

# IMMERSIVE JOURNALISM: EMERGING PRACTICES AND CHALLENGES IN INDIAN MEDIA

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**Abstract.** News outlets have started employing 360 degree video techniques for journalism, to further expand the scope of immersive journalism. The paper focuses on 360 and VR stories and technologies used for journalism in India. Existing news theories would benefit from a perspective on emerging new media formats. VR, AR and 360 degree technology have given rise to new forms of theory and practice, not only in terms of news presentation but news gathering as well. While the use of virtual reality and 360 degree camera techniques for news seems exciting and full of opportunities, it is also replete with challenges. The study presents the lived experiences of seven practicing journalists through in-depth interviews by employing a qualitative method of key informant technique. The study also uses a theoretical framework to understand the practicing journalists' views on the challenges faced in deploying innovative technologies for journalism in India and reveals that there is a long way to go. The key findings include that seamless integration across media platforms due to the availability and affordability of the technology for the media houses as well as for the public at large is a matter of debate and contestation. The technologies provide best possible perspectives on news events but are not suitable for all types of events. Training of the journalists on the newer formats is another challenge. Indian journalism is still adopting them in slow phase but experimental pieces have been produced, which have successfully engaged audiences through its interactive and immersive storytelling.

**Keywords.** *Immersive journalism, VR, AR, 360 video, new media journalism, interactive documentary*

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## Introduction

Journalistic content has been influenced by different formats due to technological innovations adopted by the media. Audience experiencing the content is one of the pivotal points in immersive media. Immersiveness exists even without technology, however, this paper focuses only on the technologically driven immersiveness.

Immersive journalism has been conceptualised by Nonny De La Peña et al. (2010), as “the production of news in a form in which people can gain first-person experiences of the events or situation described in news stories.” The immersive media technologies include Augmented Reality (AR), Virtual Reality (VR), 360 video, Mixed Reality (also transmedia) and Extended Reality (XR). The embodied experience of an event by placing oneself gives a first person narrative to the user. Immersive journalism so far produced by various new media and voluntary organisations provides a simulated experience of disaster, war, vulnerability.

Virtual reality for journalism offers exciting opportunities in terms of providing a simulated environment which helps one to relive a newsworthy event vicariously. It entails a sensory experience, engaging the mind and the body, helping one to be virtually present in a distanced and often conflicted environment. Audiences are thereby encouraged to understand a news event rather than mindlessly scrolling through headlines or news pieces. Such practices of journalism are therefore immersive.

Meaning-making mechanisms at the site of ‘audiencing’ have witnessed a major shift with the introduction of 360-degree videos on digital platforms. They have revolutionised the way users interact with content by providing the freedom of choosing perspective. Digital storytelling has become immersive by interspersing interactivity and presence into the narrative. 360-degree videos allow a sense of embedded spatial navigation which furthers the user in the environment, tracing a unique experience trajectory. VR stories by the news organisations explore the experiential and sensorial news making to engulf users in the story.

## Framing key technologies

Though the terms 360 degree video and VR are used interchangeably, the basic difference between the two exists in terms of their production and exhibition. 360 degree videos are live location and in VR, virtually stimulated digital environments are designed. The 360 videos and images can be viewed on a VR headset for better experience. Both the formats are available for the web, mobile as well as standalone headsets. In the post production interactive menus, layers of information can be added to the 360 video and images. The degree of freedom (Dof) to view the content in 360 is limited to the filmmaker’s camera movements, whereas in VR the possibilities are more and a user can experience greater spatiality angles or perspectives.

VR has become the digitally best alternative for humans exhibiting and extending escape reality. In other words, VR has become a vehicle for those who are craving for an “Alternative Reality”. The term ‘Alternative Reality’ can be understood in the way that humans are using it for escaping the real world in order to indulge in an alternative real world. This world is known

as an alternative real world because there is a constant attempt to make the virtually simulated and rendered look convincingly real. For example, detailing of graphics to minute levels, the angle of the light determining the shadows in the rendered image, etc.

### **Methodology**

A number of studies in social sciences have used journalists as research participants. It has been witnessed how experts (journalists) and social scientists have intertwined ideas of the social world and how this could shape new knowledge (Plesner, 2011). In order to examine the potential and challenges of pursuing 'immersive journalism' in the Indian context, the researchers used purposive sampling and shortlisted seven journalists who are moving towards multi-media news production and employing AR/VR and 360-degree video in presenting news stories. The study used a qualitative method-'key informant technique' (Burgess, R. G. (Ed.). (2003) to get the primary data. The study was conducted in two phases. In phase-I the researchers focused on understanding the new media practices undertaken by the journalists and its corresponding challenges both at the site of production and audiencing. Phase-II follows a thematic analysis following: (i) new technologies and journalistic values (ii) Effectiveness of VR and 360 in journalistic storytelling (iii) Augmented Reality as a journalistic format (iv) Reframing audiences as users (v) Impact and drawbacks.

The respondents themselves are transitioning from traditional news to digital and immersive journalism as a result of organisational and ecosystem level changes. With average experience of 5 years, the journalist's were able to reflect on the disruptions that have occurred off-late in the newsmaking world. While the interview focussed on their experiential insights, the researchers also triangulated their responses with case studies of immersive news-stories that have had global impact.

While the researchers are aware that small scale studies are not generalizable, this study is exploratory and privileges the anecdotal and lived experiences of the respondents i.e. practicing journalists. This is also in cognisance of the fact that even as technology is used to frame and critique socio-political issues, it is people who express and observe them. Questions of intimacy, authenticity and critical engagement can only be examined when the practitioners, the content, and the form are investigated in correlation. The ensuing discussion presents the key findings and analysis of the study.

### **Interpreting immersive journalism**

Virtual reality and 360-degree video, is being used around the world as a new narrative format that allows reporters to tell stories and, at the same time, bring the audience to the places/events they want to show, as never before by breaking down barriers between the viewers and the interface. It's a skill that is in demand within media organisations that have experimented or want to start experimenting with the new tool that allows for immersive

storytelling. VR and 360° cameras have made it possible to bring the viewers “inside the story”. RYOT, an American media company gave the audience an opportunity to virtually enter the ‘war zone’ through an immersive short-film titled *Welcome to Aleppo* (2015) for the first time in 360° format (Mooser, 2015). RYOT calls it the “next generation storytelling” and aims to achieve a response from the western world, whose realities are far from the realities of people in war torn areas. Another significant VR work is the ‘Millions March’ in New York City. This protest against police brutality was an immersive and thought-provoking ride. It encouraged a human connection between the audience (wearing the headset) and the characters inside the film.

Sherman and Craig (2003) propose that VR offers four key elements which include a virtual world, immersion, sensory feedback and interactivity. In a virtual world, immersion assumes the role of a mental or physical sense of presence. The technology that VR operates through involves users in an interactive feedback system and is designed to respond to their actions. It affects the human senses to produce new kinds of experiences for the viewer which may lead to some action in the form of bodily movements and/or enhancing human agency. The use of VR for media is in its nascent stages and is believed to only grow exponentially. Changes in technology over the years have affected traditional journalism in more ways than one. The digital technology has lent to profound changes in data gathering for journalism and also in the news presentation. However, at present most news VR is largely 360 videos instead of being fully immersive VR storytelling. It is meant most likely to be viewed on mobile phones or a web browser, which despite being more personal and accessible, is not as immersive for a viewer as viewing through a VR headset is. Therefore, the level of interactivity that a viewer shares with a story differs depending on how it is being viewed, whether through a ‘magic window’ on a mobile phone, or on a browser or through a headset. A magic window offers an interesting view into a world ‘augmented by digital information’ (Craig, 2013). It is through this concept of magic window that one can peek into a real-world location enhanced by digital information or experience a fully digitally rendered view.

Greater the level of immersion, greater is the level of presence of a viewer in a VR story. A news organisation has to, thereby, define what level of immersion and presence are they willing to offer their audiences, at the outset. That further helps them streamline their narrative techniques and the subject they are likely to choose. A journalist working with VR might be more fascinated with the technology rather than the story. However, for journalism, the story remains at the crux of everything. Such an approach wherein the full potential of the technology is achieved while telling a compelling story works very well with this technology.

Many news outlets have started experimenting with VR technology (Doyle et al., 2016). The New York Times, in 2015, sent out millions of foldable VR Google cardboards (low-cost VR cardboard that mounts on to a smartphone) when they launched a new virtual reality initiative called NYT VR (app based) and also published Times Magazine’s multi-media cover story “Displaced”, focusing on migrant crisis (Owen, 2015).

Some of the other news organisations which have their own VR apps are the Wall Street Journal, CNN, USA Today, the Guardian, the BBC, among others. Notably, most of these organisations which have ventured into the use of VR for storytelling are big, well-established players in the market who can afford the technology and skilled personnel to produce engaging stories. These big news brands invest in VR with the motive of adding use of innovative technology to their credentials as well as for positioning for the future. Shubhankar Basu (2020) from Reporter At-Large is hopeful that “VR will interweave with journalism and create compelling stories when the audience will quit their passive way of thinking and receiving information. AR can only help to make digital components a part of one's physical environment - viewed with a lens of virtual reality. AR and VR could work together to transcend geographical boundaries.” The expense of producing a VR story also determines the possible ideas to work with. More often than not, VR technology is used to tell such stories which occur in conflict zones, in places which may not be physically accessible for the audiences and the narrative goes deep beyond the superficial 5Ws and 1H, having a much more layered approach.

The basic premise of incorporating VR, AR or 360 degree filming technique is to let the audience feel for the story and the people in it. It is not well-suited for all news stories and yet is an effective storytelling device for situations or places which are not physically viable. It is to be seen whether immersive journalism can replace traditional forms of storytelling or would it rather remain complementary to it.

The requirement of specific headsets to view such stories is also a challenge in itself. It also raises a few ethical questions with respect to journalism in terms of transparency, authenticity and objectivity, which are its basic tenets and would be explored in this paper.

### **Emerging immersive journalistic practices: Cases studies from India**

Though global news media have pioneered in experimenting with VR and 360-degree videos, journalism in India had its tryst with virtual reality with Anand Gandhi's ElseVR (pronounced Elsewhere), a VR app launched in October 2016 under Gandhi's Memesys Culture Lab. The launch included three films shot in the VR format offering 360 degrees immersive experience. Of the three films, one was based on the lives of Adivasis and the attachment they feel towards their land, titled When land is lost, Do we eat coal?(2017) Another one titled Right to Pray(2017), followed the story of a group of female activists in their endeavour to exercise their legal right to enter a temple. The third one, called Caste is Not a Rumour(2017) led the viewers into the journey of the protestors protesting against the atrocities extended towards Dalits in Gujarat, on the skinning of a dead cow, which was a part of their routine caste-based job. It then expanded its collection by producing more provocative VR documentaries and videos followed by stories, essays and interviews to contextualise the narrative.

These are more experiential knowledge videos/documentaries than films of news events but seek to address the growing demand for technological innovation in journalism in India.

For instance, *When land is lost, Do we eat coal?* shot in 360 VR format and directed by Faiza Ahmed Khan, focuses on the coal mining community of Korba, Chattisgarh. It raises curtains over the human rights violation of Adivasi communities in India living next to one of the largest Indian coal mines. Displaced from their place of habitation without being consulted or compensated these Adivasis are represented through this documentary which helps the viewer to delve into their lives and witness the repercussions of industrial practices that these people face. This film is an attempt to place the viewer directly at the center of the story, to let them witness the consequences of a nation's prolonged pursuit of industrial expansion at the cost of its people. If nothing else, the film offers a chance for debate and dialogue on the necessity of sustainable development and lends insight into a relatively unexplored world of Adivasi communities in India, especially when looking through a journalistic lens.

As Basu (2020) observes, "in India it is uncertain as to how many channels on a regular basis come up with AR embedded news content. WION in late 2016 and after that Republic TV in 2017 has so far experimented with VR. VR only. That model also failed to earn revenue. Vice TV in India is very new. So I am skeptical about any "technological innovations"."

Indian digital news platform, 'The Quint' has been successfully experimenting with 360 degree human interest stories. One of them is 'Crowded, Hot & Sparse: A 360 View of Life in Rohingya Refugee Camp'(2017) which takes the viewers closer to the lives of Rohingya refugees. The placement of the camera in the opening of the story on the top of a bundle of wood carried by a child gives a first person interaction with the wretched lives of Rohingyas.

However, VR journalism has its own limits. Basu (2020), argues that immersive journalism may not be suitable for the coverage of conflict zones. The above examples of 360 new stories were shot after the conflicts had somewhat subsided or where there was a requirement to follow up post conflict. He states, "shooting with 360 cameras requires a central position. The MoJo stands between the crowd to get a complete all around shot. Imagine a protest. Nice isn't it? Now imagine a riot - stone pelting on the streets of Kashmir, for example, and other hard news scenarios." He argues that covering a story live, in a conflict zone could prove fatal to a journalist's life. Majid Alam (2020) from News18.com reasons that stories which evoke empathy, such as the conflicts of environment and urban life, refugee crisis, climate change and other such topics are ideal for VR journalism. For Archit Sinha (2020), a freelance multimedia journalist (working on both digital and television media) AR filters and first person videos are technological innovations that could add value to immersive journalism.

Further, spatial journalism is deemed to be an innovative addition to journalism. Viewers will be able to experience what an actual reporter is in the field. Locative journalism is combined with space and simulation. Augmented reality is emerging faster than VR in the field of journalism. AR is mobile friendly and accessible to larger audiences. AR is one of the key technologies for spatial and locative journalism. AR is used in a variety of industries, which includes, gaming, real estate, entertainment, automobile, advertising, marketing,

e-commerce, media etc. AR is capable of effective storytelling. The innovations in mobile AR is key to the wide acceptability and every day use of it

### **Is empathy a news value?**

Virtual reality (VR) has been an interesting concept in terms of going beyond the conventional methods of consuming stories for the audience. VR, being highly immersive, is a great way to narrate the stories from multiple perspectives. VR allows us to tell stories in a manner that the traditional ways cannot penetrate. This is to enhance the 'suspension of disbelief' among those who undertake the experience.

The traditional ways of storytelling have the detached concept of consumption. The audience can interact but is outside the plane (the rectangle frame). What if the consumer goes inside the plane? VR explores this possibility. The gaming world has tapped into this and is growing in this direction. Highly sensorial, highly experiential medium. In Cinematic parlance, 'Direct Cinema' is losing its footing with the numbers of the traditionalists dwindling and also because the erstwhile traditionalists are moving away towards a fly in the soup (Cinema Verite) approach. VR enthusiasts often argue that it is an effective empathy machine, that is, a tool to evoke some kind of emotions in the mind of the viewer and thereby lead to an action, whether it is a bodily sensation or a more meaningful response to something. For instance, *Clouds over Sidra*, a production by United Nations and VRSE (now known as Within) along with a co-collaborator named Gabo Arora, allows you to enter into the life of 12-year-old girl named Sidra who is Syrian refugee and lives in the refugee camp along with thousands of other refugees. Wearing a VR headset, one is able to imagine themselves roaming around the camp (wherever Sidra takes you), watching other children pass you by or turn around to take a look at you (Alsever, 2015). It assists you in thinking what life in a refugee camp might be like, which is thought to have a greater impact than reading about the living condition of refugees in newspapers or watching a television news broadcast on it. Here, rather than being a passive reader or viewer you become an active part of the story.

In a TED Talk video delivered by Nonny de la Peña (The future of news? Virtual Reality, 2015), she suggests that virtual reality allows you to feel like you are at two places at once and she calls this as duality of presence which helps to tap into the feelings of empathy. In another TED Talk video given by the CEO of Within, Chris Milk (2015), where he talks about virtual reality as an ultimate empathy machine, he says, "it's difficult (to explain the medium) because it's a very experiential medium. You feel your way inside of it. It's a machine, but inside of it, it feels like real life, it feels like truth. And you feel present in the world that you're inside and you feel present with the people that you're inside of it with." This sense of presence is what leads to one feeling empathetic about the situation and the people they are witnessing.

Conversely, Gowhar Farooq (2020), a teacher of New Media and former journalist having worked with Reuters and Hindustan Times, suggests that, "VR has definitely helped

create compelling stories but to call it an empathy generating machine would be an overstatement. At the same time, VR is still a niche market. The technology is not likely going to be a game-changer unless we see more stories and choices given to the user.” While VR is a compelling tool to tell immersive stories, some worry that if not executed carefully, the use of VR technology for storytelling could defeat the purpose of generating empathy. Sam Gregory (Programme Director, WITNESS), in an article titled *Is Virtual Reality the Ultimate Empathy Machine* by Wired, uses the phrase “poverty tourism” to describe what could be a negative impact of VR. He is of the opinion that by placing viewers into a violent situation which is too shocking or horrific might “alienate” them and make them keep it out of their sight and mind. If viewers feel helpless about the situation after witnessing it then VR could also be reduced to being another form of poverty tourism. He also refers to confusing immersion with empathy. Therefore, it becomes important to define how empathy plays out in a virtual reality set-up.

In recent years, there have been lots of debates and research work to understand what empathy fully imbibes. Many psychologists are of the opinion that empathy works through two psychologically distinct systems (Bailenson, 2018). One kind of empathy we experience is emotional, which is reflexive, stemming out of a disturbing encounter. The other kind of empathy is cognitive, which is the ability of the brain to sense what other people might be feeling and why they might be feeling so. A third component is added to this by Jamil Zaki, professor of Psychology at Stanford University, as what he calls the “full-fledged empathy”: a motivational element. It goes beyond the emotional and cognitive empathy in order to recognise if the person viewing someone in distress is motivated enough to help alleviate their suffering. Zaki also emphasises upon the fact that as an individual we choose if we want to feel empathy or not by simply accepting or refusing to put ourselves in that situation (Bailenson, 2018). For example, if we know that there is a VR film on the plight of children suffering from thalassemia, we may not want to watch it simply because we don’t want to put ourselves through that pain or imagine what it is like to have thalassemia. On the other hand, after watching such a film one might be motivated to help the cause by donating for it. VR thus becomes a powerful tool to play with the cognitive functioning of the human brain. This is when full-fledged empathy is achieved. A noteworthy example here would be that of a fundraising conference held in 2015, in which *Clouds Over Sidra* was shown, it ended up raising \$3.8 billion, more than 70% more than projected. One in six people pledged donations after watching the video, twice the normal rate, a UNICEF fundraising program found.

This has also become a motivation for the United Nations to come out with more work facilitated by 360 degree filmmaking to generate empathy and let people take “action” for the cause advocated through the production. However, Tom Kent, standards editor at The Associated Press, in an article titled *‘Immersive Storytelling: The Ethics of ‘Empathy Machine’* (Culloty, 2016), warns against the use of virtual reality to produce unreal events to gain empathy. He argues that VR journalism should go through a reality check before journalism is completely taken over by technology. Kent reasons that the demarcation between an actual

event and one produced under the producer's artistic license should be made clear. Whether VR journalism is posited as an event itself or an enhanced replication of an event to garner empathy should be given enough consideration. Simulation should in itself maintain as much transparency as is required for a news story.

Further, a substantial question to ask is what beyond fundraising? How does the idea of 360 degree video filming pan out for news journalism? Where is the audience placed in the narrative? A valuable recommendation is given by a TOW center for digital journalism article on Walking in another's virtual shoes: Do 360 degree video news stories generate empathy in viewers? (Archer and Finger, 2018), wherein the authors state, "VR is by no means a catch-all solution for instilling empathy in all users. Like any other storytelling medium, its power lies not only in journalists' flair for narrative, but also in audiences' dispositional and contextual affinity for particular topics, which is as vulnerable to over-saturation as any other medium."

### **Opportunities for immersive journalism in India**

Media in India is yet to harness the technological leap that is available today. Farooq (2020) shares "journalists, like other professionals, have witnessed a dramatic shift in the working of their industry. This includes the changes in reporting and telling stories. Tech-driven journalism is a reality now. Organisations, in India and abroad, have invested in multimedia newsrooms, interactive stories, code-driven data journalism and more. Some are already investing in AI and automated forms of interacting with readers/viewers. NDTV adapting the mobile technologies has clearly paved the way for affordable news production. It has also established the potential of the smartphone as a powerful media tool.

The narration and events provided by popular immersive stories encash upon the users inquisitiveness towards knowing about the vulnerability of a situation without being there. The length of such news stories are usually brief. Live streaming or telecasting of the immersive stories engage users to a great extent and newsmakers in India should start making more use of these features. With so many news entities vying for public attention and presenting breaking-news every hour, effective use of technology can help a news organisation garner more viewership and create a niche audience base for themselves.

Platforms like [www.youtube.com](http://www.youtube.com) have brought 360 degree videos closer to the everyday media user. Other platforms like Vimes, Facebook, etc. are yet to get enough news oriented content. There are no consistent immersive stories in India. To create interactives, layers and making responsive content for haptics and sensors, high end computer workstations, coding and suitable hosting platforms are required. New workflow, infrastructure and skilled staff are likely to push this new format of journalism to more users and increase its adaptability, which in itself is a challenge. There is also a need to assert where VR is best suited and not to use it just to employ innovative technology in news production. "I feel for larger investigative journalism or stories where the narrative long-form has been used to provide scope for more immersive

story-telling, without depth in the content, these techniques fall flat in delivering the news and increasing the content's impact”, opine Shamita Harsh (InUth, 2020).

### **Artificial intelligence in Indian journalism**

The immersive experience is not only gainfully used in virtual technologies but also artificial intelligence (AI) to customise, localise in terms of language, mood, taste and even ideology. Automation of data and visualisation have brought new immersive experiences of news in India. During the general elections speed, accuracy and lucid presentation of every minute data is important to bring predictability more accurately than ever before to the audience. While technology can prove beneficial in terms of streamlining the job of journalists, it has its own set of disadvantages for which having a healthy media ecosystem becomes necessary. AI can help provide customised news to a reader, making it suitable for a particular gender or geographical location. Falsehoods in the news are inevitable and cannot be avoided by bots which poses a pertinent question to the quality of journalism thus produced. A case in point is also the use of AI by end-to-end encrypted platform, WhatsApp, during 2019 elections in India. To curb the rampant growth of misinformation, it deployed AI to detect accounts spreading “problematic content” ahead of the elections by making use of mass messaging.

In a report by CNN Business (February 2019), the app was able to detect and ban upto six million accounts globally, in a span of three months with the help of its automated systems. The systems helped monitor and flag suspicious behaviour such as bulk registrations of similar accounts and high amounts of messages being sent at a time. Such stringent actions were taken following mob violence and lynching cases that have been on the rise ever since misinformation started going viral through Whatsapp by the very use of mass messaging facility. The app developers also noticed how political parties were using the platform to leverage its use to suit their agendas and ulterior motives.. Clearly, AI is not a technology exclusive to a particular platform and is being skillfully used by political parties to serve their own interests as was evident prior to 2019 elections in India. As with VR, AI can also be diligently employed by journalists in India when there is enough awareness and skill amongst common audiences to tell the difference between authentic and fabricated information. Interestingly, two of the journalists who were interviewed commented on AI's and other immersive technologies' relation with millennials. Interestingly, Sinha (2020), observes that “AR/VR and AI offer an engaging platform to connect with millennials in news”. Further, Kurmanath (2020), from The Hindu Business Line opines that such immersive technologies hold a promising future for the millennials, offering a “scope for millennials to get jobs and newer ways of storytelling.”

### **Challenges of immersive journalism in India**

Immersive experiences are yet to be affordable and easily accessible for the public at large in India. VR news is still in its infancy stage in India and for VR and AR technologies to reach their full potential, the content and distribution strategies need to be designed by placing the

audience at the centre. 'Presence' in a virtual world depends highly on the availability of VR headsets and the knowledge to use them. Therefore, the audiences need to be provided with valuable information and experience for them to strap a VR headset around their head and get immersed in the virtual world. If news organisations making use of VR/AR technology for storytelling fail to deliver meaningful content, the technology can not hold the audience's interest for long. While Kurmanath (2020), claims that the vernacular print journalism will survive for a few more years, Harsh (2020) believes that sooner or later, journalists will have to adapt to newer ways of storytelling and building narratives that can be shared across different platforms. However, the technological spurt has mostly brought speed in production but also brought an urgency in the delivery of news. Many times the larger context of a story is abandoned in the pursuit of getting the story out first- but that isn't a result of technological advancement alone, it is a larger commentary on how news is being disseminated by media houses to sell them to as many eyeballs as possible and it also says a lot more about consumption of information is at a peak, with no signs of slowing down.

Media organisations, once they make use of it to tell news stories, have a role to play in informing their audiences about VR / AR technology. They should also clearly enlist the procedure for viewing such stories so that the consumer is motivated to make an effort to invest their time into it. For instance, Times of India launched its 'Alive' app in 2012, which was one of the first experiments combining augmented reality with news in India. The app works in conjunction with TOI's printed news by allowing a user to scan a picture related to some news story (as given in the newspaper) and then fetches videos related to that news story for the viewer to watch on their mobile screens. With each image linked with the app, the steps to download and use the app are laid down in the print edition so as to make the reader/viewer comprehend how this technology works. Not only does it offer rich media experience to the users but also makes it accessible to them.

It therefore becomes pertinent for news organisations to come up with opportunities to take VR/AR to people, to let them have access to it and generate feedback which can further help the news organisations to create sustainable innovative models for journalism.

Assessing audience needs is essential. Questions like where is my audience likely to find VR stories, what stories would interest them the most and is this technology affordable for them or rather is the technology audience ready, should be given enough thought so as to give more attention to user experience. Synthesizing will be the next step in the cycle to move ahead from the initial concept, selecting the best ideas from the rest, and merging similar ideas into coherence. Thinking of systems is where newsrooms appear to be lacking which can contribute to an awareness of news stories as occurring in a wide variety of broader environments of knowledge, social and organisation. Finally, prototyping and iterating will be the final stage which would also involve the method of creating and using product prototypes from the earliest stages to meet understandings which cannot be accomplished by thought alone, suggests

Shamita (2020). Rangnath Singh (2020) from Lokmat suggests “time and resource are the two biggest challenges in developing an immersive multimedia story”, he stresses on the lack of infrastructure as the biggest challenge. By and Large all the journalists ascertained that training is one big giant loophole in the process of planning and incorporating these technologies into everyday practices. “The idea is to bring the older generations of employees to be brought at par with the newer ones, on the same scale of technological development”, says Harsh (2020). Similarly, Farooq (2020) opines, “despite being touted as technologies of the future, VR, AR and MR have not taken off the way they were expected to, at least in the case of journalism. The audience has not adapted to these media the way it was predicted. Production and distribution of such media can be one way to address these loopholes.”

### **Conclusion**

This study lays the steps for deciphering the possibilities of virtual reality and 360-degree journalism in India. It seeks to explain the current status of immersive journalism in India and the possibilities that the future holds. The deliberations also point to an urgent need to relook at Journalism education. Journalism education in India has been an urban centric discipline due to the greater prevalence of press in urban areas.

Media schools in the small towns and universities which are funded by state governments do not have adequately trained teachers as well as well-equipped media infrastructure. The media schools are not able to invest in recent technologies to catch up with the technological changes. Therefore, inclusion of immersive infrastructure like 360 cameras, VR headsets and high end editing machines may take a long time. Barbie Zelizer (2019) argues that “it is journalism that gives technology purpose, shape, perspective, meaning and significance, not the other way around”, but this argument fails when technology meets the experiential and sensory needs of the audience, be it vertical videos, smart phone storytelling or immersive stories which have certainly brought audience at the centre of the story along with the journalistic narration. It has become more democratic and participatory.

The expectations of the audience currently, is on the rise with VR in terms of new experiences. Bringing audiences closer to the story is what a journalist endeavours for and 360-degree videos, VR, AR and MR seem to enhance that by binding the audiences into the story by creating a multi-mediated, reflexive and a digital-material-sensory environment. Immersive journalism offers a much richer experience to the audiences and is an exciting playfield for journalists to work around. However, it also poses a challenge for journalists to not compromise with journalistic ethics while telling a compelling story so as to intensify the story’s impact. As Sinha(2020) remarks, one of the biggest challenges with the use of immersive technologies is “that it cant be used for capturing everything.”

Alam (2020) accepts VR as a potential medium but according to him audio podcasts are more popular than the VR and 360 videos. “The complexity and the exclusive space it requires for the arrangement makes it (VR) a very immobile medium. Technology on the other way could

be said to be going backwards.” The challenge to distribute immersive stories is another obstacle for news organisations to tackle. Kurmanath (2020) comments, “affordability, awareness of technologies and hands-on skills” are some of the hurdles standing in the way of immersive technologies’ use for journalism in India. Consumption of news created with VR, AR, MR or 360-degree techniques requires the knowledge of basic technical know-how, which the audiences should be educated about. A case in point could be New York Times distributing Google cardboard headsets for free with the launch of its VR app, NYT VR, in 2015. This was a clever way to inform the readers about the launch of this new app while also helping them comprehend how it works, thus easing the efforts to be made by the audience. More modalities of research will emerge as instances of immersive narrations/stories abound. These would certainly include questions of distribution, interpretation, impact and more.

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