

**THE FUTURE OF THE ANIMATION INDUSTRY – BOOM OR BUST?**

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**ABSTRACT**

*This is a short yet detailed study on the Animation Industry and its growth and future. The objective of the study is to trace the path the Animation Industry will, based on present trends and indices, and examine the requirements for sustained growth or direction are contained within the system. This study will be of value to students who wish to take up a career in this new and exciting field by providing them with a broad overview of the sectors that are leading, those that are trailing and if they are trailing, what are the reasons for slow and asymmetrical growth. We take a look at both the demand areas and the supply side, gaps as well as surpluses and conclude by surveying the future of the industry both from an economic standpoint as well a technical one. It is our intention to provide an objective report of the status of the industry, expectations and outcomes, so as to enable our youth to have a clear vision and understanding of their chosen area of vocation and the prospects therein. We begin with a definition of terms used with a categorization of different branches of animation and visual effects; concepts which are often used interchangeably, but which are far different in scope and function.*

**Keywords:**

Motion Graphics; Drivers; Animation; Visual effects; Gaming; Projections, Films

**GLOSSARY:**

**2D Animation:** Animation executed in two dimensions viz the x and y axis.

**3D Animation:** Animation that also includes the z-axis, which creates the illusion of depth.

**Rotoscoping:**

An animation technique in which animators trace over footage, frame by frame, for use in live-action and animated films.

**Compositing:**

(1) In *Video* terminology, compositing is the merging of two video tracks in order to produce a new single image frame from the combined tracks. The term may also be used to describe the overlaying of text and titles on video clips.

(2) In *Graphics*, compositing is the process of superimposing one image over top of another image; combined they create one new single image.

**Morphing:** is a special effect in motion pictures and animations where one image or shape changes (or morphs) into another through a seamless transition.

**Motion Graphics:** Motion Graphic Design is a subset of graphic design in that it uses graphic design principles in a filmmaking or video production context (or other temporally evolving visual medium) through the use of animation or filmic techniques.

**Gaming:** Gaming is the running of specialized applications known as electronic games, especially on machines designed for such programs and, in a more recent trend, using personal computers on the Internet, in which case the activity is known as online gaming (Whatis.com)

**VFX:** Visual Effects. A method of recreating through computer software, naturally occurring phenomena such as fires and earthquakes as well as man-made simulations such as machine gun fire and explosions.

**Methodology:**

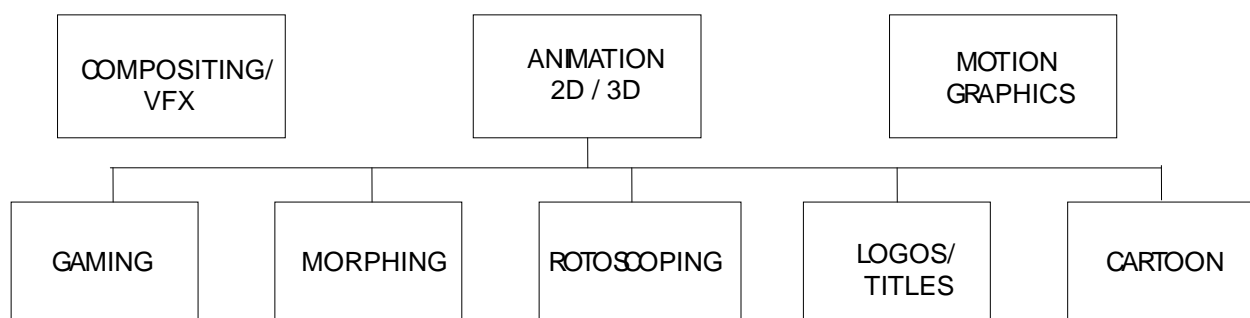
For this study we would be deriving our conclusions based on information gained from secondary data. Sources of information would be mainly articles from the Internet, contributions from individuals as well as from established websites. Other sources of information are eBooks and Books. As most information was available between the years 2007 – 2013, our study has evolved out of this time frame and would evaluate quantitative data as the sources for analysis and extrapolation.

Before we go on to take an in depth look at this industry, we need to understand what we mean by the term “Animation”. This word is also used in conjunction with other similar fields like

motion graphics, gaming etc all of which may be used in conjunction with other similar fields like motion graphics, rotoscoping, gaming etc all of which might involve components of animation, but they are all different fields with different functions and industry applications. But what do we mean by ‘Animation’?

The Random House Webster's Unabridged Dictionary (2010) defines animation as “Full of life or spirit”. The free online dictionary (<http://www.thefreedictionary.com>) defines it as “The act or process or result of imposing life, interest, spirit, motion or activity”. Animation can also be defined "The quality of being alive, active spirited or vigorous".

Thus animation represents the process of imparting or imbueing an inanimate object with life or activity or movement. The original word animate means ‘to move’. Hence, animation is inherently related to movement. Since the time of Walt Disney, a pioneer in the field of animation, the word has traditionally been linked to cartoons such as ‘Mickey Mouse’, ‘Tom and Jerry’, but in recent years it has grown to encompass many more specialized areas instead of just focusing on cartoon animation. Today, corporate clients speak of ‘Logo Animation’, ‘Product Animation’ and animated titles, charts and graphs. The Broadcast Industry talks of ‘Title Animations’ and ‘Opening sequences’ and also bundles in words like ‘Compositing’, ‘Motion Graphics’, ‘Morphing’ and ‘Rotoscoping’<sup>1</sup>. To add to the confusion, many film industry professionals talk of ‘2D’ and ‘3D’ animation. Animation also plays a huge role in computer games which are a rage amongst the youth of today. The table below shows the linkages between the various terms and concepts.



**Table 1.1 - Different branches of the animation industry**

As it is beyond the scope of this article to go into an explanation of all the terms described above, we will focus more on the future and growth of the Industry rather than the hardware and software that constitute this industry. The table below best summarizes the growth drivers that operated from the year 2008 to 2011 in the area of animation services and production:

All figures are in Crores	2008	2009	2010	2011
ANIMATION SERVICES	480	552	621	710
ANIMATION PRODUCTION	360	367	386	420
TOTAL	840	919	1007	1130

**Table 1.2 – Growth in Animation services and production (2008 – 2011)**  
(Source: FICCI Frames 2008-12: KPMG Report)

### **2008 – 2012: The Industry so far ...**

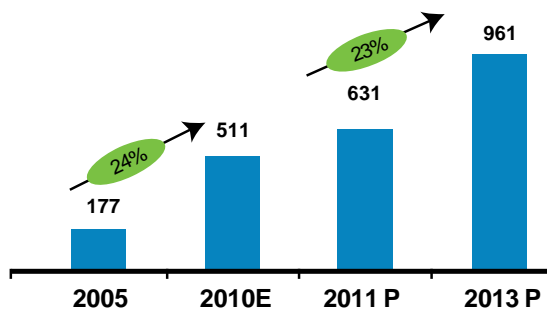
A preliminary glance will suffice to show that the quantum of Animation services and Animation production has been steadily rising. What are the factors that have contributed to this unprecedented spurt? Is it outsourcing from foreign clients? Has our own domestic production received a fillip from local markets? Is it only an Indian phenomena, or is it more global in nature? In the next section we take a look at many parameters that will help us arrive at some solutions to these questions.

### **Growth of the Animation Industry**

Any doubt as to whether this industry is stagnant or growing is clearly dispelled by the statistics highlighted in the previous table. Clearly, the Industry is growing. And not just arithmetically, but in a geometric progression. But how rapidly and for what length of time will this growth be sustained? Are they short term benefits only or will the growth patterns continue to be evidenced?

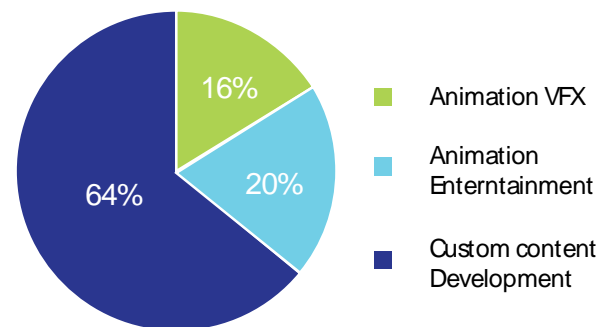
The table below shows current and expected market trends:

**Indian Animation Market (USD Mn)**



Source: Nasscom Industry Report, Deloitte Analysis

**Animation Industry: Split across segments**



Source: Industry Research

**Table 1.3 – Current and Expected Market Trends**

(Source: NASSCOM Industry Report, Deloitte Analysis, Media and Entertainment: Digital Road Ahead, 35)

The data above indicates that from 2005 to 2010, there was a 24% increase in the market, but that from 2010 to 2011, the rate of growth has been marginally slowing down coming to 23%. But this slight decline is negligible. The outstanding conclusion is that growth has jumped from 177 (\$ Mn) in 2003 to 961 (\$ Mn) in 2013. This means a *five fold increase* in the last twelve years. This is a staggering rate of growth, unmatched in any other industrial sector. As the above pie chart shows, a major section of the market is occupied by customer content development, a demand which is mostly created by foreign investors and companies. Animation for entertainment also constitutes a sizeable chunk of 20% . Thus the animation industry is expected to shape trends and growth drivers in both domestic (contributions: 25% in 2010) and outsourcing (contributions: 75% in 2010). Despite the economic slump, the animation industry has shown a 20% growth in the past year and NASSCOM has estimated that it will grow at a CAGR of 49% by 2012.

It is fairly self evident that the need of the animation industry at present is markedly buoyant. Let us now examine some factors that have contributed to the meteoric rise of the industry and the sustained level of optimism.

The first conclusion that we can draw, is that most of this demand is *film based*. Most animation projects are for films which means that the primary clients of animation films are Bollywood or regional based film production centers. We are all aware that Hollywood is the largest film production centre in the world and the demands and requirements of Hollywood affect not just local markets, but overseas markets as well. Huge block busters like “Titanic”, “Avatar”, “The Abyss” etc, Directed and Produced by legendary Hollywood director – James Cameron, and superhero productions like “Spiderman” and “Superman” have all anchored their strength and success on the stupendous mind bending effects that they have incorporated into these films. A natural corollary is that a trickle down effect would permeate into other film industries across the globe.

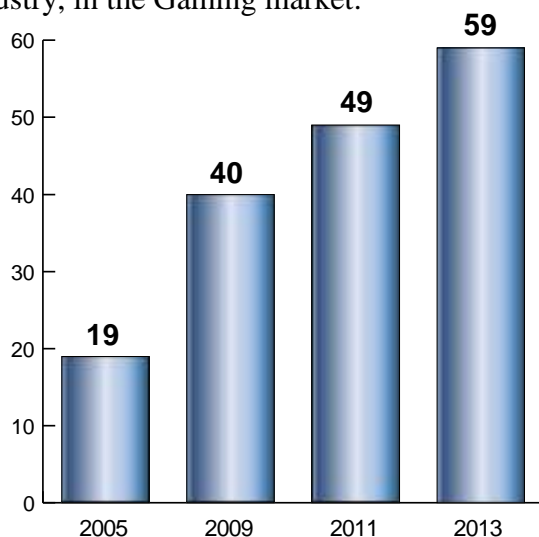
In terms of sheer output as well as technical excellence, India stands second to none in the film industry. In 2011, “Puss in Boots” was the first production in which ‘Dreamworks’ of Hollywood<sup>2</sup> relied on a Bangalore based animation studio, Technicolor India, to produce a full length feature film. Likewise, the ‘Rhythm and Hues’ team in Mumbai were also involved in an international Hollywood production. Most of the major clients are based abroad. More than half of the International clients are from the USA although there are some European and Asian clients too. Outsourcing is clearly the order of the day, a fact constantly reiterated in the 2012 bestseller – “The World is Flat” by Thomas Friedman<sup>3</sup>.

One of the reasons behind the massive brain drain to the US is the abundance of talent in IT and related sectors. India is a source of a cheap, highly skilled labour force and the first world countries are only too quick to capitalize on this fact! The gaming craze has become a worldwide phenomenon, spawning a new breed of animators who combine aesthetic sensibility with formidable technical and programming skills. The triple demand from the film, video and design industries has created a veritable ‘computer black hole’ which seems to absorb an innumerable number of talented high achievers.

### **The Gaming Industry...**

While most high quality gaming is targeted at the film segment of the market, and it's closest competitor, the Television Industry, the next biggest consumer of high quality animation is the Gaming Industry. Initially, just an offshoot of Broadcast and Web animation, Graphics and 2D/3D animation for computer games today, is a full fledged, stand alone, highly competitive industry. Considering the rate at which software is being developed, updated and marketed, the gaming industry naturally attracts the youngest and brightest of our youth, with most talent being concentrated in the 20 – 30 age group.

The growth of the Telecom, alternate and new media has only added to the pressure of this industry, and if it boasts of a high rate of turnover, it also carries with it the burden of a high rate of attrition. The following table gives an indication of the global footprint of the animation industry, in the Gaming market.



**Table 1.4 – Global Gaming Market (USD BN)**  
(Source: NASSCOM Industry Report, 2006 -2009)

Key segments for gaming are Console gaming, PC gaming, Mobile gaming and online gaming. In China, the market is poised to grow with a staggering CAGR of 40% during 2009-2015<sup>4</sup>.

The Indian gaming market is estimated at USD 239 million (In 2009), and expected to grow rapidly to reach USD 13 billion by 2013 showing a CAGR of 53%<sup>5</sup>.

In this whole market we need to consider that the largest contributor to gaming is the market revenues. A large percentage of consumer revenues is shared with International players like SONY Nintendo, Microsoft electronic Arts etc.

### **Demand from Bollywood and parallel film industries ...**

The astronomical and unprecedented growth in the animation industry is almost completely due to the exacting demands of the film industry. Recent years have seen a spate of Hollywood action thrillers like 'The Matrix' (Incidentally 'The Matrix' is considered to be the pioneer of a new genre of visual effects based films), the 'Spiderman' series and other superhero series like 'Hulk', 'Green lantern', 'Thor' etc. The boom of these superhero movies most of them inspired by Marvel comics as well as the onset of science fiction movies starting from 'Star Wars' and moving on to the more recent 'Avatar' and 'Tron', have triggered the phenomenal growth and demand for both Animation and Visual effects. On the domestic front, production of 2D or 3D Animation films has not taken a back seat either.

MOVIE NAME	RELEASED ON	PRODUCED BY
SULTAN, THE WARRIOR	AUGUST, 2010	Soundarya, Rajni kant
TOONPUR KA SUPERHERO	December, 2010	Kumar Mangal, Krishiba Dutta
KOOCHIE KOOCHIE HOTA HAI	December, 2010	Karan Johar, Dharma Productions
DELHI SAFARI	DECEMBER, 2012	Krayon Pictures
ARJUN	MAY, 2012	UTV
ALPHA AND OMEGA	FEBRUARY, 2010	Crest Animation
EKEH 2.0	JANUARY, 2010	Motion Picture Corporation and PNC Motion Entertainment

**Table 1.5 - ANIMATION HIT MOVIES RELEASED IN 2010 – 2012**

### **Animation Movies in the pipeline for 2010**

One of the most successful animation films in recent years is 'Roadside Romeo', a joint venture between Yashraj films and the Indian division of Walt Disney<sup>6</sup>. 'Hanuman' in 2005 was immensely popular too. Netting in huge distribution and sales revenue<sup>7</sup>. As we can see a considerable number of films are waiting to be produced and the numbers are increasing every year. So optimistic is the present market, that humungous investments are being made in each film, and we are rivaling Hollywood, not only in technical excellence, but in budgets as well. 'Arjun' to be produced by United Television or 'UTV' as they are popularly known, is to date the most expensive animation film ever made, costing approximately Rupees thirty crores<sup>8</sup>.

A more recent production, 'Ra-one' produced by Gauri Khan and produced by Eros International and Red Chillies entertainment, ran to packed houses on the very first week of its release. It cost rupees fifty three crores (Rs. 53 Cr) to produce out of which rupees fifteen crores (Rs. 15 Cr) was spent on publicity alone<sup>9</sup>.

### **Growth constraints on the Industry**

Mammoth productions such as 'Ra-One' and 'Arjun', produced at so rapid a pace, naturally implies that ancillary industries will receive a huge fillip. But in spite of such inflated demand and supply conditions, many surpluses still exist. Data studies have shown that the Indian outsourcing share of the global market for the gaming and the animation market is very low compared to the corresponding share in ITO and BPO industry.

On the supply side, there is the huge question of a skilled animation workforce. A comparison of our workforce with that of the west is irrelevant because of cultural anomalies; the fact remains that the quality of training resources supplied by training institutes in India is far from satisfactory.

Many of the animation and so called VFX institutes are purely commercial ventures, cashing in on the present craze amongst students; and offering very little by way of systematic and industry specific need-based curriculum.

Industry moghuls and scions of the animation industry have commented on the Indian Animation Market. Rishtee Kumar Batra , Assistant professor of Marketing, Indian School of Business,

Hyderabad says “ I think a lot of the Indian animated content lacks an appealing narrative”. She feels animation companies keep drawing their plots from mythology, beginning from Ramayan in 1992 to Hanuman in 2005.

Noted film Director and Producer and part owner of 'Whistling Woods International', Subhash Ghai, has a different story to tell. “The focus on animated films is more on technology” he says, and goes on to add “Form and Colour tend to take over the art of story telling - and therein lies the problem”<sup>10</sup>.

A quick local survey amongst college students revealed that many were put off by the change. “It is absurd” quipped on student.” By the time we enter the course and by the time we pass out, both the hardware and software are already outdated”. While this may be an exaggerated claim, we cannot deny the fact that the rate of obsolescence is remarkably high. Only the most creative and the most talented can survive in this high tension, high risk sector. And that is the daunting challenge to all who enter this highly competitive field.

Many believe that Indian audiences are not quite ready for animation as a source of entertainment.

Disney’s UTV put it quite succinctly – “Audiences in India are conditioned to paying to watch animation on the big screen. This has been evidenced in the poor theatrical performances of some of the best Hollywood titles and some of the best animation movies”<sup>11</sup>.

Another factor hindering the growth of the industry is the negligible government support either through tax rebates or through grants. Government run institutes are dismally few. Indian animation players lack information support with regard to training institutes.

A few of the well known training institutes are ‘The National Institute of Design’ in Ahmedabad and the Industrial Institute of Design at IIT, Mumbai. Neither offers a full time curriculum in Animation. In Delhi, a degree course in this subject is being run by the Indira Gandhi National Open University and while this course is fairly comprehensive, it is prohibitively expensive the steep tag of over three (3) lakhs for this course puts it beyond the reach of all, but the most affluent.

A greater majority of the student population, willing to embark on this career, have to contend with private institutes that run all the way from small commercial home run institutes to massive monoliths which although offering better facilities, training, infrastructure and placement, extract their full worth, monetarily.

At the end of the day, professionally run academia which offer intensive and comprehensive coaching at an affordable price, is still very much of a pipe dream.

Opinion polls hold that the gaming and animation industry still has a long way to go. Indian outsourcing share of the global market may still be rather small but it is neither lacking in infrastructure or in talent.

Running closely on the heels of the animation and Gaming Industry is the Visual effects or VFX industry. C. Bhrathi and C.D. Balaji, two research scholars have estimated that in 2011 the size of the domestic VFX market for both feature and Ad films is Rs. 1,000 million and for TV programs between Rs. 50 to 100 million<sup>12</sup>.

### **Future Trends in Animation and the Movies – A Technical note**

As we had seen earlier, hand drawn Cel animation has moved a long way from the Disney initiated Snow white and seven dwarfs and Mickey Mouse generation. While the demand for hand drawn and frame by frame animation will never die as long as talented sketching artists exist, and as long as audiences long to have that element of irregularity and 'natural feel' which CEL animation has, as opposed to the clinically 'squeaky clean' that computer generated animation innately possesses, it is now apparent that most animation will emanate from the end of a mouse or a graphics tablet.

Computerized keyframed motion graphics are the order of the day and demands are increasing too, which means that every animator has to be prepared to redo his painstakingly created animation if necessary, or at least retrace many steps before final output. This is only possible if logs are maintained and the entire process is fully reversible.

Furthermore, audiences have had a change of taste. A generation conditioned to the cartoon climate of 'Tom and Jerry', Mickey Mouse' and 'Donald Duck' are being replaced by a generation

brought up on the fare of 'Shrek', 'Ice Age', or 'Finding Nemo'. All of which use sophisticated 3D animation because of it's inherent realism. The shift in audience tastes is evident from a plethora of 3D films (with the viewer wearing 3D Glasses) that are now becoming the rage of emerging audiences, teen and pre-teen viewership.

The 3D craze in India actually began with 'Chota Chetan' the first officially recognized 3D film, produced by Navodya Films in 1984. 'Chota Chetan' was a box office success and earned around 60 crores in 1984<sup>13</sup>. More recently Director Vikram Bhatt's Raaz 3 (released in September, 2012) had Hollywood special effects director, Tom C. Hall, specially flown in from Los Angeles to supervise the Animation and VFX sequences. The Rakesh Roshan directed film 'Krrish 3', whose special effects were created by Red Chillies VFX and Pxion Studio, incorporated extensive 3D generated sets and characters, and cost a whopping Rs. 115 Crore to produce<sup>14</sup>. A large budget film by Indian standards, but still a fraction of the cost of a Hollywood action film laced with visual effects like the 'Spiderman' series.

With regard to new innovations in technology, industry geeks feel that that the day is coming very soon when we can see 3D films without glasses and after that the next most promising step is 'Holographic Technology'. This means that not only can we see 3D movies unaided but that we can also see the characters and scenes (figuratively speaking), 'float in front of our eyes' - and can actually move around these scenes in 3D space. Virtual reality tours as a source of future entertainment are also dangerously close to becoming common place events in our lives! Exciting examples of holographic displays have been visualised in films like 'Avatar', 'Thor' and 'Iron Man' to name but a few.

Nasser Peyghambarian of University of Arizona says that ever since he saw the holographic process in George Lucas's 'Star Wars', he dreamt of the day when he could make a holographic movie in 3D<sup>15</sup>. And if statements by other scientists and researchers worldwide are anything to go by, they are very close to achieving this dream. Something that was only envisioned in science fiction movies some years back!

**Conclusion:**

The Indian animation and Gaming Industry today is just burgeoning. But the growth potential is high. At present it's market share of 0.6% is low compared to the worldwide animation and gaming market. But the increasing number of coproduction deals, increasing focus on developing original content and own IPs are all indicators of positive growth drivers. Moreover, setting up of several plants and recent investments from private equity and other funds, all go to prove that the prevailing mood is one of optimism and confidence.

Over the next 5 years, the industry is projected to grow at a compound annual growth rate of 13% to reach the size of 24.04 billion by 2014<sup>16</sup>. Additionally, the gaming segment, both on line as well as off line, is a fast growing sector, playing a seminal role in developing India's domestic media and entertainment industry. Incentives from the Government and Industry and increased pressure of International players can all help make this industry, bloom expand and be a major recruiter of new and brilliant talent that are expectantly looking forward to make a thriving career in this fascinating upcoming sector.

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