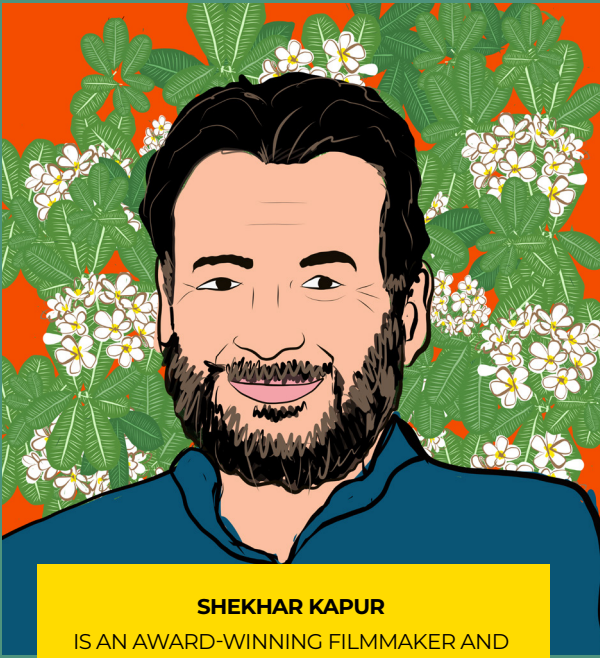# EMBRACING NONLINEARITY: THE FUTURE OF INDIA'S ENTERTAINMENT INDUSTRY
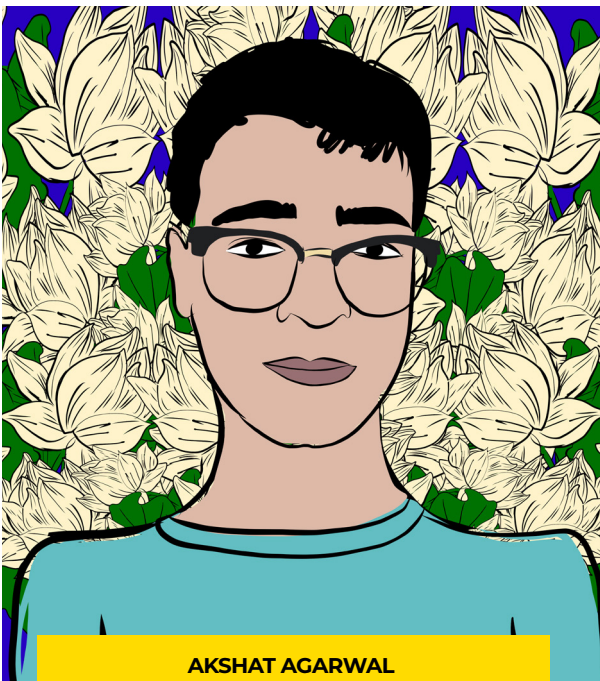
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SUMMARY

India's media and entertainment industries have always been an important part of our national story. As a young nation born in an era where film and radio were in their infancy, we have seen our triumphs and tribulations reflected in the mass media from the very start. These industries have also become important contributors to Indian economic prosperity. In recognition of their importance, the Union government officially designated audiovisual services as one of 12 'champion service sectors' in 2018.

The sector is witnessing change at breakneck speed – developments in technology, notably the internet and over the top (OTT) content have indelibly changed the creation, distribution and consumption of content. The growing OTT ecosystem offers flexibility to creators and consumers, expands choice, and lowers distribution and search costs. Other developments such as strides in artificial intelligence, virtual reality and augmented reality, are opening up new possibilities in entertainment, creating entirely new categories of products. In its response to these changes, India could potentially propel the sector to new heights and make the country a global leader in entertainment.

To frame a suitable response, it is important to imagine what the future of entertainment will be. How will storytelling, which is at the heart of entertainment, change with developments in technology? While stories take many forms – from the oral epics of ancient bards to slick modern video games – their narration and consumption form a central pillar of human existence. Storytelling has evolved with technology, with the flexibility of oral tales yielding to the standardization of print. Today we are on the cusp of another transformation: from linear storytelling in the printed word, television and film, to a more dynamic and non-linear mode. Artificial intelligence, virtual reality and augmented reality offer new and immersive ways for people to engage with stories. In the future that emerges from current trends, entertainment will become a more dynamic, non-linear and immersive process, highly personalized to fit consumer desires and needs.

We examine the factors that can make India a dominant force in this landscape. The country has three innate strengths we must leverage. Its cultural heritage is ancient and diverse, and remains underrepresented on the world stage. It is also well suited to the non-linear entertainment of the future, as it contains many traditions of oral storytelling that yield multiple threads from a common recognisable narrative. Third, India is one of the world's largest consumers of data, with thriving creative industries. Our creators are prolific in terms of output, but lag behind in commercializing their works to generate greater economic value. To achieve this, India can learn from the experience of countries like South Korea, which has emerged as a global entertainment hub.

Certain transformations are urgently required to achieve this outcome. We need to promote creative freedom, which can be done through industry-led standards, as is the practice in countries around the world. This will require active and continued engagement by the industry, as well as recognition and support from the state. Second, we must focus on building our hardware capabilities. The bundling of content with devices is already ubiquitous. And finally, we need to move to a principles-based approach to regulation, which would ensure consistency of purpose across the expanding range of technologies in the media ecosystem.
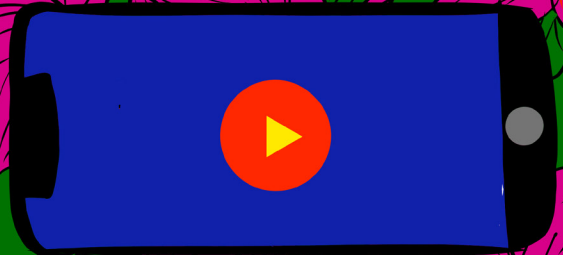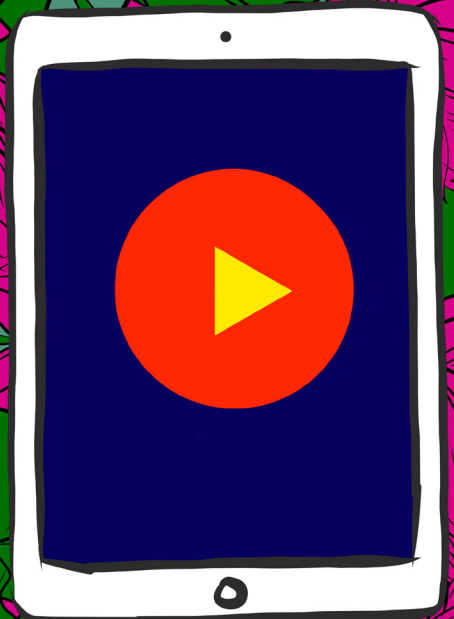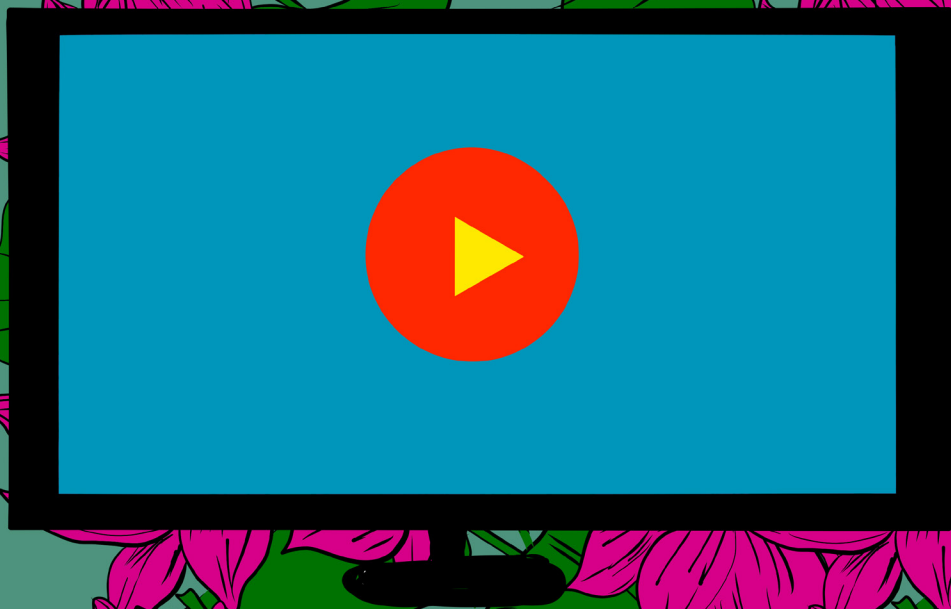
THE NEW MEDIA

OTT refers to the distribution of media content 'over the top' of traditional telecom or broadcasting infrastructure, and is now synonymous with content distribution over the internet. Our exploration of OTT is limited to its applications for the entertainment industry.
With the Covid-19 pandemic, the ascendancy of OTT platforms became clearer than ever before. As businesses almost everywhere slowed or came to a halt, Netflix added a staggering 15.8 million paid subscribers in the first quarter of 2020.[1] In India, with theatres closed due to fear of the disease, production houses released feature films on online platforms, a significant change in industry practice.[2]

The OTT market in India is predicted to grow at 21.8% CAGR, from INR 4,464 crore to INR 11,976 crore between 2018 and 2023.[3] A number of homegrown entrants have also blossomed here, and Indian platforms now far outnumber foreign ones. Moreover, several traditional media producers (broadcasters) are playing a critical role in the new digital ecosystem.

Changes can be seen not only in the distribution method and scale of OTT media, but in the content itself. The expansion of internet access has broadened our understanding of the term 'media'. No more restricted to print, film and TV, the media is now a vast category with various forms – such as user generated content (UGC), podcasts, and online games among others. Even food delivery services have ventured into the space – Zomato plays short-form content on its app to keep users entertained while they wait for their delivery.
Currently, OTT in India enjoys a higher level of creative freedom than television or film, primarily because such content doesn't need to be certified before release. This freedom has helped creators push the envelope. Rapid technological developments have also enhanced the consumer experience – innovations in augmented reality and virtual reality will further enhance the creative edge enjoyed by OTT media.

This paper seeks to examine the changes, trends, and future potential of OTT based media and entertainment, and suggest strategies to ensure that India does not miss the bus on the revolutionary changes underway in the world of entertainment.

FIGURE 1: OTT (VIDEO) PLATFORMS IN INDIA

SOURCE: COMPILED USING MEDIA REPORTS AND FINANCIAL STATEMENTS OF RESPECTIVE COMPANIES
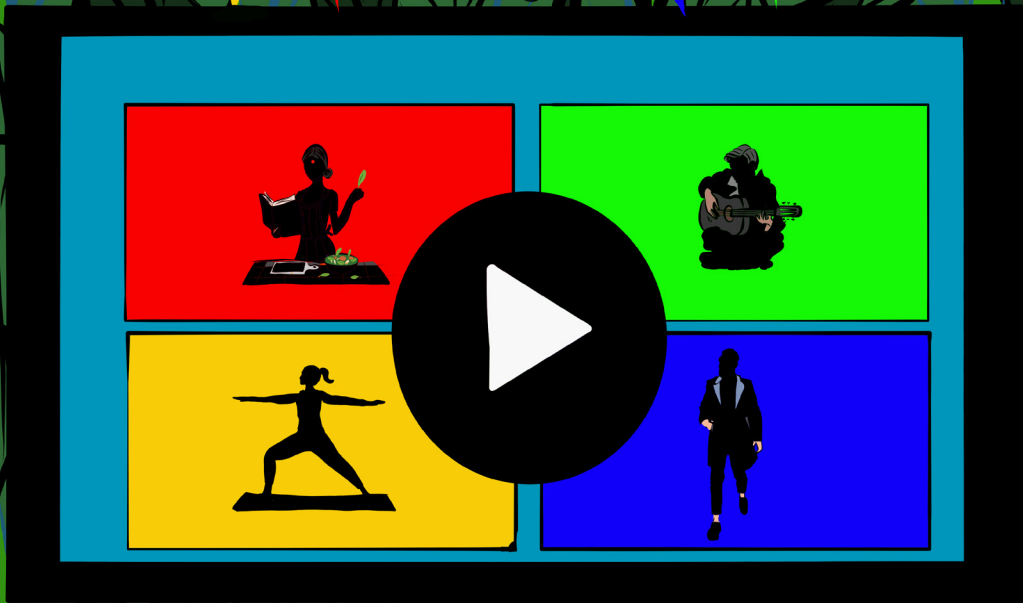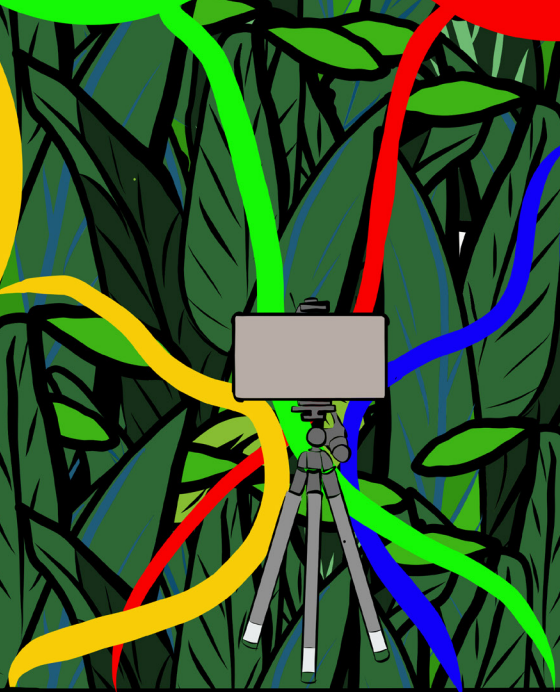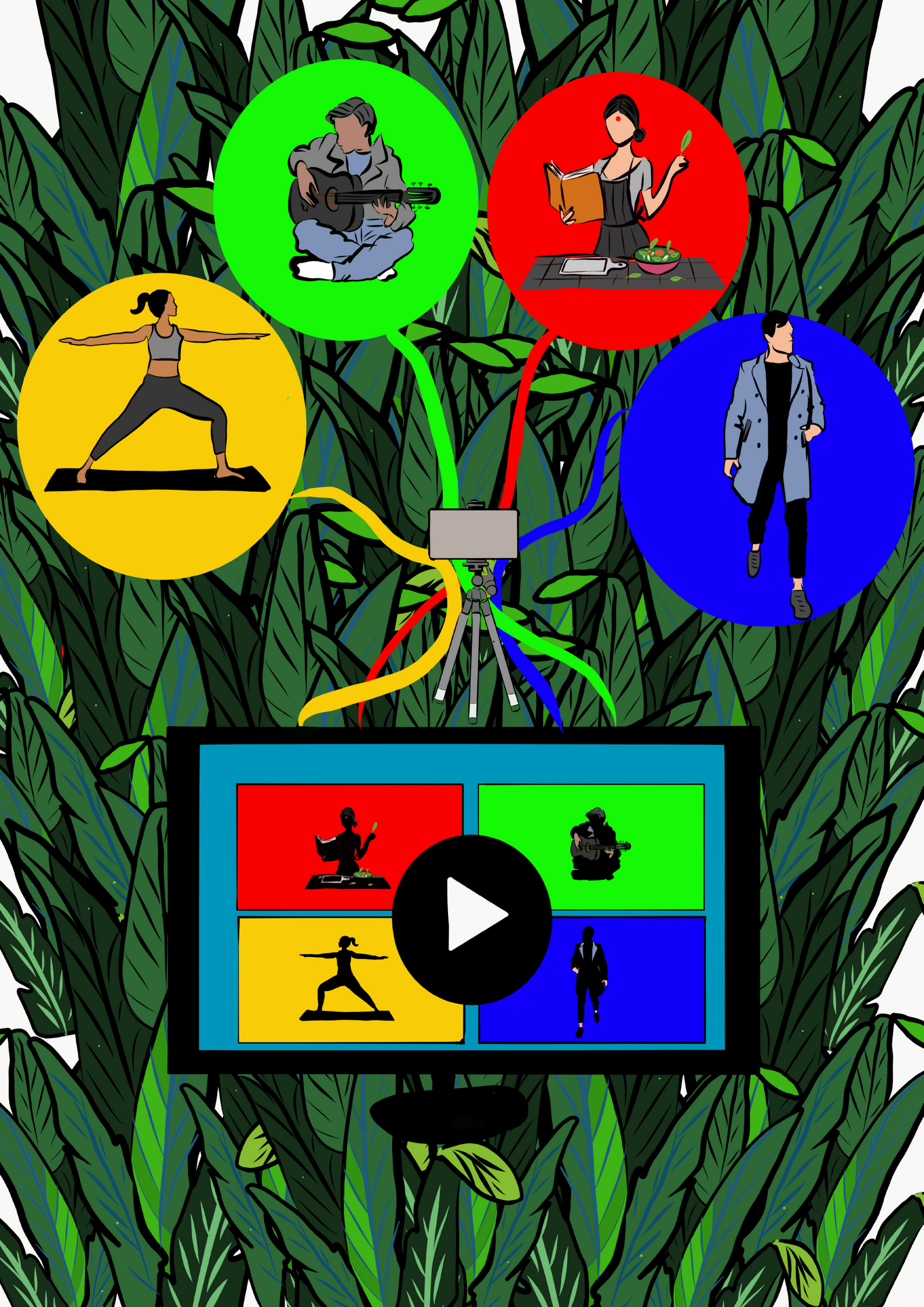
OTT – A MEANS AND NOT AN END

The internet has revolutionized entertainment. This is starkly visible during the Covid-19 pandemic. Here we highlight some key changes driven by technology to better understand the transformation.

I. THE OTT EFFECT

Digitization has lowered the cost of content distribution to near zero in the case of user generated platforms. Conversely, a broadcaster must pay 20 paise per subscriber per month to broadcast an SD channel, and 40 paise for HD.[4] They may also need to pay a distribution fee, in addition to the net worth requirements and bank guarantees necessary for a broadcasting licence.[5] The low cost of online distribution removes a significant entry barrier in the entertainment market, permitting the creation and distribution of content at an unprecedented pace.

Low distribution costs have ushered in three sets of changes. First, they are a boon for the creative freedom of artists, writers, filmmakers and other professionals. Second, consumers can now watch diverse content at their own convenience. And third, consumer expectations and technological change are in the process of making entertainment a hyper-personalized experience, as platforms deploy sophisticated computing to package and present their content.

II. UNLEASHING CREATIVE EXPRESSION

OTT lets anyone with internet access publish content. This has led to an explosion of creative expression, both in terms of UGC and curated content.

(a) Empowering smaller creators: For smaller creators, OTT does away with the traditional barriers that would keep them from reaching a larger audience. Reach is increasingly dependent on the virality or quality of content, and not the publisher's discretion. Creators no longer need rely on content that appeals to a large audience base to justify the costs, and are free to make diverse and niche content that can still reach a large audience.

For instance, YouTube's highest earning content creator for 2018 and 2019 was Ryan Kaji, an eight-year-old who made USD 26 million in 2019, up from USD 22 million the year prior.[6] Kaji began his YouTube career by unboxing and reviewing toys, and today has over 26 million subscribers on his channel. Content that would have been impossible to monetize in the past, can now rake in millions.

(b) Private viewing and censorship: Another change lies in the more personalized nature of OTT viewing, which gives audiences more control over what to watch and when. This is due to the 'pull' nature of OTT content, where the user selects what to consume, in contrast to the 'push' nature of traditional film and television. The availability of content across laptops, smart TV sets, tablets and mobile phones further expands this control. For example, primetime on TV is 9 PM, whereas for Netflix, a popular OTT service, it is 5 PM, a common time to commute.[8]

In India the personalized nature of OTT media also affects censorship. Under the Cinematograph Act of 1952, ex ante censorship of films intended for theatrical release is premised on the 'public exhibition' of such films.[9] Similarly, state regulation of broadcast content is premised on the notion of spectrum scarcity – that the airwaves used to broadcast TV signals are a scarce public good, and therefore subject to regulation for the public benefit.[10] Since neither rationale applies to OTT, it has remained relatively free of content restrictions. This allows content that could not be pitched to a TV channel, say, to be created and attain success. A case in point is Sacred Games, the Netflix series adapted from a bestselling novel by Vikram Chandra, with its magical realism imbued depiction of the Mumbai underworld. The series' second season was nominated in the Best Drama category at the 2019 International Emmy Awards.

TABLE 1: EARNINGS AND REACH OF YOUTUBE CREATORS

NAME	EARNINGS PER VIDEO (IN THOUSAND DOLLARS)	EARNINGS MONTHLY - UPPER CAP (IN THOUSAND DOLLARS)	SUBSCRIBERS (IN MILLIONS)	AVERAGE VIEWS (IN MILLIONS) FOR LAST 30 VIDEOS
INDEPENDENT CREATORS				
Carry Minati	103.07	34.46	25.1	29.05
Amit Bhadana	108.21	16.11	21.2	25.12
Ashish Chanchalani	128.14	47.03	20.3	30.48
Average for Independent Creators	113.14	32.53	22.17	28.22
INSTITUTIONAL CREATORS				
T- Series	1.12	1580	152	1.35
Set India	83.51	1040	81.3	0.01607
Zee Music Company	482.31	345.72	61	0.2628
Average	188.98	988.57	97.67	0.54

SOURCE: AUTHOR'S COMPILATION, NOXINFULENCER.COM[7]

III. EXPANSION OF CHOICE

With more freedom for creators, comes more choice for consumers. Creative freedom is also facilitated by the pull nature of OTT content, as well as the degree of control it gives viewers over the experience.

(a) Near infinite content: The average online viewer can access infinitely more content than traditional media can offer – 500 hours of video are uploaded every single minute to YouTube,[11] which is only one of many platforms for user generated content. Moreover, a large proportion of this content is available online for free, as it is typically monetized through advertising revenue. OTT media viewers have more choice and control than ever before, and will expect more in future.[12]

(b) Dynamic competitive landscape: The proliferation of OTT services has prompted a change in business models. This can be seen in the increasing fluidity of models across sectors, with content producers, broadcasters and telecom companies developing their own OTT apps and content services (Table 3). Publishers have moved into information services, and ad agencies have stepped into content creation.[13] This competition will only increase further as more players enter the market to challenge existing leaders like Netflix, Disney+Hotstar or Amazon Prime.[14]

TABLE 2: TECHNOLOGICAL CONTROLS AVAILABLE ON OTT

FEATURE	DESCRIPTION
Filter Search	Filter by artist, genre, category of media - movies, series, etc.
User Profiles	Create a profile for different users on the same account for customized recommendations, view history, watch lists
Language	Play audio and view subtitles in different languages
Subtitles	Customize subtitle appearance (font size, colour, etc.)
Parental Control / Viewership restrictions	Restrict viewership by use of customised PIN
Playback	Play the next available video automatically when turned on
Payment method	Change payment method to automatic debit or ask before payment
Kids Profile	Only show age-appropriate content when children are using a device
Gift	Share your account for free with people using a specific link

SOURCE: AUTHORS' COMPILATION

TABLE 3: TRADITIONAL COMPANIES WITH INVESTMENTS IN OTT

COMPANY	PRIMARY	OTHER PLATFORMS
Airtel	Telecom, TV distribution	Airtel XStream, Wynk
Idea	Telecom	Idea Movies and TV
Reliance	Telecom	Jio Saavn, Jio TV, Jio Cinema, Voot
Sony	TV entertainment	Sony Liv
Star India	TV entertainment	Disney+ Hotstar
Sun TV	TV entertainment	Sun Nxt
Tata Sky	TV distribution	Tata Sky App
Vodafone	Telecom	Vodafone Play

SOURCE: AUTHORS' COMPILATION

IV. HYPER-PERSONALIZED ENTERTAINMENT

With the use of data analytics and algorithms, personalized and customized entertainment products have become standard industry practice. Viewers are provided with personal recommendations based on their consumption history and patterns, together with other data points, helping them discover suitable content. This reduces the time and effort spent searching for content, driving up consumption.

As the competition for eyeballs heats up, the effectiveness of a particular platform's personalization features may be the factor that makes consumers pick it over the other. For example, Spotify's recommendation engine is widely regarded as among the most effective music recommendation algorithm solutions on market, and it has driven usage of the music streaming service.[15] This engine uses three different kinds of models – collaborative filtering to analyze users with similar tastes, natural language processing to analyze text such as track name, genres and adjectives used to describe songs, and audio models that analyze the raw audio itself.[16] These models combine to create custom playlists specific to each user. As AI capabilities continue to evolve, such recommendation engines are likely to become even more sophisticated and refined.

V. OPPORTUNITIES FOR FUTURE GROWTH

The OTT transformation is ongoing. Some opportunities for future growth in this segment are:

- **Reaggregation** (or rebundling) of streaming offerings – the approach pioneered by providers like Amazon and Roku. Content providers can now offer highly customized packages, that in addition to video, could include streaming music and games, as well as the option for consumers to accept ad-supported video content – advertising in exchange for 'free' or non-subscription content. The high degree of flexibility in packaging allows for a variety of business models, in a departure from the TV market in India where bundling is restricted by regulation. The OTT ecosystem lets markets find

their own balance. It also gives the rights owners of older content the opportunity to consolidate their catalogues and venture into OTT.

- **Content acquisition** will become more common as consumers gain mobility across platforms. Consumers can rent a film to stream just once on Apple TV or YouTube, at almost the same price as a cinema ticket. They can also buy monthly subscriptions to various platforms and discontinue these whenever they want. This has intensified the competition for user attention between OTT entities, and between new and traditional businesses. Consequently, there are two trends in mergers and acquisitions in the media industry. First there is horizontal consolidation among content producers, with recent mergers involving some of the largest global media conglomerates. Second, distributors are trying to acquire content – Table 3 shows how every telecom company in India has invested in acquiring OTT content to enhance user engagement. The rush to acquire has driven up content costs, even in a cost competitive market such as India, making consolidation likely.

- **Cloud gaming** refers to a new business model where the processing power required to run high-quality video games is housed on servers, with the gameplay streamed to the player. This lets consumers play the latest games without investing in expensive equipment. Major companies in the gaming market have launched cloud gaming services, such as Microsoft (Project xCloud), Sony (PlayStation Now), Nvidia (GeForce Now), and even Google (Stadia). While the technology is still in its infancy, the underlying concept – being able to play any video game without expensive equipment – is revolutionary. It has special potential in India, a market that has displayed immense interest in gaming products on mobile platforms, but where the cost of consoles is prohibitive. However, cloud gaming requires fast internet speeds and low latency (or lag), and India would need to augment bandwidth availability and the quality of broadband. Currently, fixed broadband speeds in India are ranked 75th in the world, with an average download speed of 40.45 mbps, or less than half the global average of 81.46 mbps.[17]

- **The 5G phase** is likely to bring with it new entertainment applications. The transition to this technology is expected to generate a windfall for network, infrastructure and equipment vendors. The online content streaming experience will become seamless, achieving download speeds of up to 1 gigabit per second. 5G will also impact live entertainment, including sports, with viewers able to get real-time data from the field (such as the speed of a ball in a cricket match, or its spin rate) fed directly from recording equipment to their devices.[18]

OTT represents the future of entertainment, and will redefine how content is created, distributed and consumed. This will change the art of storytelling, putting new tools in the hands of creators and giving them new ways to use technology to tell stories.

THE FUTURE OF STORYTELLING

Stories have always been linked to the human need for understanding, and the art of storytelling, intersecting with the highly social nature of human beings, evolved out of this need. The quest for definition and understanding became a social pursuit, with stories acting as a medium for the flow of ideas, values and beliefs within social groups and beyond them. According to Yuval Noah Harari, the ability to communicate in stories or verbal fictions may set humans apart from other species with complex societies. Human institutions such as religions are rooted in common religious myths, and nations in common national myths, allowing people who have never met to share common values and ideas, and work together towards certain shared ends. Storytelling can drive rapid, significant shifts in society and culture, as stories have immense power over us.

When our grandmothers told us stories, they left a lot to the imagination. Instead of showing us pictures of Kumbhkaran or Mulla Nasruddin, they built vivid descriptions to fire off our young imaginations. Compared with reading from a printed script, oral storytelling permits far greater embellishment and variation, and each narrator's characteristic style or eccentricities make each retelling of a story unique.

Diverse oral traditions exist in India of folk tales, mythology, religion, humour. Versions of these stories have been told across vast distances of geography and time, each with its own local flavour. The 'same' story may include different characters, episodes, and even endings – Indians are intimately familiar with this nonlinear and dynamic form of storytelling. These cultural strengths are explored further here.

The dynamism of oral stories doesn't always translate to the written word, more so when manuscripts gave way to the printing press. Mass production was accompanied by standardization, and it is now commonplace for thousands of copies of a story to be told exactly the same way. Of course the reader's imagination still plays a vital part – but while readers of the Harry Potter books all imagined the boy wizard slightly differently in their mind's eye, when the first movie came out it left no scope for imagining what Harry Potter looked like anymore. The cinematic medium had given a lot more definition to the character and his world than the books ever would.

In this way technology has made storytelling a more literal process, akin to giving a story, fully defined to the consumer. That is not to say films cannot be interpreted or viewed imaginatively, but to distinguish between the degrees of definition offered by these media – oral stories, the written word, and film. As technology opens up new possibilities, however, this trend – of greater definition and reduced imagination – has reversed.

Advances in artificial intelligence (AI), gaming, augmented reality (AR) and virtual reality (VR) have ushered in an era of immersive storytelling, where the audience is transported into the story world, as an active participant. Here, while elements of the story are given definition in ways similar to film, the narrative itself depends on the actions and decisions of the consumer. In such media our imagination is no longer limited to picture-making, but plays a vital role in directing the story itself. To understand this better it is important to understand the technologies driving this change: AI, gaming, AR and VR.

I. ARTIFICIAL INTELLIGENCE

AI allows machines to better mimic human intelligence and learning, and perform more complex cognitive tasks. In the media its most prominent use is in the recommendation engines built into OTT platforms. These engines collect data about an individual user's preferences, such as the shows they watch, or how often they stream a certain song. This information is used to recommend similar content from the platform's catalogue to the user, reducing the time and effort spent looking for new content suited to one's taste, and driving up content consumption. It also means that one person's experience of a platform, such as Netflix or Spotify, will be entirely different from another's.

AI can also be used to tweak other aspects of the entertainment experience. For instance, Netflix uses artwork personalization to show different promotional posters or scenes from the same content, based on the themes and perspectives you are most likely to be interested in. As Netflix puts it, "Someone who has watched many romantic movies may be interested in Good Will Hunting if we show the artwork containing Matt Damon and Minnie Driver, whereas a member who has watched many comedies might be drawn to the movie if we use the artwork containing Robin Williams, a well-known comedian."[19]

AI based analytics have also created exhaustive and detailed systems of collecting viewer data. In contrast to the sampling done for data on television viewership, OTT platforms collect granular information from each individual consumer. Such fine-grained tracking of behaviours, tastes and preferences helps platforms take informed business decisions. Data analytics are also useful also for targeted advertising – showing users only those advertisements that are relevant or of interest to them. This opens up the possibility of ad-supported business models where viewers do not have to pay for content, which is monetized instead through enhanced revenues from targeted advertising.

Finally, developments in AI will soon lead to the creation of smart content, which is dynamic and attuned to the consumer watching, reading or listening to it. A sneak peek into this future is offered by the prevalence of AI generated news items produced without human input. As modular elements of the content, such as the music, lighting or camera angle become atomized, they can be manipulated based on varying rules. Content itself is likely to become more an iterative, configurable process than a readymade static product.[20] To use a culinary analogy, instead of ordering a dish off the menu, each user will get a custom made dish based on ingredients chosen specially for them.

TABLE 4: NEW DATA CAPABILITIES OF OTT

METRIC	OTT	TV
Identifying target audience	Can use metadata and cross-platform activity to identify users' tastes and preferences. These can be combined with information about demographics, economic status etc.	Survey-based understanding of the demographic group that watches programs in a specific language, genre, or at a particular time (e.g. children watch cartoons after school hours)
Consumer feedback	Can track video completion rates and cursor activity, collect user ratings on the quality of service, conduct experiments to strategize (e.g. A/B testing)	Tracking limited to TRPs, which are calculated using a limited sample of households and are available on a weekly basis

SOURCE: AUTHORS' COMPILATION

II. GAMING

In an age of high-speed internet and 24x7 connectivity, the gaming industry is competing for a larger chunk of the total entertainment pie. Online games such as Fortnite have innovated with content and business models to become platforms themselves. Fortnite has over 350 million players who spent a total of 3.2 billion hours playing the game in April 2020 alone.[22] While users don't have to pay to play, they can choose to buy bonus content such as costumes for their in-game avatar, which is the primary driver of revenue. This approach to monetization, along with constant innovations, has made Fortnite a formidable presence in the entertainment market. In a 2019 letter to shareholders, Netflix named Fortnite a bigger rival to its operations than HBO.[23] And gameplay apart, Fortnite has a social space within the game that acts like a theme park for players to visit with friends to participate in various activities. Players have even attended massive virtual concerts by big name musicians such as Travis Scott and Diplo within the Fortnite universe, and commentators say that for such immersive online experiences this is only the beginning, more so after the blow to live events dealt by Covid-19.[24]

The gaming industry has also pioneered immersive storytelling through open world games, both online and offline. These are essentially virtual playgrounds where gamers are set free to use their own imagination in combination with elements from the game. This is a feature of a number of open world games – in Middle Earth: Shadow of War, for instance, the player

is transported to the world of J.R.R. Tolkien's creation, and given a character to play with certain abilities. As the game progresses, players can choose to tackle it in many different ways – deciding which adversary to target, how to approach a particular adventure, what abilities to upgrade and which tools to use. Various enemy Orcs remember the last time you crossed paths with them and evolve their own memories of your actions – leaving them afraid of you, say, or seething for revenge. This gives each player a unique experience of the game, including unique relationships with the characters depending on the exact approach you took.

Another instance is the Witcher series, created by the Czech studio CDProjektRed and based on a popular Czech fantasy novel series. This developer is also working on the upcoming game Cyberpunk 2077, where players are transported to a futuristic metropolis known as Night City, complete with various districts and activities, a corporate dominated world, and a criminal underbelly. These games create an immersive world and put you right in the middle, letting you explore and interact with it as you please.

These are just some of the ways modern entertainment is redefining storytelling, by immersing consumers in the story as they play out a part and watch the world respond. This sort of open world, combined with an online model similar to Fortnite's, is likely to be immensely influential in the next phase of entertainment.

TABLE 5: GROWTH RATES OF SEGMENTS OF INDIAN ENTERTAINMENT ECOSYSTEM

SEGMENT	2019	2020E	2022E
Online Gaming	41.3%	40.0%	105.5%
Digital /OTT Media	30.8%	26.2%	48.4%
Animation and VFX	20.3%	17.9%	39.3%
Live Events	10.7%	13.3%	29.8%
Films	9.1%	8.4%	17.9%
Music	7.1%	13.3%	17.6%
Television	6.4%	0.4%	11.6%
Out of Home media	5.4%	5.1%	12.2%
Print	-3.0%	1.7%	2.7%
Radio	-8.8%	6.5%	9.1%
Total Media and Entertainment Sector	**8.8%**	**7.8%**	**23.0%**

SOURCE: CALCULATED USING DATA FROM FICCI-EY (2020).[25]

Video games have impacted the entertainment landscape in other ways. The success of streamers for instance – streamers are players who broadcast themselves playing games, often with added commentary, on services such as YouTube or Twitch. Streamers draw millions of viewers, and are some of the most watched content creators on YouTube. Twitch, a dedicated game streaming platform, has grown by 60% since 2017, drawing a total of 3.2 billion users.[26] Another instance is eSports, or competitive gaming, where tournaments are held to crown champions of various video games. Deloitte's most recent Digital Media Trends Survey revealed that professional gaming events have gained serious traction, with 40% of gamers watching eSports events at least once a week. The global eSports market is expected to generate USD 1.5 billion in annual revenues, primarily from sponsorships and advertising to an estimated global audience of 600 million fans. Marketers bestowed more than 600 brand sponsorships on eSport titles and events in 2017 alone. Finally, in addition to competing with the likes of Netflix and similar platforms, video games have changed the way we tell stories. Borrowing the interactive element from video games, a number of platforms are looking to create interactive content, where the viewer has greater control over outcomes in the narrative. In 2019 Netflix released Black Mirror: Bandersnatch, a film length episode of the popular anthology series, where viewers were prompted to make choices for the protagonist at various points in the story, affecting the plot.[27] Similarly DC announced an interactive animated movie based on the Batman: Death in the Family comic story arc.[28]

III. VIRTUAL AND AUGMENTED REALITY

VR is the use of technology to create a simulated environment – it places users inside an immersive experience. Instead of viewing a screen, users can interact with seemingly three-dimensional worlds via headsets and eyewear. AR on the other hand adds digitized elements to a live view – for instance a teacher might superimpose a digital model of a human brain in a classroom for students to observe and interact with. Both AR and VR can be used together with the technologies described above to expand the range of consumer options. Both technologies are already commercially deployed, with VR products such as Oculus Rift and PlayStation VR, and the AR based mobile game Pokémon Go achieving success.

These technologies are likely to become more common in future. In 2019, over USD 4.1 billion were invested in AR

and VR, with the highest volume of investment going to entertainment and education.[29] Google revealed in May 2019 that an estimated 400 million mobile devices around the world were now enabled with ARCore, its platform for building AR experiences.[30]

In the world of media and entertainment, AR/VR solutions will likely be used to provide interactive alternatives to entertainment interfaces such as keyboards or remotes, letting users control their experience through gestures. They will also help companies create educational programs that make learning interactive, and immersive experiences that let the audience participate in the action. Finally, AR/VR solutions can be used to enhance visitors' experience at museums, art galleries and amusement parks, or even help them experience such

visits from the comfort of home. Much like the other technologies discussed in this chapter, AR and VR serve to make entertainment more interactive, where viewers can play an active role.

In sum, these technologies are changing the way stories are told, putting the individual consuming the content front and centre. The storytelling of the future will likely be highly interactive and customized, providing a bespoke experience to each individual consumer. It is only right that the first step in preparing India to become a global leader in the creative field is an exercise in imagination – picturing what entertainment will look like 10 or 20 years from now, and thinking of what we need to do to excel at it.

**FIGURE 2: POTENTIAL MARKET SIZE OF THE AR/VR MARKET FOR ENTERTAINMENT**
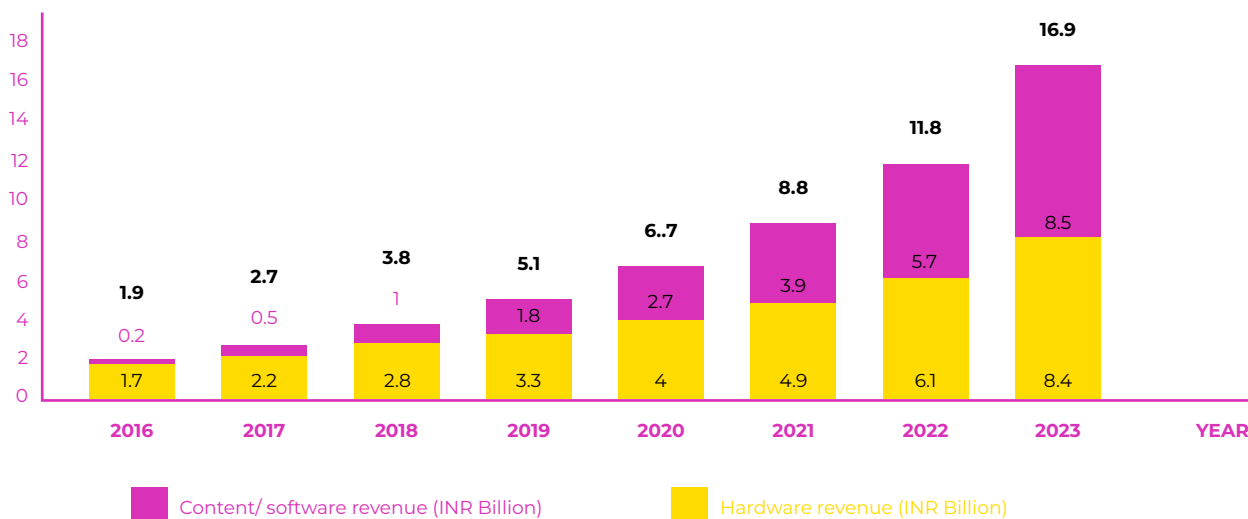
SOURCE: KPMG (2018)[31]

THE METAVERSE

The Metaverse refers to a collective virtual shared universe, created in the convergence of the technologies discussed above – virtual worlds, augmented reality, and high-speed internet. First described in a sci-fi novel in 1992, the Metaverse is today more fact than fiction, and is seen as a future iteration of the internet. It will comprise persistent, shared 3D virtual spaces linked into a perceived virtual universe, with common standards, interfaces and communications protocols. Efforts are already underway to create standards and protocols to ensure interoperability of the Metaverse, such as the OpenSource Metaverse Project [32], as well as an International Standards Organisation standard [33] for virtual world object characteristics.

This digital overlay on top of the physical universe will impact economy, culture, consumption and entertainment in unprecedented ways. For instance, online shopping may involve trying on digital versions of clothes. Culturally, we can already see the impact of virtual worlds – recently the online open world game GTA Online saw a recreation of the Hong Kong protests take place within the game – with some players dressing up as protestors and holding rallies, only to be virtually attacked by others dressed as policemen. As these virtual worlds more closely map the real, they present a huge opportunity to those who can recognize their potential and become part of a set of pioneers dedicated to the Metaverse.
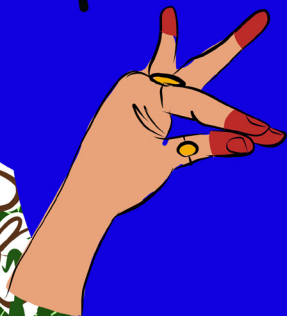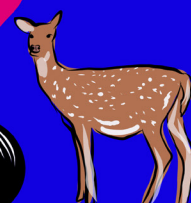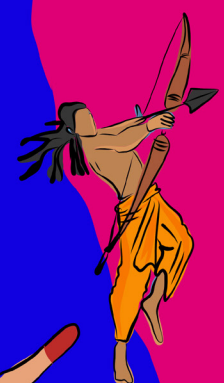
LEVERAGING OUR STRENGTHS

India is uniquely poised to become a world leader in the future of entertainment. Our cultures are ancient and diverse and our stories traditionally follow nonlinear narrative structures, well suited to the storytelling techniques of the unfolding century. Our people represent the largest emerging market in the world, and India is the focus of many technology investments. Our creative industries are among the largest content producers in the world. These advantages should not result in complacency, however – we need to make strategic efforts to nurture and leverage these strengths.

I. OUR CULTURE

India is a country of vast diversity, with a rich cultural heritage that remains underrepresented on the global stage. The ongoing transformation of media and entertainment provides an opportunity to propel our cultural products to the forefront of world culture.

(a) Telling our own stories

Indian cinema has been one of our foremost cultural exports, contributing immeasurably to the country's soft power. Works by filmmakers such as Satyajit Ray, Shyam Benegal and Mira Nair have earned critical acclaim throughout the world. Bollywood hits starring Amitabh Bacchan or Shahrukh Khan enjoy widespread popularity in Latin America and the Middle East, and Aamir Khan's 2016 film Dangal performed remarkably well in China, surpassing the gross earnings in that country of Hollywood blockbusters such as Captain America: Civil War.[34]

Indian stories and values are also at the forefront of successful adaptations in foreign film. Slumdog Millionaire by British director Danny Boyle, based on the novel Q&A by Vikas Swarup, was released in 2008 with a cast of Indian actors and based on an Indian story. The film did phenomenally well, winning eight Oscars, including Best Film and Best Director. In 2009 the James Cameron blockbuster Avatar contained a number of themes derived from ancient Indian thought, including the film's name and basic premise.[35] These instances demonstrate the ability of Indian stories to resonate with audiences worldwide.

1600 hours of original OTT content were produced in India in 2019, 33% higher than the previous year.[36] Created by Indians in regional languages, these stories' high production value, savvy packaging and delivery have had an impact on audiences at home and abroad. The success of Chhota Bheem in other countries illustrates how valuable this opportunity can be.[37] As discussed previously, OTT makes the proposition easier in terms of distribution and reaching a larger audience. Indian creators must rise to the occasion and translate our rich cultural legacies into world leading media and entertainment products.

(b) Many ways to tell a tale

Another cultural advantage India possesses is our familiarity with nonlinear tales, which as discussed will be a primary characteristic of future storytelling. Oral traditions, as crystallised in epics such as the Mahabharata and the Ramayana, are characterized by layer upon layer of subplots, side characters and plot variations – in the subcontinent and in southeast Asia are told hundreds of versions of the Ramayana that differ from one another, often to a remarkable extent, but with a recognisable common theme. Over the centuries, audiences have been enthralled by this rich tapestry drawn of diverse threads. This heritage is particularly well suited to the storytelling conventions of the future, as it lets consumers experience different aspects and facets of a narrative.

Some pioneering creators, such as Nodding Head Studios of Pune, are already at work translating Indian stories into next generation entertainment products. They are currently developing their first gaming title, Raji: An Ancient Epic,[38] an action-adventure video game set in ancient India that tells the story of a young girl, Raji, destined to face the demon lord Mahabalasura. Games such as Raji can draw from our rich heritage for their aesthetics, feel and sound to breathe new life into our popular cultural creations.

II. OUR PEOPLE

One of India's biggest strengths is its demography. The country is home to the 'next billion' – people who will come online for the first time, significantly boosting the global online population.

From consumers to drivers

Indians are already the largest consumers of data in the world, consuming an average of 12 GB/month in 2019, which may rise to 25 GB/month by 2025.[39] As things stand however, very little of this massive data consumption goes into Indian products or services. The value derived from this consumption is captured by Euro-American or Chinese media platforms – a failure on our part to harness the potential of this massive internet market. As the table below shows, only 8.8% of websites requested by users in south Asia are hosted here, a low proportion compared with regions such as east Asia (42%) and US-Canada (74.2%).

India's thriving domestic market has reacted positively to local content created by global platforms, representing significant underutilised strength. There is a need to address this gap between potential and reality, by creating Indian platforms and content that can benefit from the country's high data consumption.

TABLE 6: SHARE OF WEBSITE HOSTING LOCATIONS FOR EVERY REQUESTING LOCATION

Requesting Location	Requesting Location												
	CBA	CA	CAS	EAS	EE	SA	USC	WE	ME	SAS	NA	SSA	O
Caribbean-Atlantic (CBA)	4.2	0	0	1.9	0.9	0.5	76.7	15.8	0	0	0	0	0
CentralAmerica (CA)	0	4.3	0	1	0	1.4	78.1	15.2	0	0	0	0	0
CentralAsia (CAS)	0	0.7	16.4	0	22.4	0	36.8	23	0.7	0	0	0	0
EastAsia (EAS)	0	0	0	42	1.5	0.4	49.5	6.4	0	0	0	0	0.2
EasternEurope (EE)	0	0	0.1	0	40.6	0	41.4	17.9	0	0	0	0	0
SouthAmerica (SA)	0	0	0	0.5	0	13.6	71.8	14.1	0	0	0	0	0
US-Canada (USC)	0	0	0	4	0	1.6	74.2	20.2	0	0	0	0	0
WesternEurope (WE)	0	0.1	0	1.7	2.9	0.9	49.1	45.3	0	0	0	0	0
MiddleEast (ME)	0	0	0	1.7	1.6	0.5	60.3	21.6	13.5	0.8	0	0	0
SouthAsia (SAS)	0	0	0	6.2	0.8	0	66.9	17.3	0	8.8	0	0	0
NorthAfrica (NA)	0	0	0	0.7	0.7	0	75.3	22.7	0	0	0.7	0	0
Sub-Saharan-Africa (SSA)	0	0	0	1.4	1.4	0.4	59.7	28.1	0	0.5	0	8.6	0
Oceania (O)	0	0	0	3.4	0	1.7	62.4	14.5	0	0	0	0	17.9

SOURCE: MUELLER AND GRINDAL (2018)[40]

III. OUR CREATIVE INDUSTRIES

India's creative industries are another source of strength. The country has always been a nation of cinema lovers, creating film industries not only in Mumbai, home of Bollywood, but a number of smaller industries producing films in the country's many languages. These are deep reservoirs of talent and experience, and a backbone of future endeavour. Television content too is produced in multiple languages countrywide, with media clusters having come up in various places.

(a) Commercialization and monetization

Despite their prolific output and widespread popularity and acclaim, India's creative industries remain outdated.

Notably, India lags behind in commercializing and monetizing intellectual property. While the country produces more feature films than the US and China put together, it generates the lowest revenue of the three. Indian entertainment needs to be monetized more effectively, by unbundling its intellectual property through other sources of revenue such as merchandising, adaptations into formats such as comic books, game tie-ins, and amusement parks, and other venues for live entertainment. A ready example is the film market in the United States, where revenue from blockbuster film series such as the Avengers is not limited to the films themselves, and the intellectual property is monetized through various licensing deals. Most recently an Avengers video game was launched for PC and consoles, where consumers can play the role of their superhero favourites.

(b) Skills

Notwithstanding the rapid evolution of automation and artificial intelligence, creativity remains the domain of human beings, making the creative industries especially important for employment in the 21st century. With a number of jobs predicted to be automated in the ongoing Fourth Industrial Revolution, creative industries offer an important opportunity for states to create resilient employment for citizens. According to a study on the threat of automation in creative jobs, 86% of highly creative jobs in the USA and 87% of such jobs in the UK were found to be at low or zero risk of automation.[42]

In order to effectively ride the wave of transformation underway in the creative economy, an upskilling of the creative workforce needs to be prioritized. The sector – comprising film, television, digital media and gaming – faces a skill deficit in many job roles. As internet penetration grows deeper into tier II and III cities, demand is growing for quality content, particularly in regional languages. The increasing adoption of information and communication technologies is also changing the nature of jobs in the industry.

FIGURE 3: NUMBER OF FILMS PRODUCED AND REVENUE GENERATED (2016)
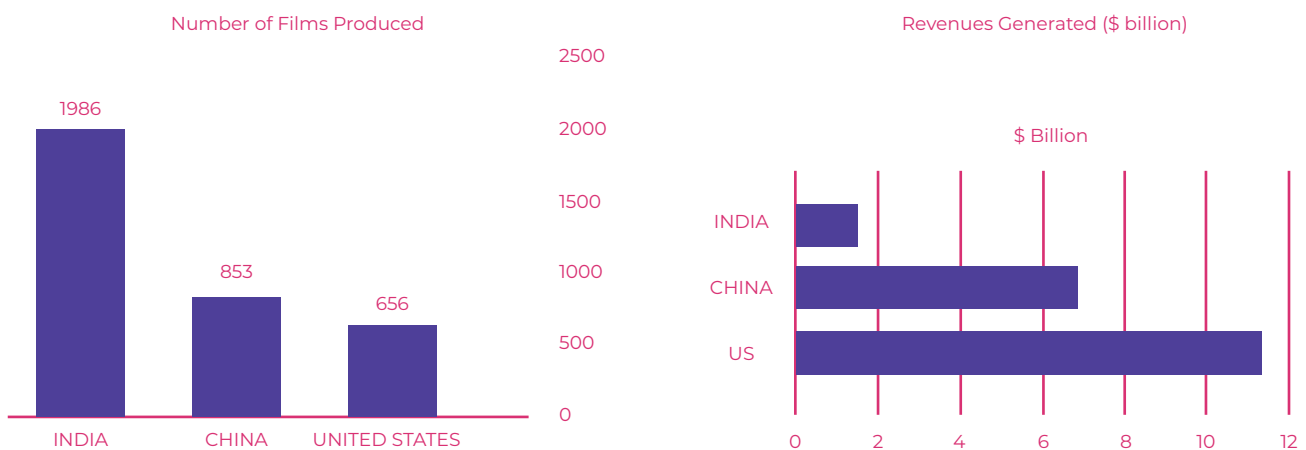
SOURCE: UNESCO INSTITUTE FOR STATISTICS[41]

It is clear that as entertainment providers move toward employing new techniques such as AR and VR, they will require workers who can develop content for their platforms using sophisticated technological tools. Job roles allied to content creation may also become more dependent on new technology. Such trends are already visible in the evolving media industry, where distribution and content creation account for only 17% of job roles, whereas analytics and big data, and digital and social media management account for 40% of job roles.[43]

Due to the unorganized nature of the industry, robust skill training and certification through bodies such as the Media and Entertainment Skills Council will be beneficial across the ecosystem. More professional institutions should be set up to train artists and filmmakers in the cutting edge of world cinema, with an aim to incorporate these learnings into the Indian creative industry.

Such conscious upskilling is essential to ensure that India is not relegated to the position of a back office for global production to which minor value additions are outsourced. Instead the country should be able to create media products that capture value both domestically and abroad. This would also provide

an opportunity for India to bolster its employment numbers, by training young people in the new skills required by the creative economy.

(c) Exports

Our creative industries should seek to produce content that also finds favour with the larger international audience. India should learn from countries such as South Korea that have managed to leverage their media and entertainment industries as a dual path to prosperity and soft power.

South Korea is a media and entertainment powerhouse, with a thriving industry that dishes out Korean TV dramas, pop music and other media products consumed across the globe. As a result, the world has become more familiar with Korean culture – an example of how cultural products can become instruments of soft power. This is the outcome of a concerted government effort to transform the South Korean media and entertainment industries through facilitative policies that encourage growth. The most popular K-pop band, BTS alone contributed USD 3.6 billion to the country's GDP last year. India too has the potential to familiarize the world with its culture through entertainment media. These can be used as vehicles for the proliferation of Indian art forms, cuisines, stories and other components of soft power.

TABLE 7: EXPORTS OF AUDIOVISUAL SERVICES BY EAST ASIAN ECONOMIES AND INDIA

| COUNTRY	AAGR OF EXPORTS (2005-19) (%)	EXPORTS OF AV SERVICES IN 2018 (USD MILLION)	EXPORTS OF AV SERVICES IN 2019 (USD MILLION)	TRADE BALANCE (2018) (USD MILLION)	TRADE BALANCE (2019) (USD MILLION)
South Korea	15.29	770	878	321	355
India	35	620	772	317	342
Japan	14	349	545	132	15
Singapore	2	292	294	51	34

SOURCE: WTO (NOTE: AAGR FOR INDIA PERTAINS TO 2010–2019)

THE SOUTH KOREAN SUCCESS STORY

- In 2013 South Korean President Park Geun-hye announced a plan to move the country towards a 'creative economy', capitalizing on previous governments' steps to support its transition to an advanced innovation driven economy. South Korea's strategy for the creative economy was formulated to help build resilience to global economic shocks after the financial crisis of 2008–9.

- The government established the Creative Economy Action Plan and Measures to Establish a Creative Economic Ecosystem in 2013. This strategy leverages South Korea's strengths in the realm of science, technology, ICT and innovation, and provides public investment to develop institutions to promote the creation and export of creative content. This approach of state-led promotion in the creative industries has earned South Korea commendable success in the global economy. The success of K-Pop, and the wider phenomenon of 'Hallyu' or the Korean Wave, has helped increase the export of audiovisual services from South Korea at an AAGR of 17.95% over the period 2006–2018.

- The South Korean government has undertaken wide ranging interventions to promote cultural exports. In recognition of the fact that Korean language content wouldn't offer monetization opportunities to distributors in non-Korean speaking markets, the government subsidized the translation and subtitling of Korean content to enhance its appeal to new markets. To build export capacity, it has established talent development institutes such as the Korean Academy of Film Arts and the Korea National University of Arts, and allocated funds for the creation of musicals besides other efforts to expand Hallyu, the Korean Wave. It has also entered into Free Trade Agreements with countries and blocs such as India, Singapore, Chile, EFTA, ASEAN, India, the EU, Peru, the United States, Turkey, Australia and Colombia.

- The increased export of audiovisual content also built global interest in other aspects of Korean culture, including food, clothing, and the martial arts. The government has capitalized on this opportunity by setting up 31 Korean Cultural Centres in 27 countries, participating in cultural fairs around the world, and creating opportunities for visitors to South Korea to experience the culture. It also plans to make use of big data analytics to trace demand patterns for South Korean services including culture, art, and travel.
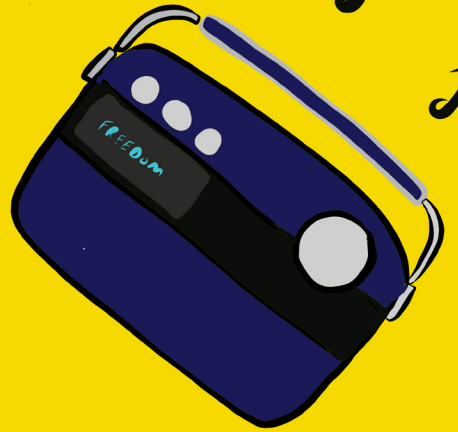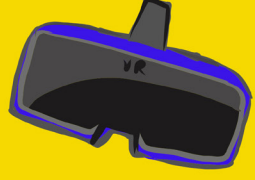
ENABLING ESSENTIAL TRANSFORMATIONS

In preceding sections, we have discussed the technological transformation of the entertainment industry through the advent of OTT media and other new developments. We have also examined the strengths that make India uniquely positioned to leverage this transformation and emerge as a global leader in the field. To achieve the desired outcomes for India's creative sector, the country needs to effect three important transformations: promoting creative freedom, digital products and devices, and levelling the playing field at all levels of the creative supply chain.

I. CREATIVE FREEDOM

In the simplest of terms, creative freedom refers to individuals' ability to express themselves without censorship or interference. A corollary of creative freedom is diversity of thought and expression, as people are bound to express themselves in different ways. In the entertainment context therefore, freedom refers to the ability of creators to tell the stories they wish to tell, in whatever manner they wish, resulting in an ecosystem with great diversity of content. Creative freedom also correlates positively with the overall quality of content – it lets artists take risks and experiment, instead of sticking to tried and tested formulas. The global success of Hollywood, which remains the most influential and prosperous film industry in the world, is attributable in part to the high degree of creative freedom enjoyed by artists in the United States.

Thus, the first important transformation India should undertake is to usher in creative freedom, by encouraging industry standards to help provide viewers with information about content, allowing them to make their own viewing choices. In the context of OTT, the industry should be encouraged to come together and standardize, to ensure consumers have all the information and technological controls they need, for making informed decisions about the content they consume. Such measures should seek to protect children from inappropriate materials, inform viewers about the themes of any particular content, and provide tools such as parental controls to ensure that parents can effectively regulate the content viewed by young children.

II. UNLEASHING VALUE THROUGH HARDWARE LOCALISATION

Another area which requires focus is India's capacity to manufacture hardware. 'Devices as platforms' is a phenomenon that occurs when the content ecosystem for a particular device is controlled by the device manufacturer. The most prominent examples are the content ecosystems for gaming consoles like Microsoft's Xbox series and Sony's PlayStation. Such companies make revenue from every product sold for use on their device or platform as a percentage charged from third-party developers. This illustrates the value of creating devices that could go on to become platforms. There is a need for

CONTENT REGULATION STANDARDS

Standards-led content regulation frameworks can be seen across the entertainment landscape. Since 1968 the Motion Picture Association of America's (MPAA) film rating system has been in use to rate movies on the basis of language, violence, substance use, nudity and sex. This voluntary system has evolved in the 50-plus years of its existence. New ratings have been added to reflect changing norms – such as the introduction of the PG13 rating in 1984 for films that might be inappropriate for children below 13 years of age. Similarly, the thriving multibillion dollar video game industry relies on industry-led organisations like the Entertainment Software Rating Board(ESRB), a self-regulatory body that assigns age and content ratings to video games. It was created in 1994 by an association of top video game publishers in response to growing concerns about the impact of violence in video games on young children. Today, ratings by the ESRB and PEGI, its European counterpart, are an industry standard, used by millions while purchasing video games.

policies in this regard to push the Indian hardware and manufacturing sector out of stagnation.

India can also leverage digital products, competing with the global industry on an equal footing. As the entertainment industry evolves and content becomes more interactive, India could explore non-tariff barriers, such as local language requirements, to enable domestic manufacture. Locally designed and manufactured hardware is likely to integrate nuances of cultural design, with products being designed with the realities of Indian consumers in mind. An instance of such innovative design thinking can be seen in the Saregama Carvaan, a product that took an existing asset – a catalogue of old Bollywood music – and packaged it as a unique device that took the market by storm.

III. PRINCIPLE BASED REGULATION: LEVELLING THE PLAYING FIELD BETWEEN CREATIVE INDUSTRIES

To truly unleash the potential of creative industries, there is a need for a level playing field at each stage of the creative supply chain. In other words, when it comes to competition between platforms and technologies, old and new business models, states should not pick winners and losers through policy or regulation. Free and fair competition between various players will ensure maximum efficiency in the market. Both consumers and industry will benefit from diversity and innovation in the marketplace, as a result of a competitive landscape.

A level playing field can be engendered by identifying robust first-principles to guide the goals of media policies and regulation. These could serve as useful guides during the decision-making process, and help clarify the concepts and values to be prioritized when developing services or technologies. For instance, if 'control and consent' was adopted as a guiding principle for informed viewing, rules and standards dealing with different technologies or media would all be based on users' ability to access information and make an informed choice. Similarly, a principle against 'extremist content' might be useful as a basis for countering such content across media platforms.

Canada's Digital Charter is an instructive example of such an exercise. It presents a statewide approach to digitization, and aims to ensure that citizens can trust new technologies and that their privacy is secured. The Digital Charter lays a foundation for modernizing Canada's technology laws, and serves as a fitting example of a principles-based approach that can be adopted in the context of India's media ecosystem.

NOTES

1   https://www.techspot.com/news/84927-netflix-added-158-million-subscribers-q1-2020.html

2   https://indianexpress.com/article/entertainment/bollywood/9-films-released-online-during-the-lockdown-6453854/

3   PwC Global Entertainment and Media Outlook 2019-23

4   Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017

5   TRAI Consultation Paper On "Ease of Doing Business in Broadcasting Sector"

6   https://www.cnbc.com/2019/12/20/ryan-kaji-remains-youtubes-highest-earner-making-26-million-in-2019.html

7   https://www.noxinfluencer.com/youtube-channel-rank/top-250-in-all-youtuber-sorted-by-subs-weekly

8   https://qz.com/india/989659/netflix-nflx-peak-viewing-hours-are-very-different-in-india-and-argentina-compared-to-the-us-and-europe/

9   Section 4, Cinematograph Act 1952

10   https://mib.gov.in/document/supreme-court-judgement-airwaves

11   https://blog.hootsuite.com/youtube-stats-marketers/

12   https://www.thedrum.com/opinion/2020/07/29/the-future-video-streaming-more-curated-experience

13   https://www.ey.com/en_gl/tmt/how-the-media-and-entertainment-enterprise-is-evolving

14   https://www.techradar.com/in/news/in-2020-well-learn-how-many-streaming-services-is-too-many

15   https://analyticsindiamag.com/how-spotifys-algorithm-manages-to-find-your-inner-groove/

16   https://medium.com/s/story/spotifys-discover-weekly-how-machine-learning-finds-your-new-music-19a41ab76efe

17   https://www.speedtest.net/global-index

18   https://www.inc.com/magazine/202002/jennifer-alsever/5g-wireless-network-broadband-high-speed-gigabit-technology.html

19   https://netflixtechblog.com/artwork-personalization-c589f074ad76

20   https://techcrunch.com/2019/04/13/get-ready-for-a-new-era-of-personalized-entertainment/

21   https://www.escapistmagazine.com/v2/dreams-is-a-creative-triumph-and-legal-nightmare/

22   https://www.theverge.com/2020/5/6/21249497/fortnite-350-million-registered-players-hours-played-april

23   https://s22.q4cdn.com/959853165/files/doc_financials/quarterly_reports/2018/q4/FINAL-Q418-Shareholder-Letter.pdf

24   https://pitchfork.com/thepitch/virtual-concerts-travis-scotts-fortnite-100-gecs-minecraft/

25   EY-FICCI (2020). 2019 Media and Entertainment Report: The era of consumer A.R.T.

26   https://twitchtracker.com/statistics

27   https://www.clickz.com/netflix-bandersnatch-future-video/224183/

28   https://batman-news.com/2020/07/28/death-in-the-family-itrailer/

29   https://venturebeat.com/2020/03/12/digi-capital-over-4-1-billion-invested-in-ar-and-vr-in-2019/

30   https://developers.googleblog.com/2019/05/ARCore-IO19.html

31   KPMG (2018) Media Ecosystems - The walls fall down

32   http://metaverse.sourceforge.net/

33   https://www.iso.org/standard/54988.html

34   https://www.forbes.com/sites/robcain/2017/06/16/dangal-slams-monkey-king-captain-america-to-grab-17th-place-on-chinas-all-time-list/#4746bda068e2

35   http://content.time.com/time/arts/article/0,8599,1576622,00.html

36   FICCI-EY (2020). 2019 Media and Entertainment Report: The Era of Consumer A.R.T

37   https://www.thehindubusinessline.com/news/variety/indias-animated-hero-chhota-bheem-marches-ahead-globally/article30585593.ece#:~:text=Within%20the%20first%20year%20itself,Rajiv%20said%20in%20a%20statement

38   https://www.rajithegame.com/

39   https://www.bloombergquint.com/business/india-s-data-consumption-may-touch-25-gb-month-per-user-by-2025-ericsson#:~:text=Indians%20used%20about%2012%20GB,to%20telecom%20gear%20maker%20Ericsson

40   https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3137819

41   http://data.uis.unesco.org/

42   Ibid.

43   BCG-CII 2018

44   https://www.fortuneindia.com/enterprise/saregama-carvaan-nostalgia-in-a-box/103157