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9B19M130

Avatar: Product Development in Creative Industries[[1]](#endnote-1)

Ekaterina Kiryushina and Professor Yasser Rahrovani wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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The initial approval of the three dimensional (3D) science fiction (sci-fi) movie *Avatar* took place in January 2007, yet the movie had made only limited progress four months later.[[2]](#endnote-2) *Avatar* had already had multiple issues, including a schedule delay and a budget overrun. James Cameron, the producer of *Avatar*, had requested additional time to develop a new motion-capture technology and a budget increase to facilitate a breakthrough, and this had contributed to the ambiguity and uncertainty.[[3]](#endnote-3) Studio executives had reasons to doubt the appeal of the proposed plot and might reasonably have been worried that the audience would not like the story of a young, disabled Marine who inhabited the body of a blue-skinned, 10-foot creature on the moon Pandora, fell in love, and then fomented a rebellion.[[4]](#endnote-4) Given its large budget, the movie had great potential to become one of the biggest money losers in the history of the industry.[[5]](#endnote-5) For studio executives, the question still remained years later in 2019: should the project have been cancelled or not?

Film Production Industry

From the 19thcentury to 2007, the film industry had evolved from short, silent, black-and-white clips to feature-length, surround-sound, 3D movies. Revolutionary film advances, such as three-colour camera, Movietone (an optical method for capturing sound on film), and animation had altered the industry and made movie watching a common pastime around the globe.[[6]](#endnote-6) In 2005, the annual industry revenue reached approximately $39 billion;[[7]](#endnote-7) more than 4,500 movies released that year generated box office sales of more than $8 billion.[[8]](#endnote-8) By 2011, some estimates suggested that the industry had produced about 500,000 movies.[[9]](#endnote-9)

Throughout the development of the film industry, many genres had emerged, including comedy, action, adventure, romance, fantasy, and sci-fi. Such genre abundance had allowed the film industry to target a wide audience, characterized by a variety of demographic factors and a diversity of interests, and to become one of the leading forms of entertainment in the 20th century. While the industry experienced numerous changes due to technological advances in the 21stcentury, film production was expected to remain in high demand in the future.[[10]](#endnote-10)

The film and video production industry experienced volatile profits. The revenue stream was strongly dependent on movie viewing at movie theatres, which correlated with viewers’ disposable incomes and spending patterns. The industry’s seasonality (e.g., holiday releases and summer blockbusters) exacerbated revenue volatility since short-term changes in viewers’ spending patterns could have a substantial impact on the industry’s financial performance in any given year. In addition, the industry exhibited high investment costs, associated with movie editing software, shooting equipment, and contracts with highly skilled industry specialists, including makeup artists, stylists, and actors. While a growing number of film producers had started to rent shooting equipment to reduce total costs, upfront capital investments still represented a large portion of total costs and required studios to recoup these costs within a short theatre release window.[[11]](#endnote-11)

The industry relied on blockbuster hits as studios invested more significant amounts in fewer movie titles. The reasons behind this tendency were several. First, blockbusters captured a considerable share of industry revenues and profits. Second, while there was no safe way to operate in the film industry, many studios considered a blockbuster approach a reliable strategy. However, the industry’s increased reliance on blockbuster investments could also enlarge its susceptibility to rapidly changing consumer trends. Since viewers’ tastes were volatile and no factors could guarantee movie success, predicting a movie’s success became extremely difficult. As William Goldman, the American novelist and screenwriter, said, when it came to predicting which movies would succeed, “Nobody knows anything.”[[12]](#endnote-12) At the industry level, a handful of titles (blockbusters) won the vast majority of industry revenues. If a blockbuster movie flopped and did not gain sufficient revenues to recover the production and promotional investments, the consequences were disastrous for the studio.[[13]](#endnote-13)

Film Production Process

Traditional film production had seven stages:

*Development*: The film production process started with the writing of a script, which could be derived completely from scratch or could be based on a book, a comic, a video game, or an existing script. The script type could vary from breakthroughs, original scripts (e.g., *Toy Story* or *A Beautiful Mind*), to sequels of past blockbuster movies (e.g., *Toy Story II*, which was based on the successful *Toy Story*), or intellectual property–licenced tie-ins (e.g., the *Harry Potter* movie, which leveraged outside intellectual property from the *Harry Potter* novels).

*Pre-Production*: This stage was essentially a preparation step before the movie shooting began and included the planning of the location, schedule, budget, and film crew to set the entire vision of the movie.

*Production*: The production stage involved the actual movie production work and required coordination among various crew members, including actors, directors, producers, camera assistants, prop masters, makeup artists, and others.

*Principal Photography*: During this step, which was considered part of the production process, the movie director was responsible for facilitating smooth collaboration between the cast and the rest of the crew in order to shoot all movie scenes from the script.

*Wrap*: This process took place after the principal photography ended, as the film production team left the shooting location, the set was cleared, and the props and equipment were returned.

*Post-Production*: Movie scenes were reviewed and edited, and the sound effects, music, visual effects, and other movie elements were developed and added to finalize the movie.

*Distribution*: The movie producer was responsible for establishing distribution deals with cinemas and other distribution channels—including Netflix, Amazon Prime, and HBO—to release the movie to the audience.[[14]](#endnote-14)

Key Players

The film industry consisted of a few main players: movie production companies, post-production companies, movie distribution companies, and studios. A few additional players included celebrity agencies to negotiate contracts with actors, and market research firms to estimate the feasibility of the movies.

*Movie Production Companies*: An independent movie production company was engaged to develop scripts, invest in talent (such as actors, directors, and writers), raise money for the movie production, and actually make the movie. These production companies were significantly smaller than studios and released 20 per cent of all movies in 2005.[[15]](#endnote-15)

*Post-Production Companies*: A post-production company edited the movies, cut scenes, and added visual, music, and other effects to the movie. The post-production companies were characterized by a high number of niche, specialized firms.[[16]](#endnote-16)

*Movie Distribution Companies*: A distribution company marketed the movie and determined the release date and the method used to make the movie available to the public (e.g., movie theatre, digital versatile disc [DVD], download, television program, or other means). Distribution companies that possessed distribution networks engaged in distribution independently; otherwise, they partnered with theatrical exhibitors and other sub-distributors.[[17]](#endnote-17)

*Studios*: A studio was a large production company that was vertically integrated and could control all steps of the movie production process, from development to distribution. The biggest studios were Warner Brothers Entertainment Inc. (Warner Bros.), The Walt Disney Company (Walt Disney), TwentiethCentury Fox Corporation (20th Century Fox), Paramount Pictures Corporation, Sony Pictures Entertainment Inc., and Universal Studios (Universal), which together released 80 per cent of all movies in 2005.[[18]](#endnote-18)

Film Categories

Live-Action Film

Films in the live-action film category included scenes with real people or animals.[[19]](#endnote-19) This category was the first to appear in the film industry since the earliest movies, created in the 19th century, showed live events, brief comedies, local scenes, and activities.[[20]](#endnote-20) Some of the most renowned live-action movies of all time included *Titanic*, *Untouchable*, *Inception*, and *The Hunger Games: Catching Fire*.[[21]](#endnote-21)

Animated Film

Films in the animated film category used various animation techniques, including computer-generated imagery and stop motion, to transform pictures into moving images.[[22]](#endnote-22) The first animated movie was developed in 1908 by a French animator, Émile Cohl, who stitched together 700 images and imitated a stick figure encountering different objects.[[23]](#endnote-23) Animation techniques had experienced rapid evolution since then and provided movie enthusiasts with many animated masterworks, including *Finding Nemo*, *Ratatouille*, and *Toy Story*.

Live-Action Animated Film

Live-action animated film combined live-action filmmaking with animation. The first live-action animated movies that involved interactions between animated characters and the real world were Max Fleischer’s cartoons, where animated characters were drawn over real-world images. Inspired by Fleischer, Walt Disney created live-action animated cartoons, *Alice* *Comedies*, in which a live-action character, Alice, interacted with other animated characters. Disney’s experience inspired other producers to experiment with both live-action and animation simultaneously, and this gave rise to a new, entirely different film category.[[24]](#endnote-24)

Throughout the decades, movie production companies experimented with various animation techniques, which achieved accurate positioning and realistic interactions between characters.[[25]](#endnote-25) With the rise of computer animation from the mid-1960s to the 2000s, combining live-action and animation became more common. Some of the most well-known live-action animated movies included *Mary Poppins*, *The Mask*, and *Casper*.[[26]](#endnote-26)

Besides the traditional film production stages, a live-action animated movie also contained animation-specific production steps. The development stage involved animation storyboarding, where the look and actions of each character were designed. The production stage involved animating the movie scene by scene and shot by shot. Finally, in the post-production stage, colour grading, foley, sound mixing, and stereoscopy had to be added to complete the movie.[[27]](#endnote-27)

twentieth Century Fox corporation (20th century Fox)

Twentieth Century Fox, one of the largest US movie studios, was formed by the merger of Twentieth Century Pictures and the Fox Film Corporation. During its early years, 20th Century Fox produced screen biographies, westerns, musicals, and religious epics. The studio achieved meaningful success; however, some of its movies were criticized for lacking the style and excitement of movies produced by other established studios, notably Warner Bros. and Metro-Goldwyn-Mayer Studios Inc. (MGM). In 1963, 20th Century Fox experienced a disastrous failure after the box office setback of its enormously expensive epic *Cleopatra*. In response, Darryl Zanuck, the founder of 20th Century Fox, took charge of the decision-making power at the studio and risked its remaining fortunes on another epic, *The Longest Day*, which turned out to be a huge success and kept the studio alive. Twentieth Century Fox grew into an established, well-known studio and released many successful movies, including *Home Alone, Speed,* and *Titanic*—the first film to surpass $1 billion at the global box office.[[28]](#endnote-28)

The Approval Process

Major movie studios used the approval process to evaluate a decision to move forward with a movie project. This process identified risky projects at all stages of movie production. In the early stages, the process was used to review the movie concept and grant the initial approval; in later stages, the approval process was used to revise the initial decision and determine whether to make further investments, suspend additional investments, or entirely cancel the project. Therefore, the approval process provided studio management with significant control over the fate of a project before and after the initial approval.[[29]](#endnote-29)

Similar to any other major Hollywood studio, 20th Century Fox had its own approval process. In the 20th Century Fox studio, the movie chair, Stacey Snider, was solely responsible for approving the studio’s future releases; however, she closely consulted with two other colleagues, James and Lachlan Murdoch, on movies budgeted between $125 million and $150 million. The studio’s specialty division, Fox Searchlight, was allowed to go ahead with low-seven-figure acquisitions without having to seek Snider’s approval; however, a more expensive project required a sign-off from Snider.[[30]](#endnote-30) The approval process was part collaborative, part dictatorial, and overall, complex. Thorough project reviews and market forecasts were essential to reducing movie project risks and achieving commercial success at 20th Century Fox studio.[[31]](#endnote-31)

Phase 1: Concept Review

While current studio business models were significantly more complex than previous ones, many fundamental determinants for a movie to gain approval remained the same. The studio chiefs asked many questions about the story:

Will the story establish an emotional connection with a broad audience? Does the story feature relatable heroes? Is there an enlightening lesson at the end of the story? Will the story make the audience smile, cry, think, or wait in anticipation of what will happen next? Is there a director who would be willing to work with this story? Will the plot attract the necessary cast?[[32]](#endnote-32)

One of the most significant factors that affected a studio chief’s decision to approve a movie project was the movie’s marketing. Prior to granting approval, studios wanted to understand how to market the movie and to whom. The most financially successful movies (e.g., *Ice Age* and *Night at the Museum*) appealed to a broad audience that consisted of viewers of all ages and all genders; wide appeal allowed studios to achieve high box office numbers.[[33]](#endnote-33) Accordingly, marketers tried to estimate potential sales of a movie based on the recent sales and market reactions to similar genres or similar movies. However, predicting box office sales and marketing forecasts was difficult, especially in the early stages of film production. Since moviegoers had to watch a full movie to determine their level of satisfaction, accurate box office forecasts could be produced only after the movie was released.[[34]](#endnote-34) In practice, the returns for many blockbusters (including *Star Wars* and *Titanic*) were underestimated, while the returns for many unsuccessful movies (including *The Lone Ranger* and *King Arthur: Legend of the Sword*) were overestimated.[[35]](#endnote-35)

Finally, budget considerations were a significant factor in the approval process because film production was generally capital intensive and required significant upfront investment.[[36]](#endnote-36) However, research showed that high budgets did not guarantee movie success. When high-budget movies did make a profit, their return on investment (ROI) was found to be modest, compared to the potential ROI of low-budget films.[[37]](#endnote-37) For instance, Universal’s movie *Waterworld* had an enormous budget of $175,000,000 but grossed only $88,246,220 in the United States.[[38]](#endnote-38) In contrast, the movie *Paranormal Activity* had a production budget of only $15,000 but grossed $107,918,810 in the United States, resulting in a 434,000 per cent ROI.[[39]](#endnote-39) This factor, coupled with significant uncertainty in box office revenue, forced the approval committee to pay close attention to the forecasted budget of a movie.[[40]](#endnote-40)

For an average movie that was released both domestically and internationally, the cost to effectively market the picture was extremely high—approximately $40 million.[[41]](#endnote-41) Studios needed to assess the movie’s commercial success and consider how much revenue it would generate domestically versus internationally and through various distribution channels, including home entertainment, free TV, pay TV, international outlets, and pay-per-view in hotels and airlines. All of these factors influenced a studio’s decision to approve a movie project.

Phase 2: Pre-Production Assessment

In a hybrid live-action animated movie, both the live-action and the animated components had to be approved prior to being included in the movie. For the animation component, studios made multiple iterations through storyboards, character modelling, animation tests, and other processes to realize their vision. If a story or a character did not align with the vision, studios could make necessary changes, even if the movie was already in production—producers facilitated and controlled this process.[[42]](#endnote-42) However, the live-action component did not offer that flexibility. Once a movie scene was shot, studios were locked into using the footage they had on hand since all the sets had been cleared, and the crew had moved on.[[43]](#endnote-43)

In order to leverage the control and flexibility that animation offered, producers shot and approved the live-action piece first and then created animation on top of the live-action footage.[[44]](#endnote-44) While the production of the live-action component was straightforward and followed the general film production process described earlier, the animation component also included a set of animation-specific steps.

First, the storyboard was created with images in the form of a comic strip, which was used to assist in visualizing the pictures and communicating ideas. The storyboard helped develop the storyline and was an important part of the animation process. Once the producer approved the storyboards, they were submitted to the layout department, which then worked with the director to design locations and costumes. After this process was completed, the director and the team began to stage the scenes where they showed characters’ positions within each shot. The next step was creating model sheets, which were precise drawings containing all the possible facial expressions that characters could make and all of the possible postures that they could adopt. Model sheets were used to accurately transmit character details and maintain consistency in characters’ designs. Finally, simplified mock-ups called “animatics” were created by the pre-visualization department after the model sheets were drawn. These animatics provided a better understanding of the motion and timing of complex animation scenes.[[45]](#endnote-45)

In this trial-and-error process, animation required several iterations and continuous feedback throughout all steps of the production process, so a faster rate of iteration could lead to a better result. On average, the animated component took two years to complete.[[46]](#endnote-46)

Phase 3: Prototype Assessment

Producers of live-action animated movies typically outsourced the animated portion of the film to specialized animation production companies overseas—in Taiwan, Korea, Singapore, Japan, or the Philippines—to decrease the overall cost of production. At those production companies, the local team of animation specialists worked on the first complete animation prototype while a facility supervisor kept track of the progress and communicated with the main studio in the United States. On completion, the prototype was delivered to the producer in the main studio in parts (usually in thirds). After watching the first part, the producer typically called for scene retakes, as some scenes could fail to adhere to the producer’s vision. The process went back and forth until the prototype met the requirements and satisfied the producer. The initial feedback appeared to be the most challenging; however, once the animators got past the learning curve, the process ran smoothly. As soon as the production prototype was finished and the studio gave approval, post-production components were added and the final mix was completed.[[47]](#endnote-47)

Phase 4: Test Screenings

Once rough animation was finalized and enough colour scenes were cut in, a few test screenings were conducted to allow the audience to get a sense of the movie. The goal of test screenings was to obtain feedback from the target audience about the plot, the characters, and the viewers’ overall emotions after watching the movie. Based on the feedback, studios made minor revisions, which could include adding, deleting, or editing scenes. Once all changes were made and the ultimate approval was granted, the picture could be locked.[[48]](#endnote-48)

The Role of the Approval Process

The approval process played a significant role in controlling movie project outcomes and decreasing inherent risks of film production. The major risk areas in film production were production, reputation, and development risks. Given the time and budget constraints, the coordination of various film production processes caused some production risk. Reputation risk emerged when producers could not ensure that the cast would deliver satisfactory performances. Finally, development risk related to the unpredictable demand of the movie’s investors and distributors who could not know if the finished movie would meet their expectations.[[49]](#endnote-49)

The approval process was imperative to controlling and reducing these risks. In order to reduce production risk, a movie chair evaluated the budget and the timeline in relation to the movie project idea at the concept review stage. However, while many feasible movies achieved high box office numbers, others did not. For example, the movie *Blade Runner 2049*, which starred Ryan Gosling and Harrison Ford, resulted in an $80 million loss, despite gaining approval at the first stage.[[50]](#endnote-50)

In order to decrease the risks associated with personnel, studios preferred to seek out movie stars during the concept review stage. Since movie stars came with an inbuilt audience, studios were able to both anticipate a large movie viewing and decrease the contractual risk. However, some movies turned out to be unsuccessful despite their well-known and experienced cast. For example, despite employing the well-known movie star Johnny Depp, *The Lone Ranger* incurred a loss of $98 million and received negative feedback from critics and moviegoers.[[51]](#endnote-51)

To limit the financial risk and ensure commercial success, a studio could find investors who would cover a part of the budget or distributors who would pre-purchase the exploitation rights. However, when the movie was in the development process, lenders and investors could not be offered any collateral apart from the rights to the script. Thus, if equity funding could not be easily secured, the approval committee had to pay close attention to the budget feasibility and revenue potential of a movie project at the first stage of the process.[[52]](#endnote-52)

While studios eagerly used the approval process to mindfully invest in promising movie projects, the approval process could not always guarantee specific outcomes. For instance, despite getting approval at all stages of the process, 20th Century Fox’s movie *Home Alone 3* experienced a disaster at the domestic box office, earning only $30 million with a production budget of $32 million. On the other hand, the movie *Star Wars* had major difficulties passing through the approval process, was at risk of being cancelled, but turned out to be a tremendous success.[[53]](#endnote-53)

the *Avatar* Story

The movie *Avatar* was highly anticipated by movie enthusiasts and critics, who were waiting for a sensational blockbuster in the world of adventure and sci-fi. Moviegoers were excited about the movie release—feelings some shared in comments such as, “I don’t think I’ve been so excited for any movie ever!,” “The film’s technological advances—including CGI [computer-generated imagery] as well as the 3D and IMAX [image maximum] formats—are much of the appeal,” and “*Avatar* sounds like a brilliant film, definitely would like to see it soon!” Critics also had optimistic expectations about the movie and said things like, “I’m hoping that James Cameron’s *Avatar*, opening in December, will be a terrific film,” and “Cameron creates another world entirely in *Avatar*, and it’s very much a place worth visiting.”[[54]](#endnote-54)

However, some movie critics expected *Avatar* to flop. First, *Avatar*’s budget had ballooned to $425 million, which was six times larger than the average film production budget.[[55]](#endnote-55) Also, the movie was based on a new digital technology that had not been used before—and critics expected anything from a legendary breakthrough to a disastrous failure. Moreover, the movie was expected to have a three-hour running time, which was perceived as too long and unnecessary by various film professionals. Finally, some movie critics were uncertain about the movie’s plot and the use of 3D “blue cat people” as the main characters.[[56]](#endnote-56)

In addition, some movie critics challenged James Cameron’s past experiences and his reputation. While Cameron was a renowned world-class producer who had directed and produced *The Terminator*, *Titanic*, and other well-known movies, he frequently went over the proposed budgets and production deadlines. For instance, *Titanic* ran $100 million over budget and appeared to be the most expensive movie ever made at that point.[[57]](#endnote-57) Additionally, *Titanic* was subject to multiple shooting-schedule and release-date delays. Even Cameron doubted his movie’s chances; he recalled: “We labored the last six months on *Titanic* in the absolute knowledge that the studio would lose $100 million. It was a certainty.”[[58]](#endnote-58)

Given all the risks involved in producing *Avatar*, Cameron found it challenging to get the movie approved. When he approached 20th Century Fox and gave his first pitch to the studio, his proposal got turned down, as Fox executives did not see a potential in Cameron’s “alien story.” He returned with a 153-page script; however, again Fox executives “acted like it was complete shambles,” Cameron recalled. He explained that he would normally make changes to the dialogue after the actors started rehearsing, but the studio executives “had all forgotten that’s how I work.” Cameron rewrote the script one more time, but it was not approved, again. After all these attempts, Cameron decided to approach Disney studio, which made 20th Century Fox reconsider its decision regarding the movie and give *Avatar* its approval shortly after the incident.[[59]](#endnote-59) Some critics perceived 20th Century Fox’s decision as rapid and impulsive.[[60]](#endnote-60)

Decision

In the midst of schedule delays and budget overruns, studio executives found themselves in a challenging situation. They had already given initial approval to *Avatar* after considering all the arguments for producing the movie. Advanced 3D technology and effects, unique storyline, large audience appeal, Cameron’s previous track record, and other studios’ competitive interest in the movie might have played essential roles in the studio’s decision to go ahead with the initial movie approval.[[61]](#endnote-61)

However, in the middle of the prototype assessment stage, the studio was facing multiple risks in *Avatar*’s production. First, Cameron was still in the process of developing his new digital technology, upon which *Avatar* would heavily depend. Twentieth Century Fox could be incurring a significant risk by relying on a breakthrough animation technology that had not yet been developed.[[62]](#endnote-62) Also, while Cameron had a strong vision for *Avatar* and was truly committed to creating an evolution in movie making, he was known as a true perfectionist among his colleagues—and perfectionism could have implied further budget increases and schedule delays for 20th Century Fox.[[63]](#endnote-63) Finally, the approval process indicated some potential risks for *Avatar*: the movie could fail to appeal to a large audience and consequently realize a poor ROI if the plot did not draw enough attention from moviegoers.[[64]](#endnote-64)

On the other hand, 20th Century Fox executives could have relied on Cameron and trusted his unique management style. He was known for long hours, challenging tasks, and sharp criticism; everyone who had ever worked with Cameron had a few bitter stories to share about him. However, he was known for his hands-on approach, as he always helped his team members with all sorts of tasks, including menial activities such as holding the camera, sketching the drawings, and applying makeup. Cameron showcased passion and commitment in all projects he undertook and did extraordinary things to realize his vision, from breaking new ground and developing new technology to spending multiple hours on the smallest details. While he was often criticized for his short-tempered behaviour and redundant perfectionism, his commitment and perseverance served as one of the key factors in the studio’s decision-making process.[[65]](#endnote-65)

Should 20th Century Fox have continue with *Avatar* and relied on Cameron’s plan, or should it have cancelled the project before it was too late? What criteria should studio executives have relied on when making this decision?

ENDNOTES

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