Mapping Animation and Visual Effects in Indian Media and Entertainment Industry Opportunities and Threats

Mr. Dharmendra Kumar[1] and Dr. Aman Vats[2]

Amity School of Communication, Amity University, Sec-125, Noida, Uttar Pradesh[1,2]

ABSTRACT

The Indian media and entertainment industry is projectedto grow at a compounded annual growth rate (CAGR) of 13.7% over 2015 and reach US$20.5 billion and it is expected to grow at a rate of 14.3% to Rs. 22.60 billion by 2020. Television is expected to grow at a CAGR of 15.1 %. The highest growth rate at CAGR of 33.5% is expected to be in Digital Advertising. Traditional media such as Radio is also expected to grow at CAGR of 16.9% due to up gradation and change in technology. Films is also expected to grow at CAGR of 10.5% with acceptance of Regional and Hollywood content. Animation and Visual Effects industry in India is projected to grow at rate of 16.7% during 2016-20. The Indian Animation and Visual Effectsindustry is expected to grow fromUS$797 million in 2015 to US$909 million in 2016 and it will reach to US$1.68 billion by the end of 2020.The growth in the Indian TV industry has been the result of the thriving number of Television channels, FM radio channels. The purpose of this study is to find the opportunities and threats of Animation and Visual Effects in Indian media and entertainment Industry.

KEYWORDS: *Television Industry, Animation, Visual Effects (VFX).*

1. INTRODUCTION

India is an emerging economy in world, with half a billion people under the age of 25. Now streaming Media has revolutionized the Indian media and entertainment industry.With the penetration of broadband services along with 3G and 4G services the entire industry find itself at a new inflection point. With more than 60 percent of smartphone and tabletusers'base, the scale and impact of digital content user ishuge.The New Media wave is going to change the fundamental way of producing content, its disbursement and monetization in India. In 2015 several new channels were launched and new rating system i.e. Broadcast Audience Research Council (BARC) was adopted by the industry. Television has reached to 175 million households in 2015 and estimated to reach 181 million in 2016, India is projected to be the 2nd largest TV market in the world after China. The animation and visual effects industry in India has been standing out as truly newsworthy.

Television has become a major source of entertainment and learning in Indian family. All the age groups are being affected by different television programs such as news, advertisements, documentaries, cartoons etc. Most vulnerable and affected of them are children who spend a lot of time watching TV. The year 2015 sparked delight and restored hope a year of reconcilingin,progressingup one's walletsand getting down tojob. But, the year witnessed the slow growth in small town and rural economy due to various reasons as much as estimated, due to

which media expansion plans also reduced, spending was only focused in Hindi and other regional prints. The liberal FDI policies in media industry by the Government of India have opened new avenues for numerous sectors, which offers incredible conceivable outcomes for these sectors and its development.

2. Literature Review

From two channels owned and controlled by public broadcaster to a multi-channel global media market, Television industry in India got transformed. (Mehta, 2008). After 2000, many studies and report shows the growth and potential of TV industry in India. The opening of Multinational companies in India, had given a new opportunity and different work culture/professionalism. (Gopalan, 2007). Most emerging and favoured outsourcing destination for animation is India. (Thomas J. J. and Rayadurgam I., 2005). The professionals in India are skilled in various fields of animation. (Islam B., Shamsuddin A. K., and Choudhury M. R., 2013). Foreign studios such as Walt Disney and Warner Group are joining hand with Bollywood,which will take Bollywood to a new high.Change in FDI policy has increased foreign investment. (Dutta D., 2009). India has become a favored destination for producing low cost animation and visual effects. The factor relevant for becoming India as a favourite destination isavailability of cheap trained, skilled workforce, low production cost etc. (Barathi C., Balaji C.D., and Meitei C. H., 2011). The Digitization in TV has revolutionized the Media & Entertainment Industry in India. The revenue model of the TV industry will be driven by activation and subscription. (Ray, S., & Arora, A. 2016).

3. Future Scope of Indian Media and Entertainment Industry

'Digital India' initiative by Indian Government to penetrate internet on the tier II and tier III cities will revolutionized the entire business model and consumption pattern of media and entertainment industry. In second decade of the 21st century, India witnessed the enormous changes in media content creation, access and consumption. The factors driving for these changes are advancement in technology, internet access, faster mobile data, broadband, smartphones, tablets, media streaming devices etc. Due to high mobile penetration, the number of mobile phone users has reached to a 944 million connections in India (GSMA Mobile Economy India Report 2015) out of which 500 million users are unique subscribers. The number of 500 million unique users are estimated after factoring in double sim user, dongle etc. The unique users are the subscribers who are not only important but it also gives the real untapped market for telecom. With a total base of 331 million internet subscribers, there are over 200 million mobile internet users (GSMA Mobile Economy India Report 2015).

The rollout of 4G services is going be a game changer in Indian media entertainment industry. After the quality digital infrastructure reaches to common people, the majority of media consumption by smart phone user will be in form of audio and video. The Indian Media & Entertainment industry has massive scope of growth in all the segments. The Government of India has taken several steps to boost the industry such as digitization, increasing the limit from 74% to 100% in FDI and Direct-to-home (DTH) platforms, and granting the status of industry to film for relaxed access to institutional finance.

4. Indian Animation and Visual Effects (VFX)Industry Globally

India has emerged as major outsourcing destination for animation and visual effects. In 2015, India signed co-production agreements with South Korea. The similar treaties is already in existence with China, Brazil, New Zealand, Itlay, Poland, France, Germany, Spain and U.K.

Before India, Japan, Korea and Taiwan are the favourite outsourcing destination for Hollywood post production work. The key factor for becoming India as favourite destination for outsourcing is the cost saving and international standard of production. Most of the Asian nations are outsourcing their business to India to have cost effective production with Hollywood standard production.

The worldwide animation and VFX industry is growing rapidly. The Animation Council of Philippines estimates that the earnings from animation industry globally are growing annually at 20% to 30% in the course of recent years. The animation and visual effects are frequently used in films, TV programmes, commercials, games and online education. Worldwide entertainment giants like Walt Disney, Fox Entertainment and Time Warner have been dynamic players in the Indian market. MTV is considering India as an outsourcing destination next to Korea and Philippines. In a current study, it was found that 90% of all American television content is produced in Asia. Indian production houses are giving stiff competition for outsourcing work with other Asian and far east countries like China, Malaysia, Philippines and Thailand.

India's is becoming an animation and visual effects hub due to large workforce and cheap labour force with and advantage of an English-speaking, talented software engineers, a huge resource of creative talent, decent studios and low budgets. The production cost of a half an hour 3D animation programme in India is sixty thousand US dollar compared to 250-400 thousand US dollar in the US and Canada. India has an expense preference contrasted with the Philippines, which is an alternate ease maker of movements. The average monthly package of an animator in India is US$600 compared with US$1,000-US$1,200 in the Philippines. The production cost of an hour of animation work outsourced in India is 30 to 40 percent cheaper in comparison to Korea, Taiwan and Philippines.

The low cost of production in India's have been exploited by several multinational firms and production studios. The success of digital animation matched with the liberal FDI of the Indian economy, it offered the profits of lower making costs, highly creative and specialized animator and a substantial English uttering workforce. This has prompted the advancement of cutting edge liveliness studios in a few Indian urban communities, and these studios are teaming up with worldwide stimulation organizations.

4.1 Indian Film Industry Scope and Opportunities

The Indian Film Industry is projected to grow at compounded annual growth rate of 9.4% during the period of 2016-20 and it will reach to US$ 2.47 billion in 2016. At an expected growth rate of 9.7% the Indian film industry will touch US$ 3.54 billion by 2020. The film industry in India is the largest producer of films worldwide with 400 production yearly. After granting industry status in 2011 by Indian government eases the access to finance, financial institution and corporate houses get involved in film production.100% FDI has been granted by the government in film industry. Considering uniform rate of entertainment tax will reduce the tax burden after

implementation of GST. With increase in share of Hollywood content in the Indian box office and 3D cinema is the motivating force of growth of digital screens in the country. Indian film industry produces around 1500 to 2000 movies per year and it is considered to be the fastest moving making countries globally.

The government of India is setting up a single window clearance system for permitting shootingat different locations which will promote India as a favourite destination for foreign production houses for shooting. International alliance and agreement have signed to promote joint productions, co-productions with Italy, Germany, Brazil, UK France, New Zealand, Poland, Spain and Canada. Success of low budget Bollywood films such as 'Tanu wed Manu returns', 'ABCD 2', 'PyarKaPunchnama 2', 'Hate Story 3', 'Piku' 'NH10' have revived the hope in industry. Hollywood films such as 'Avengers: Age of Ultron', 'Fast & Furious7', 'Jurassic World' showed some strong performance. The phenomenal success of regional films such as 'Bahubali' had broken the language barriers and gained popularity among audiences.

The reason for success of Indian film was good script, mentoring content development, improved quality of films such as higher frame rates, 3D filming technologies, high resolution shooting such as 4K and 8K and computer generated imaging (CGI)/Visual Effects (VFX), improvement in efficiency of production and improving the return of investment. Regional film 'Bahubali' is the best example of technological advancement in Indian film industry.

4.2 Indian Television Industry Scope and Opportunities

The introduction of new measurement system by Broadcast Audience Research Council (BARC) was a breakthrough event in 2015. At present, BARC system has reached to 153.5 million TV households with 77.5 million urban and 76 million rural areas. The new measurement system will give the glimpse of our rural consumer's viewership choices. The next decade is going to drive by digital platform which will transform the entire dynamics of content consumption.Television industry in India has an attractive growth phase with large number of TV channels and rich content.

From two channels governed and controlled by government in 1991, it has reached to 830 channels in 2015. The number of Television sets in Indian household has reached to 175 million in 2015 and it is expected to reach at 181 million in 2016 and by 2020 it will increase to 200 million. With growing no of TV sets in Indian household, India will become the second largest TV market in the world after China. The growth in number of daily shops, reality shows, 24 hours news channels, entertainment channels, music channels, movie channels,spiritual channels, regional channels, sports channels etc. has provided as well as promoted the growth of the industry.

Indian Television industry is projected at Rs.617 billion in 2016 and it is estimated togrow at a CAGR of 15.1% to reach Rs.1,098 billion in 2020. With increase in number of digitation the subscription revenue is estimated to grow at a CAGR of 15%. The Indian media and entertainment industry is expected to grow at a CAGR of 14.3% by 2020.As per a recent report by KPMG and it will reached to INR 2,260 billion by 2020. The Animation and VFX and Digital Advertising are the two most successful growing sectors in the year 2015. The expected growth rate of digital advertising will be at a highest rate CAGR of 33.5% till 2020 and other sub-sectors are expected to grow at a rate of 8% to 16.9% accordingly.

After, successful completion of digitisation in third phase, fourth phase of digitisation of cable TV networks is expected to be completed by December 2016.The Cable and Satellite subscribers in India is estimated to have reached 160 million excluding DD Free Dish subscriber, which is estimated at 145 million in 2015. The operating figure of DTH subscribers in India is projected to increase from 55.98 million in December 2015 to 79 million by 2020. Revenues fromTV industry by subscription have grown at 13% in 2015 to reach Rs.361 billion and it is projected to reach Rs.407 billion by 2016 and by 2020 it is projected to increase by Rs.733 billion. Digitisation has proved to be stepping stone for the industry's growth and success, cable operators are legitimately bound to transmit only digital signals and consumer will be able to access the channels of their choice by subscription through set-top box. The digital era has reduced the transmission cost by 15 to 20% with new delivery systems such as direct to home (DTH) and interactive television.

Media and entertainment industry is dominated by Television. Film industry uses this platform to promote their films and reaches to mass audiences through different reality shows, TV advertisement etc..Television is expected to make half of the revenues of Indian media and entertainment industry, and it will become double the size of print, companies including Time Network, Sahara Group, AETN 18, TV today group, Colors and Newspaper Company. UTV world movies, Star TV network world wide and HBO etc. are bringing international movies into the India dining and bedroom.

The table shows the Genre wise Television Viewership Share in India 2015:

Genre wiseTelevision Viewership in India	(%) Share
Regional General Entertainment Channel (GEC)	29.60
Hindi General Entertainment Channel (GEC)	28.40
Hindi Movies	13.40
Regional Movies	6.60
Kids	5.60
Regional News	3.50
Hindi News	3.00
Regional Music	2.70
Music	2.60
Sports	2.10
Infotainment	1.10
English Entertainment	0.50
English News	0.03
Others	0.90
Total	100.00

Source: BARCIndia Period Wk 41, 2015 to Wk 7, 2016

4.3 Indian Animation Industry Scope and Opportunities

Animation industry in India has increased its popularity and market share inmedia and entertainment industry. The one of the biggest release and hit of Indian Film Industry in 2015 was the regional film 'Baahubali-The Beginning' which have costs of Rs.3,000 million out of which Rs.850 million was spent only on VFX. At present India is having around 300 animation studios, 40 visual effects studios and 85 game development studios, with a more than 15,000 professionals working in these studios. The year 2015 saw an increase of local content by the kids entertainment channels including the regional players. In 2015, Indian animation industry witnessed no major theatrical box office releases, instead of success of films such as 'ChhotaBheem' series in 2014.Some short films such as 'Chhaya', 'Fateline' and 'Chakravyuha' attained accolade locally as well as globally.

Indian Television is one of the largest consumer of animated content produced in India, others are films and online boradcasting. In the year 2015Indian media and entertainment industry has grown at a CAGR of 13.7% whereas the animation industry has grown at a CAGR of 12.3%. India is becoming an attractive destination for outsourcing 2D and 3D animation content. The government initiatives such as 'Make in India' and 'Digital India' has garnered interest and focus among the industry professionals and broadcasters. The digital platform or new media has gained recognition to broadcast quality content.

The table below shows the expected growth of the animation services and animation production in India by 2020 (Amounts in INR billion).

Sectors	2015	2016P	2017P	2018P	2019P	2020P	CAGR% 2016-20	Growth in 2015
Animation Services	8.3	8.8	9.5	10.4	11.4	12.5	8.6%	2.5%
Animation Production	5.6	6.0	6.5	7.0	7.6	8.4	8.4%	9.8%
Total Animation	13.9	14.8	16.0	17.4	19.0	20.9	8.5%	

Source: KPMG in India analysis

The year 2015 witnessed the increase in demand of locally produced animationprograms. Some of the favourite programs launched in 2015 in Indian Television are 'Motu Patlu', 'Shiva', 'BandbudhAurBudak' and 'PyaarMohabbat Happy Lucky'. The success of locally produced content has generated interest in investors and broadcasters. Before, these broadcaster were heavily dependent on imported content bought from studios across the globe. The acceptability and success of local content have given broadcasters an edge on content creation, they are only required to rework on content such as dubbing and editing. The locally produced content has become a game changer for the kids genre and outlined the way kids channels have grown in India.

The new animation technology is expected to dominate the future trends. The latest trend is 3D printing, the technique behind it is stop-motion animation technique. The other technique is in the rise is Non Photorealistic Rendering which enables a wide range of communicative styles of

digital art. Another technology is Projection mapping used to turn objects, frequently random shaped, into a display surface for video projection. And most talked and emerging technology among all of them is merging with reality-Augmented Reality (AR) and Virtual Reality(VR). The technology is going to change the rules of chroniclearrangements.

The animation industry in Indian is facing a talent crunch, trained and skilled professionals and talented workforce and the need of the hour. Despite being awarded and recognisedat Annecy in 2015, by world's oldest, largest and most prestigious animation film festival. The government of India need to support, push and incentivize the industry to grow and become the world no.1 industry in globe.

4.4 Animation in Indian Television commercials

Television Advertising in India is projected to grow at a CAGR of 15% during the period of 2015-20 to reach Rs.365 billion. Advertising revenue is projected to grow at 17% in 2015 to Rs. 181 billion, 4% higher than the previous year projection. E-commerce companies had spent more on advertising on TV in 2015. Animated commercials results in significant cost savings compared to celebrities endorsement. Advertisers and broadcaster are decided to tap the advertising potential of non-kid products as well, more focus on mothers. Unconventional Advertisers contribute 55% of ad revenues for Pogo and Cartoon Network and for Disney 50%. Many FMCG companies are using kid's channels to promote their products. Some of the popular animation characters are getting associated with several brands. Most popular characters such as 'ChhotaBheem', Motu Patlu', 'Kris', etc. are proactively used by different brands from FMCG, auto, insurance. The success and growth in advertising revenue will lead to growth in ad based on animation.

5. Visual Effects (VFX) Industry in India Scope and Opportunities

The Visual Effects industry in India is transforming rapidly with every passing years. With the experience of outsourcing work, Indian VFX studios are growing in terms of technology, techniques and output. Many Television shows are having their on-board studios starting from pre-production stage and the trend is growing day by day. Indian based VFX studios such as Prime Focus are taking centre stage worldwide, by acquiring Hollywood VFX studios and setting up facilities across the globe.

The Visual effects (VFX) industry in India is one of the fastest growing sector. The sector produces live action imagery by using computer generated graphics CGI. The VX are used progressively by the visual media in India and can be widely composed into the additional field —segment, TV shows and ads. Use of VFX in domestic utilization is increasing day by day but the most of the work includes outsourced tasks from US and UK. The Visual Effects industry is growing as well as outsourcing sector is also expanding.

Indian VFX studios are producing low end work to high end quality work for foreign films. India is becoming preferred destination for outsourcing work because of the high quality work, low cost production, skilled and talented workforce and good communication skills. The Digital Media has given the new dimension to the industry and due to which number of outsourcing work is also increased in India. Some of the quality outsourced worked done by India VFX studios are

'Chronicles of the Ghostly Tribe' by Prime Focus, 'Mortdecai' by Vancouver and Mumbai teams, 'Game of Thrones' by Prana Studios.

The year 2015 was an important year for the Visual effects industry. The success of a mega budgetregional movie 'Baahubali-The Beginning' costing around Rs.3000 million received global acclaim. In India, there is a significant increase in use of VFX in films, television etc. The VFX is used add animated sequence with real characters, landscape, war sequence, palaces, background or to correct the color tone of an actor, actress or shots. The enticement of visual effects is not limited to movies only, but it isreachedto TV serials and commercials.

The table shows the estimated growth trends in Visual Effects and Post Production in India (Amounts in INR billion).

Year	2015	2016P	2017P	2018P	2019P	2020 P	CAGR 2016- 20	Growt h in 2015
Visual Effects	14.4	18.0	22.5	28.4	35.8	45.1	25.6%	27.4%
Post Production	22.8	25.5	28.6	32.3	36.5	42.0	13.0%	11.8%
Total	37.2	43.5	51.1	60.7	72.3	87.1	18.5%	

Source: KPMG in India analysis

5.1 Visual Effects (VFX) in Film

India has witnessed a milestone in Visual Effects in 2015, with a release of mega budget regional movie by SS Rajamouli's 'Baahubali-The Beginning'. In these movie VFX was used in 90% of scene. The filmmakers in India are using VFX as a tool to narrate and tell the story more effectively such as 'BajiraoMastani', 'I', 'Hawaizaade', 'Detective ByomkeshBakshi', 'Bombay Velvet' and 'BajrangiBhaijaan'.

The VFX is being used to recreate earlier era, palaces and war sequences to give a realistic look to the movie like 'Detective ByomkeshBakshi', 'Bombay Velvet', 'BajiraoMastani' etc. The use of VFX reduces the production cost and save the time, with VFX the shoot has become more convenient and economical. The sequence can be shoot in a studio in Mumbai and final work can be completed by use of CGI.

Top five Bollywood movies with number of Visual Effects shots;

Movies	Box office collection INR million	VFX Partner	No. of VFX shots (approx)
BajrangiBhaijaan	3203	Prime Focus	500
PremRatanDhanPaavo	2074	Prime Focus	1200 plus
BajiraoMastani	1750	NY VFXWAALA	1800 plus
Tanu weds Manu Returns	1520	Prime Focus	200 plus
Dilwale	1480	Red Chillies	1600

Source: KPMG in India analysis

5.2 Visual Effects (VFX) in Television

The use of visual effects is not limited to movies only, it is spreading its arm on Television too. Many television programs are using VFX to give new facet to overall viewing experience of the viewers. Indian TV audience experienced the VFX on television in 1980's, the most popular serials 'Ramayan' directed by RamanandSagar and 'Mahabharat' directed by B R Chopra used VFX so innovatively as a part of fanciful serials. Many TV channels such as Color, Star Plus, Zee TV, Sony, &TV, Life OK and SAB have started several shows with proficient use of visual effects to enrich the content and give quality experience to the viewer. Some of the popular TV shows used the VFX technology successfully and effectively are 'ChakravartinAshokaSamrat' which depicts the journey of Emperor Ashoka, Naagin on Color's, 'SiyaKe Ram' on Star Plus etc.

The Table shows the use of Visual Effects (VFX) in different genre of serials:

Genre	Serial	Channel
Mythology	Mahabali Hanuman	Sony
	SiyaKe Ram	Zee TV
	Devyanshi	Color's
	SantoshiMaa	&tv
	Maharakshak Devi	Color's
Historical	ChakravartinAshokaSamrat	Color's
Horror	KavachKaaliShaktiyon Se	Color's
Supernatural	Naagin	Color's
	SasuralSimarKa	Color's
	Ye Hai Mohabbatein	Star Plus
SCI-FI	Naagin	Color
	24	Color
	Meri BahuRajnikant	Life Ok
	Baal Veer	Sony Sab
	Ichhapyari Nagin	Sony Sab
	Nagarjun..EkYoddha	Life Ok
	Y.A.R.O. KaTashan	Sony Sab

Source: KPMG in India analysis

5.3 VFX in Advertising

There are number of TV channels available at the press of a button but the challenge for advertises is to grab the attention of future customers and stop them from switching to other channel at the time of advertisement. Here, VFX plays an important key role which not only enhances the content but also adds excitement and generate interest and curiosity elements to the grab the viewers' attention. Visual Effects also helps viewers to understand quickly the use of product easily e.g. if a mosquito dies by using the good night liquid or with any spray.

5.4 Visual Effects industry Trends

The new trends in visual effect is going to dominate the media and entertainment industry. Increasing presence of VFX in all media and entertainment sector i.e. films, television, commercials. VFX is gaining its space in TV with popularity of shows like 'Siyake Ram', 'Naagin', 'ChakravartinAshokaSamrat'. Use of 'live action' in VFX is also increasing by use computer generated effects CGI. 'Cinderella', 'Avengers:Age of Ultron', 'Ascending' are the movie in which 'live action' in VFX is used. The presence of Indian Studios in global market is increasing. Some of the Indian studios established their footprint on offshore market are Reliance MediaWorks, Prime Focus, Tata Elxi and Pixon. The virtual reality effects VRX is going to change the media and entertainment world. The use of visual media consumption in digital platforms is increasing day by day. The audiences are shifting from content ownership to having always-on access to a digital library.

5.5 Challenges Faced by Animation and VFX industry

Tax incentives: The government should give tax incentives to industry for expansion and proliferation. The animation and VFX industry is contributing to media and entertainment industry a reasonable amount for foreign exchange. Forestablishing a high end animation and VFX studios computers and equipment are required to be imported. The animation and VFX industry needs the support of government by relaxing the taxes and duties.

Skilled Manpower: The Indian Government most ambitious program 'Skill India' and 'Make in India' is focused on the need of animation and VFX industry. The animation and VFX industry is looking for highly trained and skilled workforce who can combine contribute to the industry. Skills such as Sketching, Illustration, Character Modeling, Animation, Texturing, Rigging, Live Motion Capture, with good communication skill is required to convert the ideas into reality.

Infrastructure: The government should come forward and support the animation and VFX industry to setup world class infrastructure. At present, there are 800 companies in India small and big are functioning in these sectors. These companies have are doing good work in their field and growing day by day but there is still a lot of scope for improvement.

Digital: The Government of India has announced the 'Digital India' mission. The VFX industry is facing problem with convergence of media. The content produced for traditional media is revised and re-rendered again and again to get the simulation right for digital platform.

Finance: The animation and VFX companies are facing financial issues despite with success of the industry. The VFX is playing an important role in a success of a movie, still very less amount is allocated for VFX.

6. CONCLUSION

The Government of India has raised the FDI limit to 100% in different sectors of media and entertainment industry. This will open the new avenues and job opportunity in the sector. The success of locally produced content has raised hopes to the media and entertainment industry. The industry is looking for talented and skilled workforce who can contribute to the industry. The Indian studios are showing their presence globally. The Indian animation and visual effects industry is producing high end quality product, which is globally being acclaimed and recognised. With increase in foreign work will help to boost Indian economy. The future of media and entertainment industry is being digital. Digital platform is going to change the entire media consumption pattern.

Bibliography

1. Mehta, S. R., Indian Institute of Advanced Study.,& Goa University. (2010). Socio-cultural diversities and globalization: Issues and perspectives
2. Paper, C. (2013). Telecom Regulatory Authority of India, (01).
3. Communication, M. (2015). Paid News in Indian Dimension, (July), 80–83.
4. Barathi C., Balaji C. D. and Meitei C. I., (2014). Trends and Potential of the Indian Entertainment Industry-An Indepth Analysis, IRRJ, Vol.-II, Issue-2, pp. 286-297
5. Ray, S., & Arora, A. (2016). Indian media & entertainment industry progress of Digitization in TV distribution industry analyst contacts, 1-8.
6. Kumar D. (2014). Trends and Potential of Animation and Visual Effects in Indian Television Industry. Amity School of Communication, Noida, Vol.1, pp. 56-59
7. IBEF (2016). Entertainment September 2016
8. Raina, R. C., & Noida, G. (2016). Impact of Spiritual TV Channels on the Behaviour , Work Performance and Habits of Viewers, (January), 360–363.
9. Report, G. M. (2015). Global Media Report 2015.
10. Implementation, P., Office, C. S., Unit, P., & Delhi, N. (2015). India in figures 2015.
11. Dutta D., (2009). Silver Screen at the doorstep of Legal Box Office, Indian Law Journal, Vol.2, No.3, pp.45-49.
12. FICCI-KPMG, (2016). The Future: now streaming | Animation, VFX and post-production.
13. Media and entertainment industry India tax landscape. (2016), (June).
14. Film L. I., (2010). Film industry in India: New horizons. www.mpaa-india.org.
15. Islam B., Shamsuddin A. K., and Choudhury M. R., (2013). Prospects and Challenges of the Animation Industry in Bangladesh, IJCGA, Vol.3, No.3, pp.13-20
16. McPhail T. L., (2010). Global Communication: Theories, Stakeholders and Trends, Wiley-Blackwell, UK
17. Singhal A., Doshi J.K., Rogers E. M. and Rahman S. A. (1988). The Diffusion of Television in india. Media Asia, Vol. 15(4): 222-229.
18. Thomas J. J. and Rayadurgam I., (2005). India's Next Economic Wave: Animation And Interactive Media Industry, ISAS, No. 9
19. Yoon H., (2008). The Animation Industry: Technological Changes, Production Challenges, and Global Shifts, Dissertation, The Ohio StateUniverstiy