

Public Awareness, Perceptions, and Engagement with Emerging Mobile Media Technologies

Understanding Social Impacts in Qatar

Noora Lari¹, S. Venus Jin², John V. Pavlik³, Noor Al-Emadi¹, Catalina Petcu¹, Fahad Al-Boinin¹

¹Qatar University, ²Northwestern University in Qatar, ³Rutgers, the State University of New Jersey

In light of the adoption of emerging mobile media technologies and the widespread diffusion of new media platforms around the world, formulating innovative approaches to media content, especially through experiential media (EM) (e.g., augmented reality [AR] and virtual reality [VR]), is essential in transforming user experiences. This brief examines the Qatari public's awareness, perceptions, and engagement in the emerging media space, particularly AR and VR platforms, 360-degree videos, podcasts, and interactive content. The results indicate that Qatari citizens are less engaged with innovative media content and platforms than white-collar expatriates in Qatar. Nonetheless, the preferences of media use of both groups regarding media usage were similar during the COVID-19 pandemic. This brief recommends strategies to increase the consumption of innovative emerging media content.

Emerging mobile media technology is defined as a controllable platform that is personal, interactive, and internet enabled and helps facilitate the exchange of personal and non-personal information between users through various devices, such as mobile phones, tablets, e-readers, and game consoles.¹ Mobile-based emerging technologies, including the transformative concept of experiential media (EM), enable users to experience virtual objects via augmented reality (AR), virtual reality (VR), and mixed reality (MR).

360-degree photos and videos have a similar impact as they allow users to rotate through an environment and experience it with their actual surroundings. These are powerful digital platforms that facilitate engaging user experiences with emerging media content, such as news stories,² sports,³ and advertising.⁴ Facebook and YouTube support the technology needed to help users share and interact with immersive content.⁵ Furthermore, the experience is facilitated by the use of tools such as

Smartphones, tablets, e-readers, computers,⁶ and headsets.⁷

In Qatar, the development of AR/VR platforms is in its early stages,⁸ but growing momentum exists to enable public engagement with such emerging media.⁹ The COVID-19 pandemic offered an opportunity to speed up the deployment of the technologies necessary to address the new public health concerns, which makes it crucial to understand how far the use of these technologies extends among the people of Qatar so that the government can take advantage of their benefits.

Against this background, and with funding from the Qatar National Research Fund, from December 2021 until February 2022, SESRI surveyed 676 Qatari citizens and white-collar expatriate residents via a national representative telephone survey about their awareness, perceptions and engagement with emerging media platforms (i.e., AR content, VR content, 360-degree photos and videos, and podcasts).

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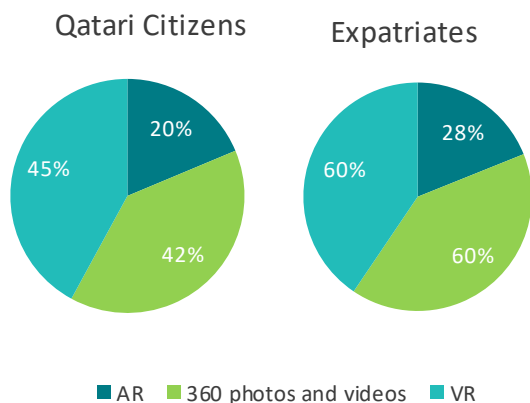
AR uses technology to blend digital content with a user actual surroundings
 VR refers to the immersion of a person in an artificial 3D world using specific tools

Awareness, Perceptions, and Engagement with Emerging Media Technologies

The survey data established a detailed profile of public awareness of, interest in, perceptions, usage of, and engagement with emerging mobile media. The findings revealed that awareness of AR/VR and 360-degree photos and videos was greater among expatriates than among citizens. There was no significant difference regarding the percentages of those who said they had experienced AR content or VR content between citizens (AR = 36% and VR = 32%) and expatriates (AR = 39% and VR = 31%).

The results also showed that AR, VR, and 360-degree photos/videos content was not widely shared via social media by citizens (AR = 71%, VR = 88%, and 360-degree photo/videos = 81%) and expatriates (AR = 77%, VR = 85%, and 360-degree photos/videos = 83%). The survey revealed high percentages of use among citizens and expatriates of 360 photos and videos (88% and 79%, respectively).

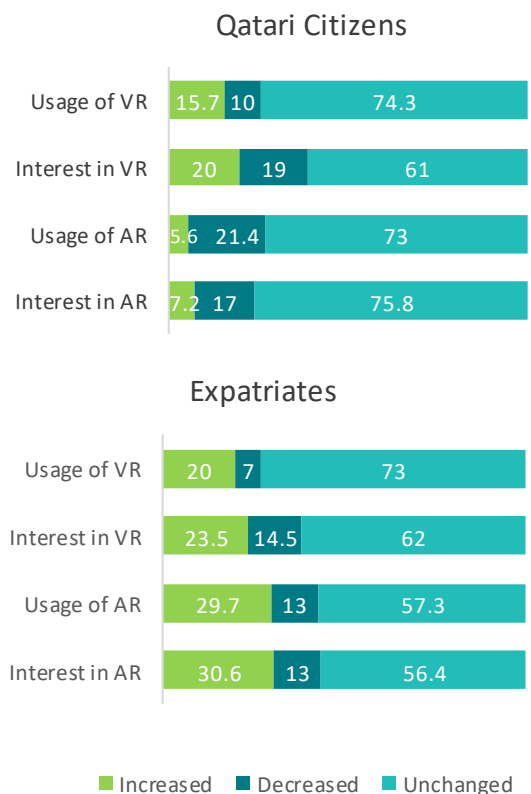
Figure 1 illustrates the awareness of emerging technologies across the population.



Usage of Emerging Media Technologies during COVID-19

An investigation of the interest in and use of AR/VR among the population of Qatar during the COVID-19 pandemic showed that they remained unchanged since the onset of the pandemic. However, Qatari citizens were more interested in VR experiences than expatriates, who favored the AR experience (which can be achieved by using only a smartphone, as opposed to the VR experience which often requires special equipment such as headsets, controller etc.). Perhaps due to their higher financial status relative to expatriates, citizens are able to invest in VR devices.

Figure 2 illustrates interest in the use of emerging technologies across the population.



AR and VR contents are likely to offer the public many benefits

The cultural inclinations of extended families in Qatar were important cultural factors amid COVID-19 social restrictions. Living with numerous family members may have lessened feelings of isolation during lockdowns, thus minimizing the impetus to use AR/VR as a means of coping with such restrictions. However, expatriates were more likely to spend time in remote work compared to the Qatari subjects (working remotely for ≥ 5 days; 25.5% vs. 19%). The time spent in remote learning was statistically similar across the two groups of subjects during COVID-19 quarantine/ self-isolation.

Barriers to the Use of Emerging Media Technologies

Despite the numerous benefits of emerging mobile media particularly during the onset of COVID-19, in sectors such as education, healthcare, retail, e-commerce, media, tourism, aviation, defense, security, and oil and gas, the results indicate that employers in these key industries have not implemented a sound AR/VR infrastructure, nor have they educated and encouraged their employees and customers to use emerging mobile media remotely.

The findings indicate that emerging media technologies are still in their infancy among users in Qatar. The respondents may not have been familiar with the concepts of AR/VR, leading to inaccurate responses to questions. Awareness of AR/VR platforms was low across the sample; this may be because the definitions of AR/VR were similar, so respondents may have lacked awareness of the differences between the two platforms.

Social Impacts of Emerging Media Technologies

Emerging media offers the public many benefits, which have made their large-scale adoption necessary on social networks. Qatar society is experiencing rapid social change as it rapidly modernizes; yet it continues to maintain its traditions and preserve its cultural values, which shape social and family norms associated with new media technologies. It has been demonstrated that emerging media carries social costs and behavioral impacts—namely safety, security (hacking and data breaches) and privacy concerns (the collection and use of personal information)—to the ways that this technology is used in Qatar. The most serious barriers to the adoption of emerging media in are the communication of personal data; and the issue of freedom of speech using emerging technology.

Today, the prevalence of recording and sharing live performances and personal experiences is a widely accepted practice on social media via smartphones. Yet, photography and video recordings of private spaces and footage of people (particularly women) in public spaces are evolving societal norms that discourage emerging mobile media, making them likely to face legitimate challenges in Qatar. Such practices discourage users from using AR/VR, as they are concerned about the potential for exploitative agents misusing their personal information¹⁰ and that regarding their surroundings¹¹.

Adopting Social Measures to Expand Emerging Media Technologies

The continuing evolution of emerging mobile media and the potential emergence of new platforms will continue to shape social developments over the next several years. Importantly, it may take time to address these concerns about privacy and the misuse of data in both public and private spaces and for emerging mobile media technologies to adjust over time to reach their full benefit potential and be adopted and assimilated into our lives.

Therefore, it is imperative to formulate strategies that deal with social risks and allow continued innovation with these technologies, including encouraging appropriate social norms to adopt the assimilation of new technologies into society. As people become more familiar with AR/VR mainstream technologies, they will be more likely to adopt them.

Government and other media institutions can help educate the public about the proper and improper uses of emerging technologies, particularly their benefits for education and culture, for example, for creating stories about Qatar's unique culture, heritage, or stories to develop a greater understanding of Qatar's history among its population. Public awareness

about the potential benefits of these technologies may facilitate a greater social acceptance and increased usage in the future.

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Policy Recommendations

1. Formulate a conceptual framework to demonstrate the benefits of using emerging mobile media for a variety of purposes (e.g., for use in work environments, distant collaborations, online education, early warnings, and the prevention, screening, and treatment of diseases).
2. Identify both governmental and nongovernmental areas, sectors, and industries in which to implement AR/VR, and develop models of AR/VR use within each sector that could be implemented during future global, regional, or local health crises.
3. Create an advisory agency consisting of representatives from strategic sectors and experts in AR/VR technology to enable faster integration of emerging mobile media into key industries.
4. Increase investments in emerging mobile technologies to increase public awareness and engagement.

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