

## Understanding User Motivations for Engaging with Augmented Reality Filters on Social Media: An Exploratory Study

**Elena BOSTĂNICĂ**

The Bucharest University of Economic Studies  
bostanica.elena@gmail.com

**Ștefan-Claudiu CĂESCU**

The Bucharest University of Economic Studies  
stefan.caescu@mk.ase.ro

**Călin-Petrică VEGHEȘ**

The Bucharest University of Economic Studies  
calin.veghes@mk.ase.ro

**Olguța-Anca ORZAN**

Carol Davila University of Medicine and Pharmacy  
olguta.orzan@umfcd.ro

### Article history

Received 02 August 2023 | Accepted 07 September 2023 | Published online 15 September 2023.

### Abstract

This research paper aims to investigate the underlying motivations that drive the usage of augmented reality (AR) filters on social media platforms. The study addresses a significant gap in the current academic literature, which lacks comprehensive insights into the motivations that shape the adoption and utilization of AR filters on social media. An exploratory approach was employed, utilizing an online survey to gain valuable insights into users' perceptions and to establish a classification of motivations based on their hedonic or utilitarian nature. The findings of this study provide a starting point for a broader research effort that aims to demonstrate the dual nature of AR filter technology, influenced by both utilitarian and hedonic motivations.

**Keywords:** social media, AR filters, augmented reality, dual technology.

**JEL classification:** M31, M39.

## 1. Introduction

With the rise of social media, marketers have gained new tools to promote their products and services in the online environment. As new technologies are implemented on social media platforms and users adopt them, brands are shifting their marketing efforts towards using them as well to stay up-to-date with the trends.

Among the noteworthy features that have gained substantial popularity and attention are social augmented reality (AR) filters. These filters, also referred to as AR lenses or effects, employ the superimposition of virtual elements onto the physical environment, enabling users to enhance their photographs and videos in real-time. The surge in usage and interest surrounding these AR filters signifies their prominent role in shaping the contemporary digital landscape (Chivu et al, 2022). This technology has been popularized by platforms like Snapchat, Facebook, Instagram, and TikTok, which now offer users a variety of AR filters to improve their visual content (Appel et al, 2020). Understanding people's behaviors in response to this technology has become a topic of increasing significance in academic research as AR filters become more widely available and more appreciated by social media users. In a report published by Snapchat (2021) it is stated that AR is growing at such a rapid pace that by 2025

about 75% of the world's population and nearly all people who have social apps will be frequently using AR.

Although AR filters have been widely adopted and used on social media platforms, a thorough understanding of the underlying motivations behind user engagement with these filters has not yet been provided by academic literature. The few studies that exist present splintered viewpoints and fall short of offering a comprehensive understanding of users' motivations (Ibáñez Sánchez et al., 2022; Barta, et al., 2022; Yim, 2019; Orús et al., 2021). Therefore, a more thorough investigation of users' objectives and behavioral patterns in relation to AR filters is necessary.

## 2. Literature review

The motivations that influence the usage of a technology are usually categorized into hedonic and utilitarian. While utilitarian stimuli are more practical and goal-oriented, hedonic motivations refer to the intrinsic enjoyment and pleasure gained from using a technology (Barnett & Wood, 2012; Sledgianowski & Songpol, 2008). Over the years, academics also identified certain technologies that can have both hedonic and utilitarian characteristics (Stoica et al, 2015). These are called dual technologies. Investigating whether users are influenced by hedonic motivations, utilitarian motivations, or both when engaging with AR filters on social media can provide valuable insights into how this AR-based technology integrates within the context of social media platforms.

AR filters are also used in contexts outside social media and although some characteristics and motivations of use can differ, there are also common grounds that can be taken into account when trying to understand why people really adopt the technology on social media.

According to previous studies (Ibáñez-Sánchez et al., 2022; Barta et al., 2022; Yim & Park, 2019), AR filters were mostly evaluated either as entertainment resources, emphasizing their hedonic qualities, or as marketing tools, with an emphasis on their utilitarian aspects. However, an integrated approach that acknowledges both possible characteristics can be beneficial in order to better understand how users take advantage of different features of AR filters depending on their intentions. It was already found that AR technology in general can operate as a source of enjoyment as well as a tool for determining whether or not to buy a product (Hilken et al., 2017). This could also be the case for social media filters - which are a subtype of AR technology.

The characteristics of social media AR filters are key in deciding how they affect users' behavior. With the help of these filters, users can overlay virtual objects on their own faces, bodies or on their surrounding environment, by utilizing the front or back cameras of mobile devices, especially smartphones. The virtual elements used in AR filters vary depending on the intended purpose, ranging from beautifying and aesthetically-enhancing tools to funny face transformations and virtual product try-on experiences (Yim & Park, 2019). Some filters combine multiple types to appeal to a broader audience.

### *Hedonic features of AR filters*

The hedonic features on AR filters have the most recognition from the researchers' community. These features enhance experiences by providing enjoyment, entertainment, and gratification to the users.

Because many AR filters on social media are coded for the front camera, users are usually creating selfies and other visual content that involves the representation of their face and/or body. Researchers found that social media AR filters help users show their creativeness and personal style (Hawker & Carah, 2020).

In a study that focused on the moderating role of body image in AR virtual try-on systems, which are another type of filters that can be used on the web (Yim & Park, 2019), the results show that perceived entertainment is a strong predictor for experiencing satisfaction while using the technology. A study aimed at researching the usage of AR filters on social media (Ibáñez-Sánchez et al, 2022), conceptualized these tools as being mainly hedonic in nature. Results show that perceived entertainment influences WOM recommendations, which is one of the main ways to propagate the technology adoption in the social media context.

#### *Utilitarian features of AR filters*

One of the reasons why the social media networks incorporate AR filters is to aid their users in the content creation process. In order to improve their appearance, produce visually appealing content, and express their creativity, users can freely access a library of filters within the platforms' user interfaces (Muntinga, 2011; Boyd, 2007). These utilitarian motivations underpin the practical value that AR filters provide within the social media context.

In an endeavor to find the impact of users' body image on the usage of an AR-based virtual try-on technology, the study conducted by Yim & Park (2018) determined that users with unfavorable body image preferred to test products with AR technology, significantly more than users that have favorable body image. Also, the perceived usefulness was found to be greater among those with less appreciation for their body. The authors explain that a possible reason for these results is the fact that the AR technology gives the possibility to test products directly on their own bodies without having to expose themselves in front of others in the process. Another explanation can be derived from other studies (Orzan et al, 2021) that found the AR technology to increase the consumers' confidence in the quality of products and to decrease the risk of purchasing the wrong products, by trying them first.

Additionally, corporations and companies have developed their own filters to raise awareness, advertise goods and services, and even boost sales. These are often called branded filters and can take many shapes and forms. Some use their actual logo or brand name and simply superimpose it over the user's real environment, creating brand awareness (Bostănică et al., 2022). Others include their products in the filter, either to simply showcase it in a photo or video, or to facilitate the user to test the products to some extent. Moreover, people create and distribute the content generated with AR filters on their social networks. With the association with a desirable product or brand, this leads to the creation of a desired image of the self, reinforcing users' identity (Hawker & Carah, 2020).

Given the current discussion, this article is aimed at disproving the generally accepted idea that social AR filters only serve hedonic needs (although a few studies also acknowledge potential utilitarian usage motivations, as stated before). Therefore, this study, which is exploratory in nature, seeks to explore the hedonic and utilitarian drivers of user interaction with social AR filters. By exploring both hedonic and utilitarian motivations, this study seeks to contribute to a more holistic understanding of AR filters as dual technologies within the social media landscape.

### **3. Methodology**

An exploratory study was carried out utilizing an online survey approach to look into the reasons why people adopt and employ social media AR filters. The reason this study is exploratory is because of the lack of consensus among researchers when it comes to the motivations that lead to AR filters' usage. This study is meant to be part of a larger research, aimed to test an extended TAM model (with perceived enjoyment added), although only the exploratory study is the subject of this paper.

The present study sought to provide a thorough explanation by categorizing these motives into hedonic and utilitarian. The questionnaire targeted social media users who utilise the built-in photo and video filters on social media platforms, and participants were chosen using a convenience sampling approach. This non-probability sampling method used to select participants was employed because of its accessibility and also because of time constraints. To increase the probability of reaching respondents from the target population, participants were recruited on Facebook groups related to social media and AR topics.

A filter question was added at the start of the survey to make sure that only responses from users who were actively using the system were recorded. The questionnaire was only open to participants who confirmed using AR filters at least once over the previous 30 days. All the other respondents were removed from the data sheet used to analyze the results.

To ensure that all survey participants understood what social media AR filters were, a detailed explanation was included in the survey introduction. Participants were also made aware of the anonymity of their answers and the use of their data only for academic purposes.

219 people in total answered the questionnaire. Participants who did not report using social AR filters in the previous month were eliminated in order to concentrate on active users, leaving a final sample of 130 valid responses. Men represented only 28.5% of the sample, while women made up the majority of responders (71.5%). In terms of age distribution, 7% of participants were under the age of 18, 45% were between the ages of 18 and 24, 26% were between the ages of 25 and 34, 15% were between the ages of 35 and 44, and 7% were beyond the age of 45. Using a 5-point Likert scale with a range of "Very rarely" (1-2 times) to "Very often" (daily), the study started by determining how frequently AR filters are used on social media platforms.

Next, a list of possible justifications why people would use AR filters on social media was given to the participants. This list included both hedonic and utilitarian motivations that were either proposed by the author or earlier academic research. Participants were free to choose all the options they thought applied to their usage habits, by clicking on a checkbox placed after each item. In addition, a free-text area was presented to record any extra motivations that weren't covered by the other options.

The following list presents the choices offered to respondents, along with the academic studies from which the motivations were inspired:

- I use filters to improve my appearance (Yim and Park, 2018; Javornik et al., 2021; Lidner, 2021)
- I use filters to increase the overall quality of my photos and videos (proposed by the author)
- I use filters to create content for social media more easily (Lidner, 2021)
- I use filters to create content that's more interesting (proposed by the author)
- I use filters to express my creativity (Hawker and Carah, 2020)
- I use filters to increase the engagement rate on my posts (Fox et al., 2018)
- I use filters to better express how I feel and what I'm doing (Fox et al., 2018)
- I use filters because other people in my social networks use them (proposed by the author)
- I use filters to test real products in a virtual way (make-up, sunglasses, travel destinations) (Hawker and Carah, 2020)
- I use filters because it's a fun activity for me (Ibáñez-Sánchez et al., 2022)
- I use filters because I find it relaxing (Ibáñez-Sánchez et al., 2022)
- I use filters because it's entertaining (Ibáñez-Sánchez et al., 2022)

- I use filters because I'm bored and I want to pass the time (Fox et al., 2018)

The free-text responses were also examined and organized. The investigation led to the discovery of two additional motivations: the usage of AR filters for gaming-like experiences and as a replacement for features offered by third-party photo/video editing tools.

#### 4. Findings

A varied pattern emerged from the research of respondents' usage habits for social AR filters. In the past 30 days, 15% of participants said they had used AR filters very rarely (1-2 times), and 23% had used them rarely. In addition, 25% said they use AR filters sometimes 21%, said they do it often and 17% said they do so very often (daily).

From these findings, it is evident that there is no dominant usage pattern among the respondents. Instead, the data shows that there is a wide spectrum of interaction on social media with AR filters. With 25% of the respondents, the segment of respondents who sometimes employ AR filters was the greatest. This shows that a sizable number of people occasionally use AR filters, including them into their social media activities. Additionally, according to the statistics, a significant percentage of respondents (21%) claimed they often used AR filters, indicating a continuous and regular usage habit. This implies that an important number of users actively employ AR filters into their workflows for creating or sharing social media material. Another interesting result was that 17% of respondents said they used AR filters very often or every day. This reveals a subset of people who commonly use AR filters to enhance their social media postings and interact with their audience.

However, a combined 38% of respondents claimed to utilize AR filters rarely or very rarely, showing a lesser degree of interest in this feature. These people might not consider AR filters to be as important or they might have different preferences for their social media content. Turning to the motivations behind using AR filters on social media, the results were centralized and categorized by their respective hedonic or utilitarian nature, as seen below.

##### *Utilitarian motivations:*

- I use filters to improve my appearance: 54.1%
- I use filters to increase the overall quality of my photos and videos: 51.9%
- I use filters to create content for social media more easily: 26.7%
- I use filters to create content that's more interesting for my network: 32.6%
- I use filters to increase the engagement rate on my posts: 15.6%
- I use filters to test real products in a virtual way (make-up, sunglasses, travel destinations): 25.9%

##### *Hedonic motivations:*

- I use filters to express my creativity: 34.1%
- I use filters to better express how I feel and what I'm doing: 14.8%
- I use filters because other people in my social networks use them: 13.3%
- I use filters because it's a fun activity for me: 54.8%
- I use filters because I find it relaxing: 12.6%
- I use filters because it's entertaining: 49.6%
- I use filters because I'm bored and I want to pass the time: 25.9%

The analysis of these motivations provides valuable insights into the drivers behind the usage of social media AR filters. It appears that utilitarian motivations, which highlight useful

and goal-oriented characteristics, have a considerable impact on how AR filters are used. The desire to enhance their physical appearance (54.1%) and the general quality of their images and videos (51.9%) are the two most prevalent utilitarian objectives listed by respondents. Additionally, a sizable percentage of respondents (32.6%) admitted to utilizing filters to produce material for their network that is more appealing, demonstrating a practical desire to connect and captivate their audience. Gaining attention through higher post engagement (15.6%) was also mentioned by a sizable percentage of respondents. Additionally, 25.9% of respondents indicated the possibility to virtually test actual products, such as cosmetics, eyewear, and places to vacation, as a utilitarian motivation.

The use of AR filters was also found to be influenced by hedonic motivations, which emphasize pleasure, enjoyment, and intrinsic satisfaction. The two most prevalent hedonic motivations mentioned are that using filters is enjoyable (54.8%) and fun (49.6%). Expressing one's originality (34.1%) was also identified as a significant hedonic reason to use social media AR filters. Moreover, a lesser proportion of individuals mentioned utilizing filters because other people in their social networks were doing so (14.8%) or because they helped them better communicate their feelings and activities (13.3%).

These results suggest that social media AR filter usage is driven by hedonic as well as utilitarian reasons. This contradicts the general acceptance that the use of AR filters has only a hedonic component. Users are driven by the pleasure, satisfaction, and social interactions that AR filters provide, as well as by practical aims like beauty enhancement and content creation. This implies that users' interaction with AR filters on social media sites is influenced by a mix of practical and experiential variables.

### **Conclusions, future directions and research limits**

While this exploratory study sheds light on the motivations behind user engagement with AR filters on social media, there are several limitations that should be acknowledged. These limitations provide opportunities for further research to deepen our understanding of the topic.

**Self-reporting bias:** The information gathered for this study was based on participant self-reports, which are prone to biases and errors. The validity of the results could be impacted by response bias, memory recall bias, and social desirability bias. Self-report data could be supplemented by observational or experimental techniques in future studies to provide a greater understanding of user motivations to use the technology.

**Limited motivations explored:** Several hedonic and utilitarian reasons were detected in this study, however there may be other motivations that weren't covered by the survey. To get a more thorough knowledge of why users interact with AR filters, future research should examine additional potential reasons such as social comparison, or escapism.

**Differences between social media platforms:** Users might have different behaviours depending on the social media platform they are on. Therefore, further research could gather data about the use of AR filters on different platforms and make comparisons between the motivations that drive usage on each one.

**Longitudinal studies:** This study focused on capturing a snapshot of user motivations at a specific point in time. Researchers may gain insights into the shifting nature of AR filter usage and the effects of technology advancements by conducting longitudinal studies that allowed them to monitor changes in user motivations over time.

When it comes to further research based on this exploratory study, the authors propose to test the TAM model extended with perceived enjoyment concept, using the current results to adapt scale items or create new ones altogether.

To address the shortcomings found and enhance our comprehension of the intricate interactions between user motives, user experience, and the broader societal ramifications of AR filter usage, additional research is required.

In conclusion, this exploratory study offers insightful information on the factors that influence user engagement with AR filters on social media. The study determined that there are hedonic and utilitarian reasons why people use AR filters.

User engagement was found to be significantly impacted by utilitarian motivations like improving appearance, increasing the overall quality of pictures and videos, making content creation easier, and virtually evaluating actual products. Users recognized the usefulness of AR filters in terms of expressing their creativity in their social media posts, as well as in increasing engagement rates on their posts.

Hedonic motives were also discovered to be significant, with users employing AR filters to express their creativity, communicate how they feel and what they do, and keep themselves entertained. The hedonic aspects of AR filters provided enjoyment, relaxation, and a way to pass the time for many users. The social aspect of AR filters was also highlighted, with some users reporting utilizing filters to reinforce their sense of identity and belonging within their social networks.

Understanding the factors that influence the usage of AR filters on social media platforms will help marketers and platform developers to better match their strategies to the different needs of users and produce AR experiences that are perceived as both entertaining and useful.

### **Acknowledgments**

This research was supported through a grant awarded by Bucharest University of Economic Studies, project ID number 332/2023/ASE, DigiStat.

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