the younger (66 percent) customer groups. and the older generation (56%). A similar picture emerges with regard to perceived independence in the purchasing process: 58% of customers agreed with this criterion. Here, too, there is a significant difference between younger (67%) and older customers (50%). This becomes even clearer when assessing the increase in individually perceived shopping convenience, which 63 percent of younger customers agree, but only 43 percent of older customers agree (overall agreement: 54 percent).

Interestingly, the results also clearly show that female customers seem to cope better than male customers with the complexity of a self-checkout system and also with the perceived discomfort when other customers notice their difficulties in using it. M a l e customers rate the complexity of using self-checkout systems nine percentage points higher and are also six percentage points more likely to feel uncomfortable when others notice that they are having problems using them. Somewhat surprisingly, younger user groups agree more strongly than older user groups that they c o u l d potentially feel uncomfortable, at eight percentage points higher.

Figure 6: Percentage of agreement on specific barriers, challenges and potentials in the use of self-checkouts

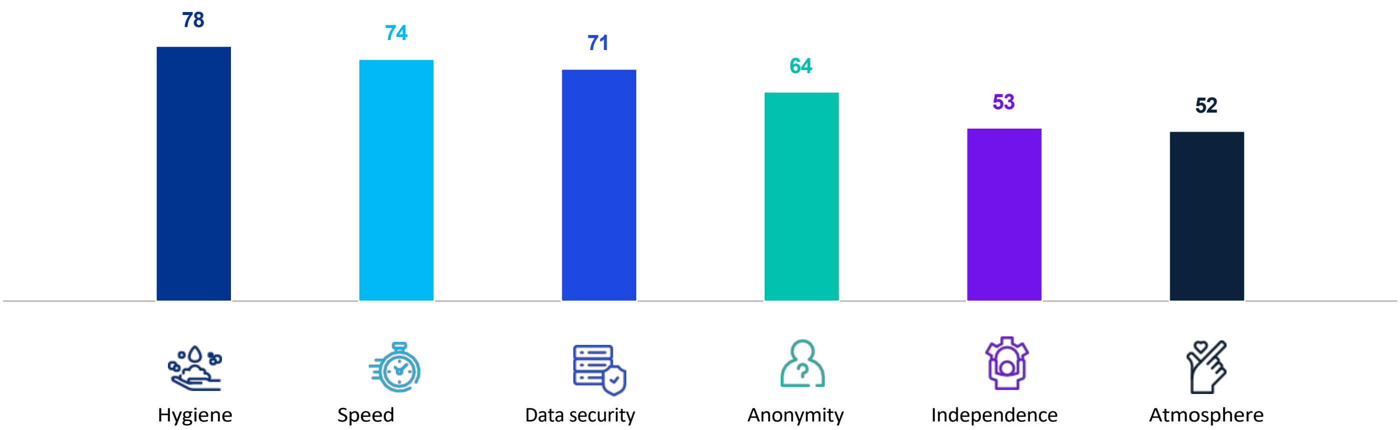


n = 1,000; figures in percent
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

Self-checkout: hygiene, speed and data security as top priorities

In order to understand the reasons why self-checkouts are used, various criteria and especially potential barriers and challenges were surveyed and sorted according to relevance.

Figure 7: Ranking of priorities for the use of self-checkouts (total agreement)

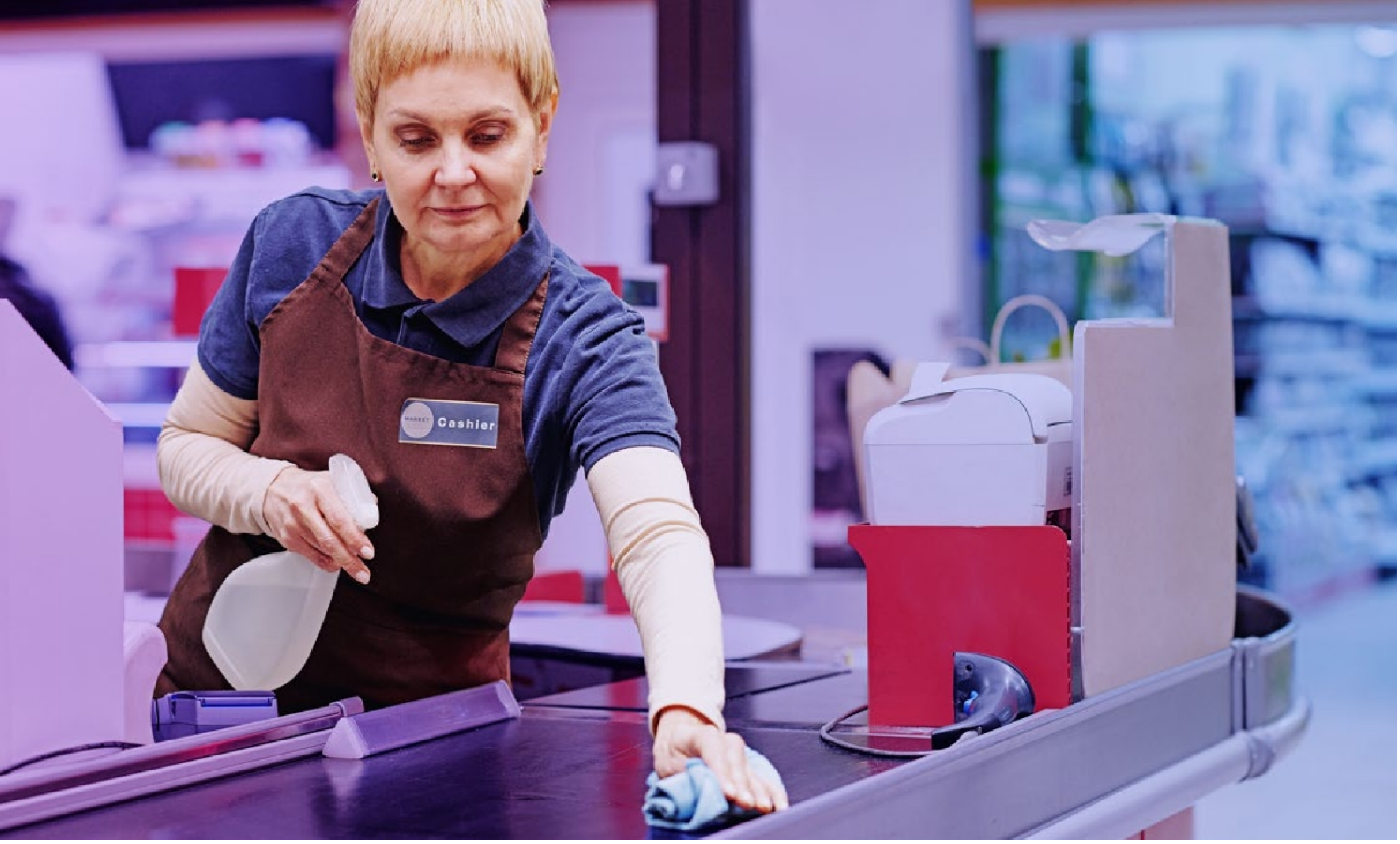


n = 1,000; figures in percent
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

The results illustrate the importance of various criteria when using self-checkout checkouts. At 78%, hygiene is the most important criterion among all respondents, which shows that customers place great value on cleanliness and minimizing contact.
This is particularly important in times of increased hygiene awareness, such as due to pandemic-related measures. At 74%, speed is the next most important factor. Customers appreciate being able to make purchases efficiently and quickly,
without having to wait in line for a long time. Data security, particularly in the context of payment processing, is in third place with 71 percent.

In fourth place in the ranking with 64% is the anonymity of shopping. This is particularly important when purchasing sensitive products such as hygiene products or contraceptives. Independence from employees is important for 53 percent of customers. This indicates that many customers prefer to complete the entire shopping process independently, without the help of staff. This aspect could be valued more highly by tech-savvy or younger customers in particular. In terms of the appealing design of self-checkout checkouts, however, there are fewer high expectations. While some customers appreciate it when the checkouts fit well into the store concept visually and functionally, this plays a subordinate role overall compared to functional aspects such as hygiene and speed.

The overall analysis shows that the order of reasons for using self-checkouts is broadly similar for all user groups. Nevertheless, there are some interesting differences between the individual user groups, which are examined in more detail below.



Consensus across all user groups: Hygiene as a top priority for use

For an in-depth analysis, the individual importance of different criteria with regard to the (potential) use of a self-checkout was examined. This analysis step took place with the inclusion of selected user groups (female customers, male customers, customers up to the age of 34, customers aged 50 and over). In addition, three specific user types were identified that play a special role in connection with the use of innovative technologies: the technology enthusiasts, the communicators and the traditionalists. These groups differ primarily in their preferences with regard to technology, communication and pragmatism in the purchasing process.

Three specific user types - an in-depth analysis

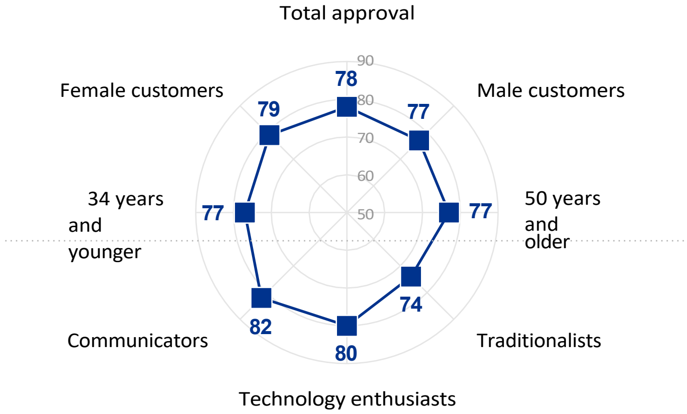
	technology-savvy	pragmatic	communicative
The technology enthusiasts	high	high	medium
The communicators	medium	medium	high
The traditionalists	low	medium	medium

User types: The technology enthusiasts (n = 264), the communicators (n = 399) and the traditionalists (n = 337). Identified as part of a hierarchical cluster analysis. Three personality traits were considered as input variables: "pragmatic", "technology-oriented" and "communicative" (5-point Likert scale: 1 for "not at all pronounced" and 5 for "very pronounced").

Hygiene (Rank 1)

Hygiene is more important to female customers (79%) than male customers (77%) when using self-checkout checkouts. Older and younger customers do not differ in their assessment of the importance of this point (77% each).

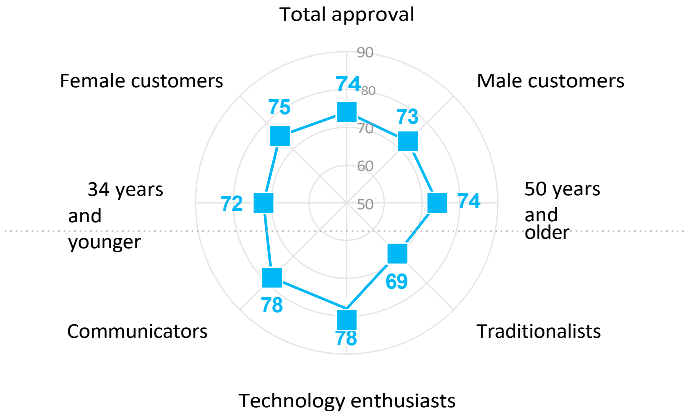
Communicators (82 percent) and technology enthusiasts (80 percent) attach the greatest importance to hygiene, while traditionalists (74 percent) find this aspect slightly less important. Overall, hygiene is a key factor for all groups.



Speed (rank 2)

Female customers (75 percent) and older customers (74 percent) are more likely to use self-checkout checkouts. important that the process is faster than at traditional checkout lanes. Male (73 percent) and younger customers (72 percent) are in a similar range of approval.

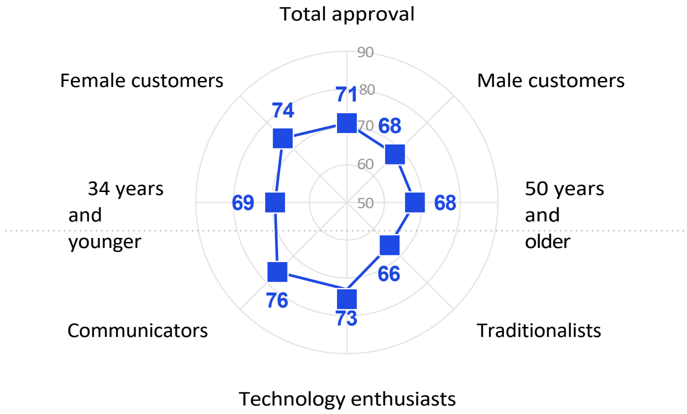
Communicators and technology enthusiasts rate the criterion of speed highest at 78%, as they prefer fast, efficient processes. Traditionalists value speed less, with 69% agreeing.



Data security (rank 3)

For female customers (74%), the protection of their data is particularly important when using self-checkout checkouts, while 68% of male customers agree. For younger (69 percent) and older customers (68 percent), the aspect of data security is similarly important.

Communicators (76%) and technology enthusiasts (73%) in particular highly value the criterion of data security, as they pay attention to the protection of their data in addition to innovation. Traditionalists (66%) attach slightly less importance to data security.



n = 1,000; figures in percent
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

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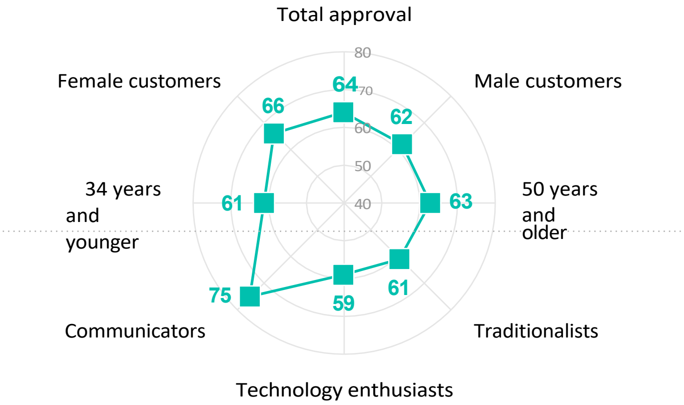
Anonymity (rank 4)

Female customers (66 percent) place slightly more value on their privacy and anonymity when using self-checkout checkouts than male customers (62 percent). Older customers (63 percent) value anonymity slightly more than younger customers (61 percent).

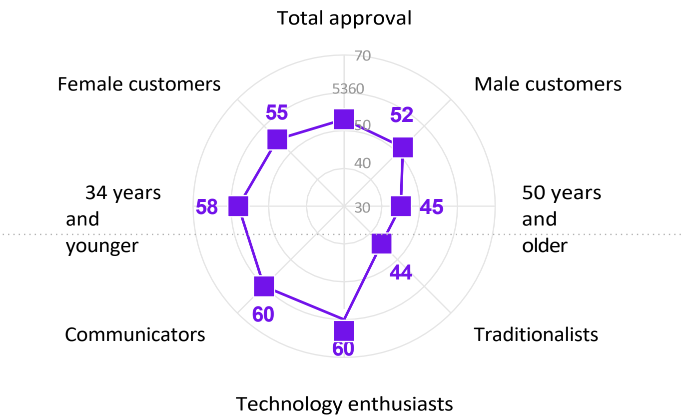
It is particularly striking that communicators are the most concerned about anonymity at 75 percent, although they are otherwise very communicative. Technology enthusiasts (59%) and traditionalists (61%) attach less importance to anonymity, as they are more focused on functionality and pragmatism.



Independence (Rank 5)

For male customers (52%) and female customers (55%), independence is similarly important when using self-checkouts. However, a clear difference can be seen when looking at the age segments. Younger customers (58 percent) place more value on independence from employees during self-checkout. In contrast, older customers (45%) rate this aspect lower and tend to prefer support from staff.

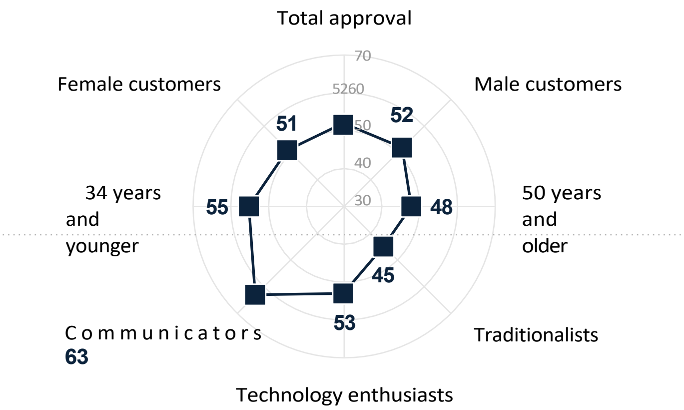
Communicators and technology enthusiasts agree most strongly with this criterion, at 60 percent each.
In contrast, traditionalists rate this aspect the lowest at 44%. For this group, contact with employees is evidently more important and they prefer to receive support when making purchases.



Atmosphere (Rank 6)

Male (52 percent) and female customers (51 percent) rate the importance of a pleasant atmosphere in the self-checkout environment similarly, while this point plays a more important role for younger customers (55 percent) compared to older customers (48 percent).

Among the user types, communicators with 63% agreed with this point the most. For this group, which has an affinity for technology and design, visual integration plays an important role. Technology enthusiasts also agree with this at 53%, but functionality is more important to them. Only 45% of traditionalists rate this aspect as important and therefore place less value on the design of the cash registers overall.



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Overall, it can be seen that female customers place more value on data security, hygiene and anonymity than male customers, while both user groups show similar approval ratings for the criteria of speed and independence from employees. Younger customers (up to the age of 34) value independence and speed when using self-checkout checkouts, while older customers (aged 50 and over) see the advantage in data security and anonymity, which indicates a greater need for privacy and protection of personal data in this group.

Among the selected user types, the communicators show the highest level of approval for almost all criteria, but particularly for hygiene, speed and data security, whereby anonymity is also important to them.
The technology enthusiasts value speed, hygiene and independence above all, while the traditionalists consistently give lower ratings for the criteria and tend to stick to traditional forms of shopping, but still consider hygiene and safety to be relevant.

"The use of self-checkouts is increasingly becoming a matter of course for people. For many, self-checkout or self-scanning systems even significantly enhance the shopping experience. New stores should no longer be opened without a corresponding service. Retailers who rely exclusively on staffed checkouts need to rethink their approach."

Michael Gerling
Managing Director, EHI Retail Institute GmbH

02

The check before the checkout

And now this AI too

Younger customers value efficiency, older customers tend to value support

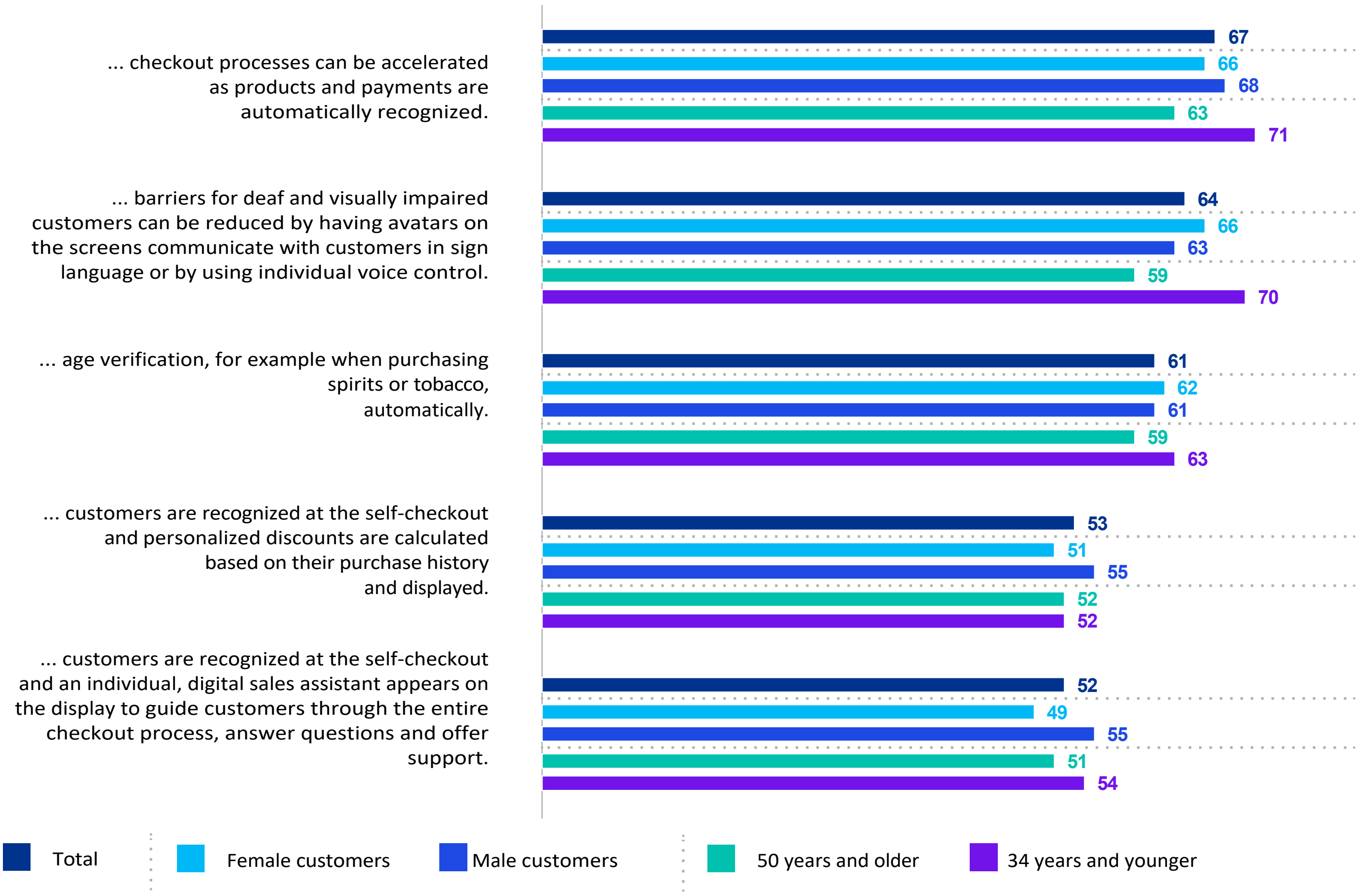
The importance of artificial intelligence (AI) in self-checkout checkouts is constantly growing. As part of the analysis of the advantages and disadvantages of using AI at self-checkout checkouts, five key topics were examined.

In line with the previous results, the acceleration of the checkout process through fully automated product recognition achieved the highest level of approval with 67% of respondents. Younger customers (71%) and male customers (68%) in particular appreciate such an increase in efficiency, Female customers (66 percent) and older customers (63 percent) also rate this functionality positively, albeit somewhat more cautiously.

The potential of AI to reduce barriers for customers with visual and/or hearing impairments is also rated positively overall (64%). This functionality is particularly important for younger customers (up to the age of 34), with 70 percent agreeing, followed by female customers with 66 percent and male customers with 63 percent. The highest age group (aged 50 and over) is slightly lower for this question with 59% approval, which indicates that inclusive measures are more popular with younger customers.

Figure 8: Proportion of approval for different fields of application for the integration of AI in self-checkout tills

With the help of AI in the checkout area …



n = 1,000; figures in percent
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

The option of automatic age verification is welcomed by a total of 61 percent of customers. Female (62 percent) and male customers (61 percent) show an almost identical approval rating here. Younger customers are also the most positive among respondents on this question with 63 percent, while older customers are somewhat more reserved at 59 percent.

The approval ratings for the automated granting of personalized discounts based on purchase history as part of AI applications at the self-checkout are relatively evenly distributed. The overall approval rate is 53%, with male customers showing the strongest approval at 55% and female customers welcoming this at 51%. In terms of age segments, approval among both younger and older customers is 52%.

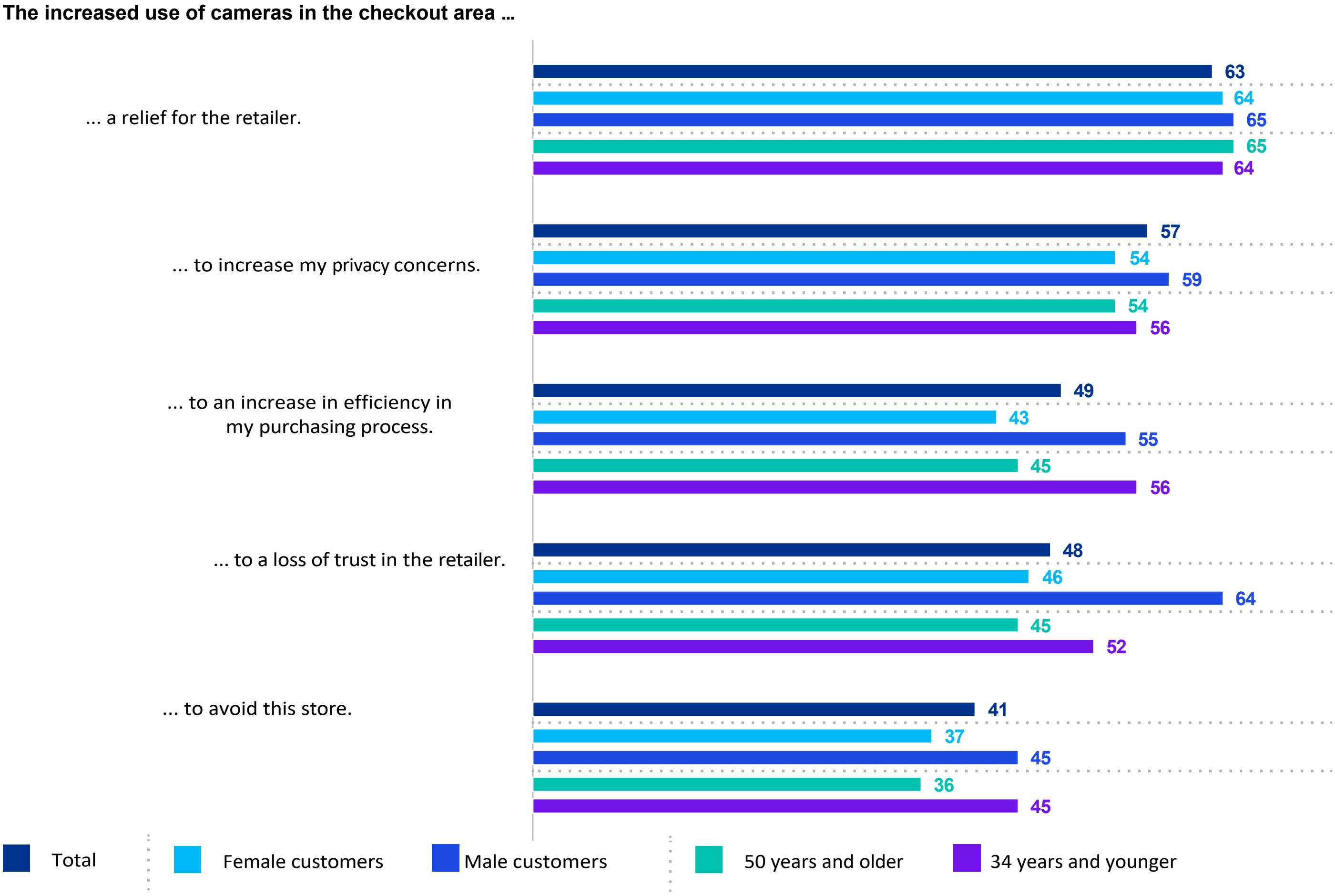
The option of displaying a digital sales assistant at the self-checkout is viewed positively by 52% of customers. Younger customers (54%) and male customers (55%) show the greatest interest in this, while female customers (49%) and older customers (51%) have less need for such support.

Cameras in the checkout area: between privacy concerns and retailer relief

In a further step, the question of how the increased use of cameras in the checkout area is perceived by the various customer groups was examined. 63% of respondents recognized that the use of cameras relieves the burden on retailers. Male customers and older customers (aged 50 and over) rated this measure particularly positively with 65% each, while female customers and younger customers (up to the age of 34) also perceive this as a relief, with 64 percent agreeing.

Even though the understanding of the relief for retailers and the underlying internal processes receives the highest approval, 57 percent of customers express major concerns about their privacy due to the use of cameras, with male customers having the greatest reservations (59 percent), followed by older customers (54 percent) and younger customers (56 percent).
At 54 percent, female customers have similar concerns.

Figure 9: Proportion of approval for different topics regarding the use of cameras in the checkout area



n = 1,000; figures in percent
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

Somewhat surprisingly, 49% of customers nevertheless see an increase in efficiency in the shopping process through the use of cameras. Younger customers (56%) and male customers (55%) in particular value the integration of this technology as an efficiency-enhancing element, despite a significant loss of trust, while female customers (43%) and older customers (45%) see fewer benefits.

A loss of trust in the retailer due to the use of cameras is reported by 48 percent of customers, with male customers (64 percent) particularly affected. stand out. Older customers (45 percent) and female customers (46 percent) feel less distrust, while younger customers (52 percent) are somewhat more critical.

Overall, 41 percent of customers would avoid the store if cameras were used more frequently. This applies in particular to male customers (45 percent) and younger customers (45 percent), while older customers (36 percent) and female customers (37 percent) are less inclined to take this relatively drastic step.

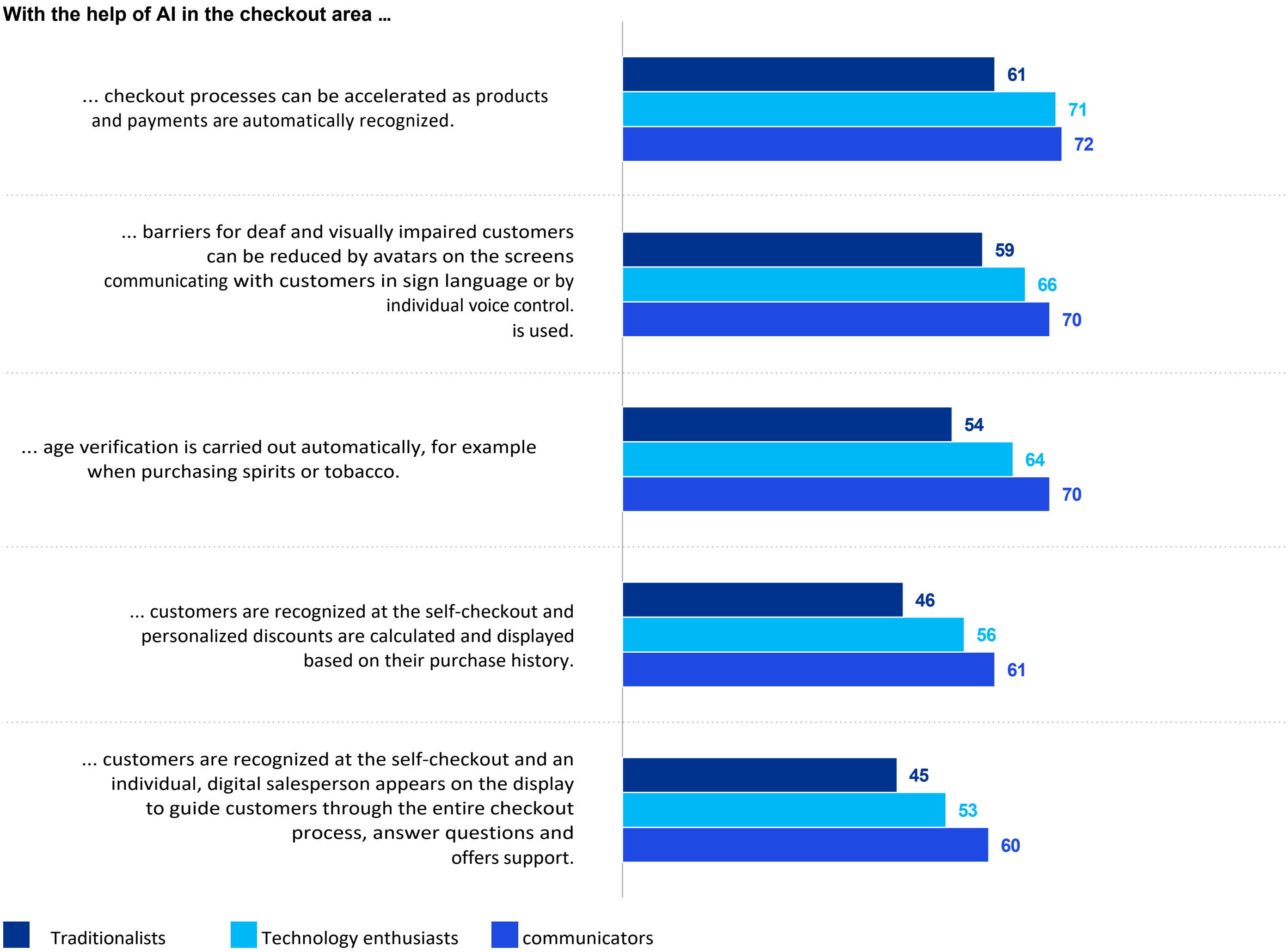
AI in the checkout area: communicators lead the way, traditionalists hesitate

An in-depth look at the user groups, taking into account the user types, shows a clear approval of innovative technologies such as fully automated product recognition and accessibility, particularly among technology enthusiasts and communicators. There is a particularly high level of approval for speeding up the checkout process through fully automated product recognition: technology enthusiasts (71%) and communicators (72%) are particularly convinced, while traditionalists are somewhat more cautious at 61%.

With regard to accessibility through avatars with sign language, communicators (70 percent) and technology enthusiasts (66 percent) were particularly supportive, while traditionalists are more skeptical at 59%, but the majority still agree. Automatic age verification is most popular with communicators at 70%, followed by technology enthusiasts at 64%. Traditionalists are much more critical of this functionality with 54%.

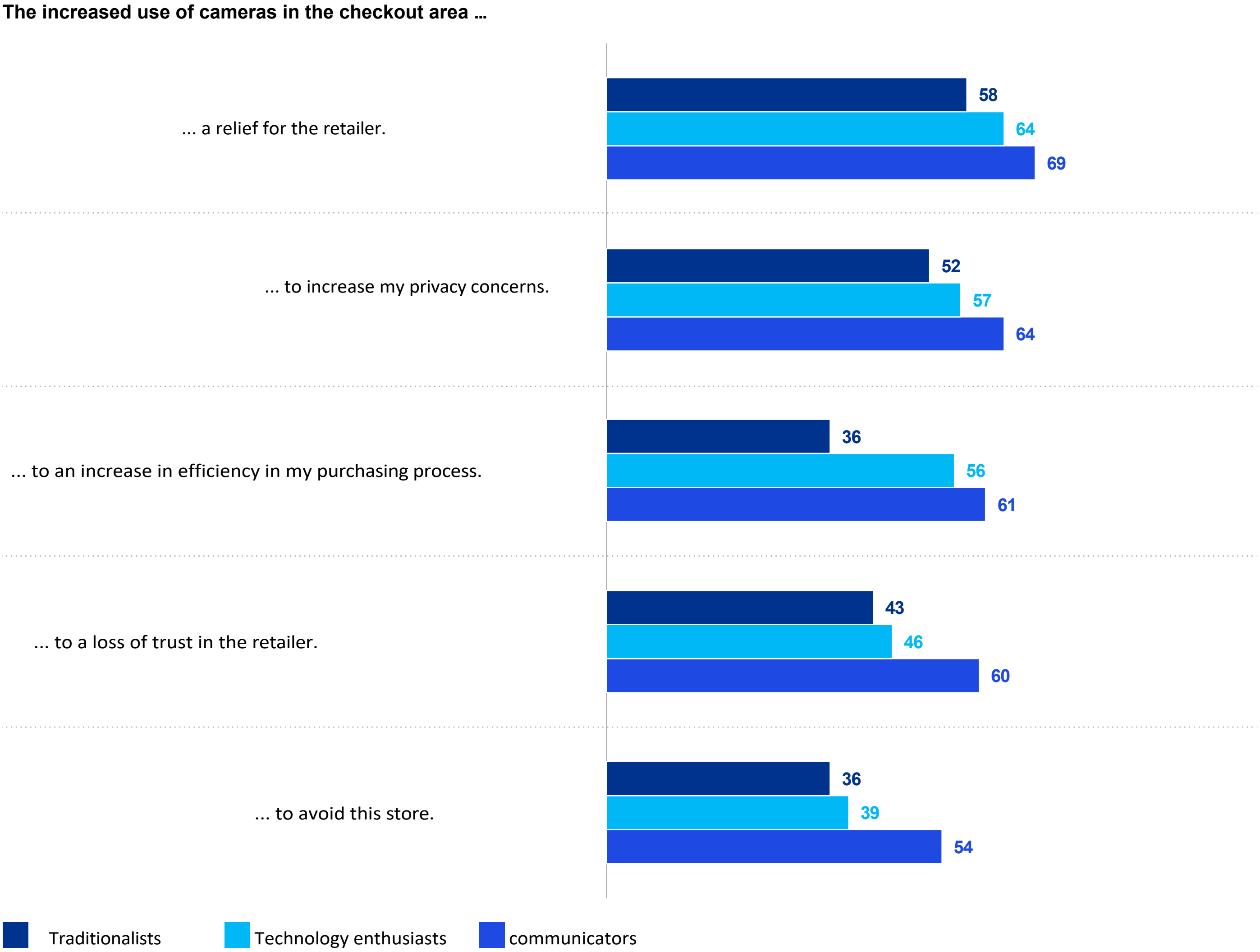
With regard to personalized discounts, communicators show the highest level of approval at 61%. Technology enthusiasts are also positive at 56 percent, while traditionalists are only 46 percent convinced. Virtual sales assistants who support customers at the self-checkout receive the most approval from communicators (60 percent), while traditionalists are much more reserved at 45 percent. Technology enthusiasts are in the middle range here with 53%.

Figure 10: Proportion of approval for different fields of application for the integration of AI in self-checkout checkouts with regard to different user groups



n = 1,000; figures in percent
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

Figure 11: Proportion of approval for different areas of application for the use of cameras in the checkout area with regard to different user groups



n = 1,000; figures in percent
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

The use of cameras to reduce the burden on retailers is viewed positively overall. Communicators (69 percent) and technology enthusiasts (64 percent) are particularly positive about this function, while traditionalists (58 percent) are slightly less convinced, although a majority of them are also in favor of reducing the workload. With regard to concerns about privacy, it is clear that the use of cameras triggers reservations among many respondents. At 64%, communicators in particular expressed strong reservations, followed by technology enthusiasts (5 7 %) and traditionalists (52%), whose concerns are also present but less pronounced.

In terms of increasing the efficiency of the purchasing process, many believe that cameras can optimize it. This opinion is particularly strong among communicators at 61%, followed by technology enthusiasts at 56%. Traditionalists are much more reserved: only 36% see an efficiency gain here.
Traditionalists (43 percent) are slightly less likely than communicators (60 percent) and tech enthusiasts (46 percent) to believe that there could be a loss of trust in retailers.

When asked whether customers would avoid the shopping center because of cameras, communicators show
At 54 percent, traditionalists (36 percent) and technology enthusiasts (39 percent) are less inclined to avoid the store for this reason.

03

Bundled aspects

What else I wanted to say

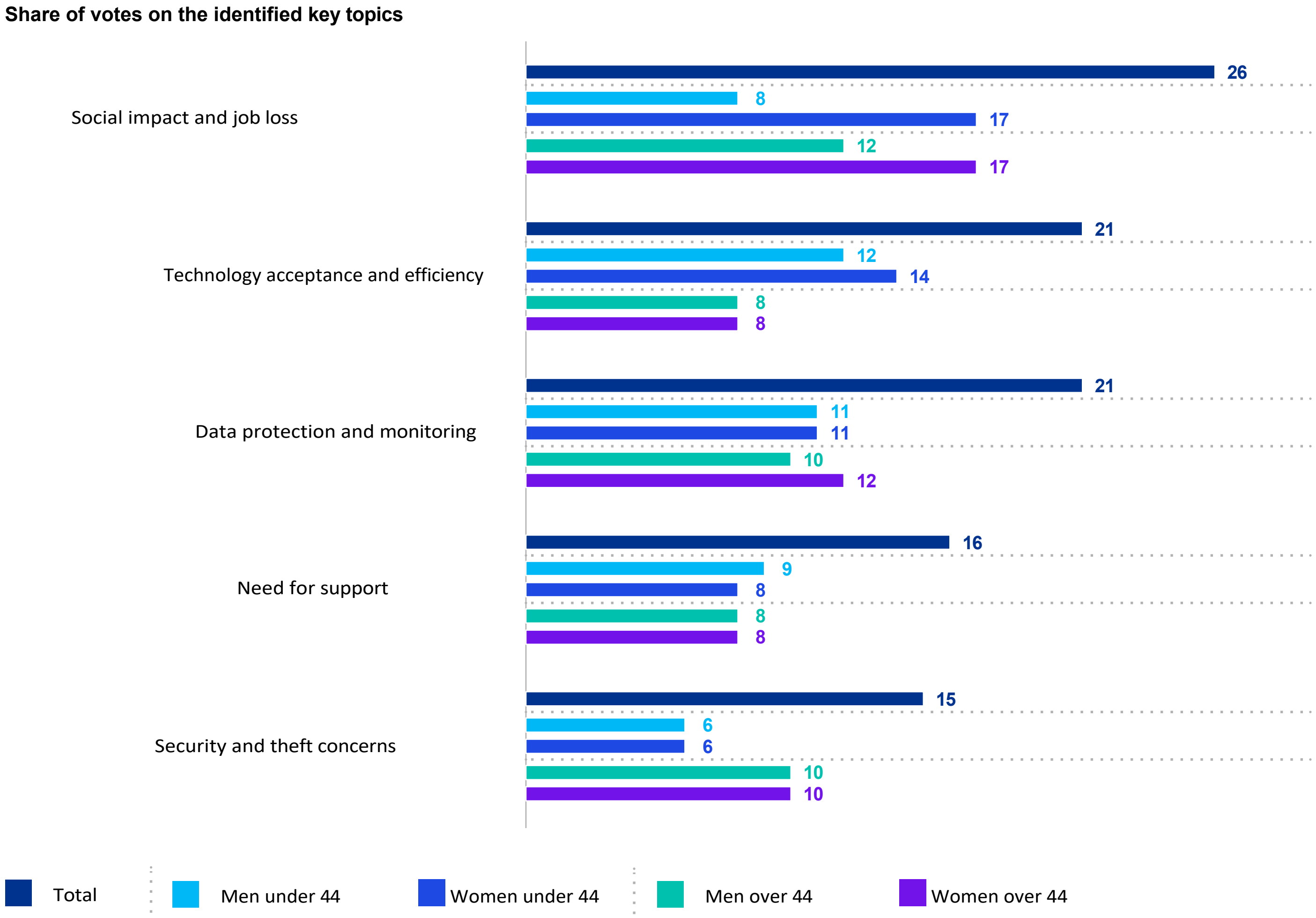
Customers show empathy towards retailers

As part of this study, key drivers, challenges and barriers in dealing with self-checkout systems have already been identified and filtered with regard to specific user groups. The prospective integration of AI into these systems was also examined.

In order to understand the individual advantages and disadvantages of each user group as well as their fears and concerns when dealing with

In order to better understand these technologies, this study also offered the opportunity to take a holistic view of the topic. In particular, the fears and concerns addressed could be specifically named and justified in a free text. Answering this question was voluntary. The answers were then categorized and assigned to the corresponding topic areas. This resulted in five main topics: Security and theft concerns, need for support, data protection and monitoring, technology acceptance and efficiency, and social impact and job loss.

Figure 12: Customers' main focus when using AI-supported self-checkouts



n = 118; voluntary responses; figures in percent
Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

Younger and older customers concerned about jobs, men about efficiency and theft protection

Social impact and job loss

The analysis shows that the biggest concern regarding the use of self-checkout tills and, in the long term, the integration of AI in bricks-and-mortar retail is the impact on jobs (26%).
It is striking that customers are not only concerned about their own interaction with human employees, but also have an eye on the potential impact on employees' workplaces. There is a shift from individual needs to a sense of social responsibility.

At 9 percent, women under the age of 44 are significantly more likely to express concerns about the social impact and potential job loss than men in the same age group, for whom such concerns are only mentioned by 4 percent. Despite the recognized benefits of automation, it is clear that younger women are particularly sensitive to the social consequences, while men are less focused on job loss, but are still more concerned about the social consequences of automation. emphasize the importance of human aspects in retail.

The analysis also shows a similar distribution of concerns among men and women over the age of 44, albeit with some differences. Women over 44 (8 percent) are more likely to express concerns about job losses than men over 44 (5 percent). This indicates that older women, like younger women, are more concerned with the social and labor market-related consequences of automation. Although men in this age group share these concerns, they focus more on the social impact of technological developments.

I think it's terrible that more and more is being automated, it's cold, impersonal and costs jobs. (w, 34)

They don't want any more employees. Only robots and cleaning assistants. I find that antisocial. (m, 47)

Technology acceptance and efficiency

It also shows that the concerns of customers need to be considered in a differentiated manner. For example, technology acceptance and efficiency in the use of these systems is the second most frequently mentioned aspect, with 21% of respondents citing it. This indicates a certain uncertainty or skepticism towards the technical solutions. Both genders express similar concerns in relation to these aspects, with men being the most skeptical at 7 percent and women at 8 percent question the functionality and potential of the technologies.

Interestingly, both women and men appreciate the efficiency of self-checkout checkouts. However, women would like to see specific improvements and increased user-friendliness, while men express fewer suggestions for improvement overall and are very satisfied with the status quo, especially for smaller purchases.

Overall, there are no significant gender-specific differences in terms of technology acceptance and efficiency. Men and women over the age of 44 each account for 3 percent of mentions and state a partial acceptance of the technology in their responses, but prefer human checkout staff. While men often suggest hybrid solutions, women emphasize the practical benefits of self-checkout only in certain circumstances.

> **I take a fundamentally positive view of such technological innovations. The problems that arise are just teething troubles that can be solved over time. (m, 26)**

> **This checkout system [can] be a great addition to the existing shopping experience. I'm thinking of a hybrid solution here: 8 a.m. - 6 p.m. people at the checkouts, 6 p.m. - 8 a.m. computer- and AI-supported shopping experience. (w, 51)**

Data protection and monitoring

Data protection and surveillance is mentioned just as frequently as technology acceptance and efficiency (21%), which makes it clear that the protection of personal data remains a key concern, as already discussed elsewhere in this study. Interestingly, men and women are equally concerned about the protection of their privacy (6% each). However, there are differences in gender-specific data protection concerns: women tend to feel more monitored, while men focus more on the storage and use of their data.

It is also striking that women over the age of 44 (5 percent) express slightly greater concerns about data protection and surveillance than men in the same age group (4 percent). This indicates that women in this age group are more meticulous about protecting their personal data. While they feel more monitored and controlled, men also express concerns, but more often rely on legal regulations and are more pragmatic in dealing with the issue.

> **To use AI effectively and have more convenience, personal data must be collected - but that is a risk factor. (w, 32)**

> **I don't want to be watched around the clock and I don't like being operated by machines. (w, 54)**

> **I don't think there are any concerns. We have a General Data Protection Regulation and I am sure that this will always be adhered to. (m, 47)**

"The question of self-checkout technology in retail is no longer why, but how. From a retail perspective, depersonalization is a medium-term must in light of the development of the working population and wage costs. Consumers will follow suit if retailers place hygiene, speed and data security of self-checkouts at the center of the solution. The HOW of self-checkout is therefore in the spotlight - it should intelligently combine customer interests and efficiency."

Stephan Fetsch
EMA Head of Retail and Consumer Goods,
KPMG AG Wirtschaftsprüfungsgesellschaft

Need for support

The fourth most important aspect among respondents' concerns, at 16%, is the need for support in using autonomous checkout systems. This shows that despite technological advances, many customers still need help and guidance in order to use the new systems effectively. There is only a slight difference in needs between the genders: men under the age of 44 are slightly more likely to express a desire for support (5 percent) than women in the same age group (4 percent). In detail, however, it is clear that women often feel under pressure and would like more help from staff or support functions, while men prefer more reliable systems and the ability to rectify errors independently.

For both groups, the need for support in more complex or new situations is 3 percent, with the importance of personnel being particularly emphasized in the introductory phase of the systems.

In the introductory phase or in a longer introductory phase, you could put someone from the staff at the self-checkout tills who can provide assistance. (w, 52)

In general, it puts me (...) under pressure to familiarize myself with the new process. Especially when there's a queue, for example. (w, 33)

Security and theft concerns

Security and theft concerns were also raised by 15 percent of respondents, actually rather
a question from the perspective of the retailer rather than the customer. This could indicate that customers view this issue through the eyes of retailers and are concerned about the security of the entire process.

Concerns about security and theft are equally distributed among both genders at 4% each. Women primarily express concerns about technical problems and a lack of support in the event of system failures, while men increasingly emphasize the risk of theft and fraud.

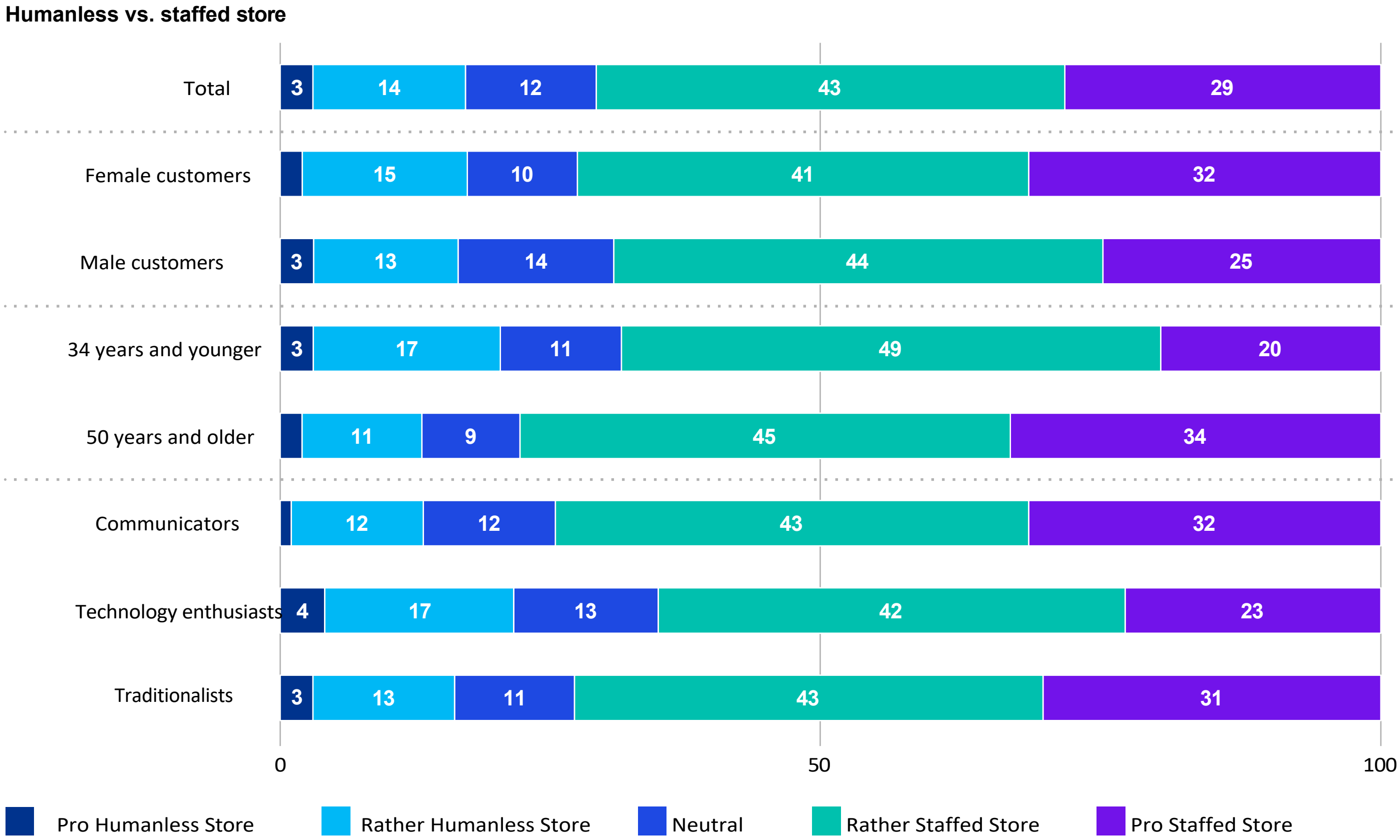
Who stops the shoplifter when there are no more employees? (m, 53)

Increased mechanization can lead to more sources of error that slow down processes. In addition, there is also the risk of hacker attacks or complete paralysis in the event of a system failure. (w, 32)

What about completely automated shopping centers?

The retail sector is undergoing a profound transformation that is increasingly characterized by the integration of new technologies. Automated checkout systems, digital product information and the use of artificial intelligence to analyze customer behavior are just a few examples of how technological penetration is changing brick-and-mortar retail. Parallel to this development, however, there are also growing concerns that the increased technology, there will be little or no staff in stores in the future. This is particularly evident in discussions about so-called humanless stores, where the entire shopping experience takes place without human interaction. Such concepts already exist today, as the model of the humanless store shows, in which customers can carry out the entire purchasing process - from viewing products to paying - completely automatically, without having to rely on support from employees.

Figure 13: Comparison of customer preference between humanless store and staffed store with regard to the different user groups



n = 1,000; figures in percent, deviations from 100 percent are due to rounding Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

Initial results clearly show that, overall, customers have a stronger preference for staffed stores. Staffed stores are preferred by 72 percent of customers, while only 17 percent are in favor of humanless stores. It is striking that female customers (73%) tend to favor traditional stores slightly more than male customers (69 percent).

Younger customers under the age of 34 are also more open to humanless stores, even though the majority (69%) still prefer staffed stores. In contrast, older customers (aged 50 and over) are much more focused on staffed stores at 79 percent.

Communicators in particular, who value social contact when shopping, are predominantly in favor of staffed stores (75 percent), while technology enthusiasts, who tend to focus more on efficiency, are more open to automated shopping experiences (21 percent). Somewhat surprisingly, traditionalists are not the group with the strongest opposition to humanless stores, with 16% in favor for the Humanless Store are in the middle of all groups.

Traditional, staffed stores are therefore still strongly preferred, while younger and more pragmatic customers are more open to automated solutions.

04

Potential within reach

What customers actually see

Autonomous checkout systems in retail, especially self-checkout checkouts, offer enormous potential for increasing efficiency and reducing costs. These technologies enable retailers to reduce staffing levels and increase customer throughput at the checkout. At the same time, these systems face the challenge of addressing different customer groups with their sometimes very different needs and expectations in equal measure. The key to success lies in the flexibility of the systems and in transparent but unobtrusive communication with customers.

Outlook and summary

This edition of the Consumer Barometer shows that autonomous checkout systems such as self-checkouts not only offer retailers great potential to increase efficiency, but also have a positive impact on the shopping experience. However, the acceptance of these technologies depends heavily on demographic factors such as the age and gender of customers. A key aspect that influences the motivation to use self-checkout systems is the frequency of visits to brick-and-mortar stores.
Customers who regularly shop in retail stores are more open to these systems. This shows that it is not only the frequency of visits that increases the motivation to use the systems, but above all a more intensive use of the systems improves the shopping experience - and this does not only apply to younger customer groups.

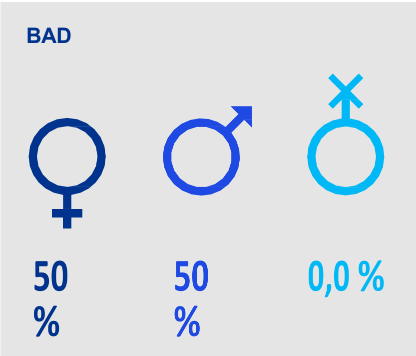
Another key issue raised by older customers in particular is the loss of human interaction in retail. Many customers - especially the older generations - value personal contact with checkout staff and see progressive automation as a threat to these social interactions. Interestingly, customers also say that they are worried about employees' jobs. For the success of self-checkout
At the checkout, it is not only technical reliability that is decisive, but also the consideration of customers' social and emotional needs. The human component of shopping must not be completely replaced by technology. Retailers need to find a way to combine technology and service in order to meet the needs of a diverse customer base. It is also important to train employees so that they recognize which customers respond positively or even expect immediate support when using self-checkout checkouts and which customers are more likely to be put off by this.

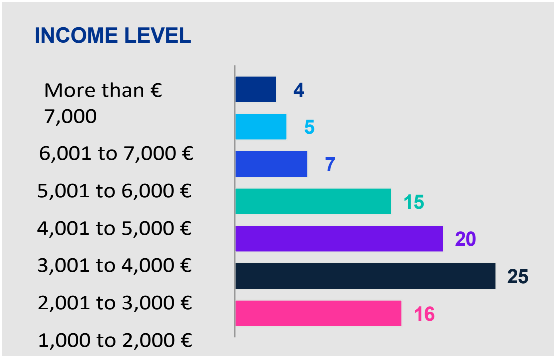
It is important to meet the needs of both younger and older customers in terms of usability, autonomy and data protection. Hybrid solutions that combine traditional checkouts with self-checkout checkouts offer customers the best of both worlds.
The choice is yours and can help to increase the acceptance of these technologies. At the same time, it is important that clear security and data protection measures are communicated in order to gain customer trust. In the long term, the combination of advanced technology and personal service will be key to promoting the acceptance of autonomous checkout systems while maintaining a high level of customer satisfaction.
for each of the user groups. Retailers that offer both targeted solutions for the different needs of their customers and train their employees with regard to these needs will improve their customers' shopping experience.

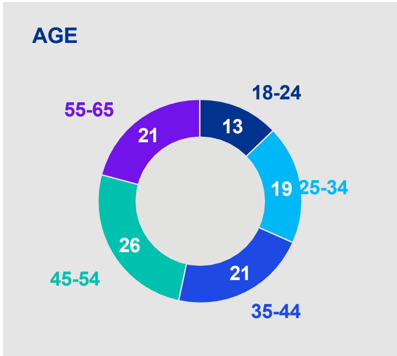
When it comes to the utilization of AI in self-checkouts, younger customers are clearly more positive about the added value of AI. Interestingly, this is despite the fact that AI-supported camera systems in the checkout area are perceived as negative or restrictive and retailers have a higher level of trust among younger customers.
lose trust than older customers. Nevertheless, younger customers rate the general efficiency of the shopping process more positively. In the context of stationary shopping, they seem to weigh up the individual disadvantages of the integration of camera systems or AI more strongly against the shopping process-related advantages and ultimately attach less importance to the perceived restrictions than to the potential added value that arises for them. This discrepancy is most pronounced among male customers.

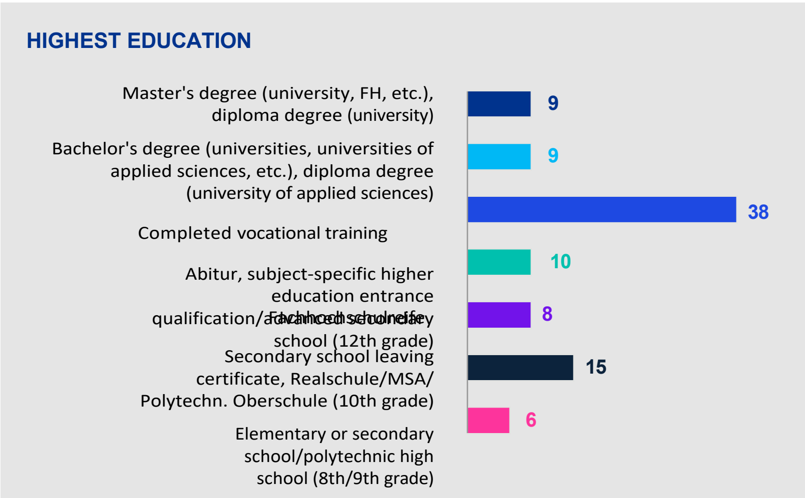
Overall, the results of this edition of the Consumer Barometer underline the growing importance of self-service technologies in brick-and-mortar retail. The fact that the usage behavior of self-checkout tills has a direct positive influence on the perceived shopping experience is a significant and forward-looking finding. It also points to the potential to increasingly transfer traditional retail tasks to customers through technological solutions - an aspect that should and will be further investigated in future studies, especially with regard to autonomous store concepts (humanless stores).

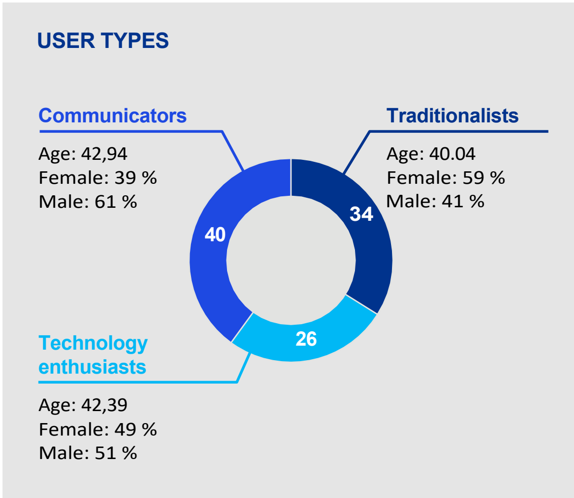
Study profile











n = 1,000; figures in percent, deviations from 100 percent are due to rounding Source: KPMG AG Wirtschaftsprüfungsgesellschaft / EHI Retail Institute, 2024

User types: The technology enthusiasts (n = 264), the communicators (n = 399) and the traditionalists (n = 337). Identified as part of a hierarchical cluster analysis. Three personality traits were considered as input variables: "pragmatic", "technology-oriented" and "communicative" (5-point Likert scale: 1 for "not at all pronounced" and 5 for "very pronounced").

Further KPMG publications

KPMG's Consumer Goods sector regularly publishes publications on the retail and consumer goods industry. In addition to our best-practice expertise, we also rely on the input of external specialists.

Metaverse: (Un)known world?

Consumers' everyday lives are already more digital than ever - and the trend is rising. The metaverse is increasingly establishing itself as a virtual space that offers customers new opportunities to experience retail and consumption digitally and interact in a virtual reality.

In our representative metaverse study in cooperation with the SINUS Institute, we shed light on which target groups are interested in the metaverse and which motives and expectations motivate consumers to shop in the metaverse. We also show which potential usage scenarios could arise in the future.

The construction kit for the DIY store of the future

What will the construction market of the future look like? We discuss this in our study
"The construction kit for the DIY store of the future". In it, we show how retailers and manufacturers master the challenge of identifying relevant customer groups and gaining an in-depth understanding of the requirements and motivations of DIY store customers.

#CX - how to do it right

Companies in Germany are continuously working on optimizing of the customer experience. The analysis of over 74,000 customer opinions, which we conducted as part of our Customer Experience Excellence (CEE) Study 2022, shows that the average customer experience has improved for the fourth time in a row. The Customer Experience Excellence Study 2022 analyzes changes at top performers, identifies successful up-and-comers, examines the drivers of customer experience and provides optimization potential based on customer opinions.

Are you interested in further information and publications from the consumer goods sector? Then visit us on the Internet at: www.kpmg.de/consumergoods

There you will also find all issues of our Consumer Barometer as well as the opportunity to register for the newsletter.

Contact us

Based on many years of experience and technical expertise, we support you in recognizing current developments and trends at an early stage and exploiting the resulting potential.

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