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Generational attitudes to facial recognition: How retailers and policymakers should approach the use of developing facial recognition technology.

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About the research

The use of facial recognition technology is becoming increasingly widespread. The technology, based on live or recorded CCTV footage, uses algorithms to recognise individuals' gender, age, emotions and skin type. The use of facial recognition for national security is well known, but it is increasingly being used for commercial purposes, using data from public and private spaces (e.g shops) to track the behaviour of customers. So far, limited laws exist for this use of data. With the rapid technological development and usage, laws and rules are needed.

Individuals are recognised through a comparison of a real time picture taken by the CCTV, with a previous image of the individual included in a pre-existing database, matching a certain number of "points" in both images. The position of some of these points can indicate emotions, gender or age. EU and GDPR regulations currently subject users to limited transparency and information requirements. Similarly, the security risks of breaches and misuse of the collection and retention of facial recognition data exist, as well as the risk of error in face recognition of individuals.

Commercial use of facial recognition online is already relatively popular. However, these technologies are increasingly being used in-store. For example, visualizing how many consumers touch an object before putting it in the shopping basket, or how much time men and women spend in front of a shelf before finding a specific product.

Our research, surveyed 80 participants to understand the generational attitudes towards facial recognition technologies if used for commercial purposes. The research focused on Italy where there is currently a low adoption of facial recognition technology compared to other European countries, and strong concerns associated with privacy intrusion.

Each participant was shown scenarios where facial recognition would collect their data. The participants belonged to four different generational cohorts: 'Baby Boomers', born 1944-1964; 'Generation X', born 1965-1979; 'Millennials', born 1980-1994; and 'Generation Z', born after 1994. These categories were chosen to understand how their willingness or reluctance might differ across the age. The interviewees were conducted individually in Italy between July and August 2021.

Policy recommendations

Recommendations for the retail industry:

- Companies need to clearly indicate the type of information they will be collecting and its purpose, which should be considered legitimate, and the usage of data should be transparent.
- The industry should understand that privacy loss is the biggest concern to individuals, this should be prioritized above any other measures for commercial gain from this data.
- Consumer may give consent for their data to be collected in store, but this will be on the understanding of receiving certain benefits, which may differ depending on age.
- The main purpose of this facial recognition by consumers should be for the improvement of customer experience.

Recommendations for policymakers:

- Commercial usage of facial recognition technology needs to be regulated, with companies given more guidance on the limits of how they can use this technology and it's overall aim (improvement of customer experience).
- The sharing of data obtained from facial recognition technologies in stores and shopping centres should be prohibited.
- Individuals should be better informed about the privacy risks emerging from the usage of facial recognition technology for commercial purposes.
- Companies should be forced to take extra security measures to protect the data collection and processing if facial recognition technologies are used for commercial purposes.

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Key findings

Our research found that all cohorts showed reluctance to give consent to companies to use data extracted from facial recognition. For instance, Generation X members specified that the usage of this data could lead to additional intrusive notifications like phone calls, SMSs and emails. However, these concerns could be mitigated with certain benefits. Concerns ranged across generations, a Baby Boomer respondant declared that:

"The problem is that we are too exposed, retailers can track our every move and so even if some technologies could be useful, it ends up that consumers don't want them because they know that they are already widely tracked and observed by retailers"

While a respondent from Generation Z said:

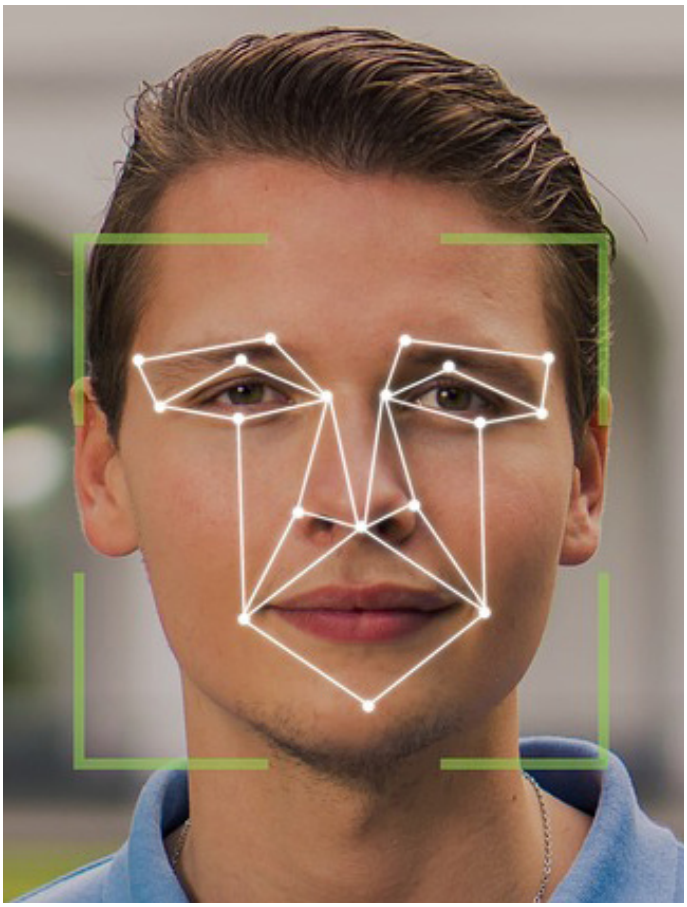
"The system should not be able to store all consumer's traits, but only those that are indispensable to the performance of the function for which it was designed. There are many risks related to the development of image processing and recognition technologies that could harm people if the data of face mapping falls into the wrong hands"

But there was a recognition of the potential benefits, with another respondent from Generation Z declaring that:

"If used correctly, facial recognition can offer many advantages to both the consumer and the retailer. For us as consumers, it could associate our face with previous purchases to show only the products we are more interested in. Also, the technology might read emotions could, on the one hand, exclude products that do not arouse positive feeling and, on the other, help retailers improve their offerings. At the end of the day, it would make customers more satisfied and loyal"

In some cases, specific direct financial benefits could lessen customers concerns of privacy; while in other cases consumers would prefer a better (faster) service. Baby Boomers and Generation X expected economic benefits such as personalised discounts or loyalty programs. Whereas Millennials and Generation Z expected utilitarian benefits, for example better services, better product assortment, a faster and easier payment service.

Our research illustrates that while privacy concerns remain, facial recognition for commercial purposes provides lots of opportunity for the retail sector to tailor their approach across different generations It is up to governments and policymakers to provide the framework and guidelines for this to happen safely.



Further information

Details about the research and on the facial recognition technology can be found at:

Pantano E., Vannucci V., Marikyan D. (in press). 'Gratification in change of privacy? The response of four consumers' generational cohort toward facial recognition technology in retail settings', Journal of Consumer Behaviour.

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