

PIXAR

Since Pixar launched *Toy Story* in 1995, it has released 17 other films, each of which has debuted at the top of the box office charts (see Exhibit 1). Its films have received critical acclaim, with 10 Academy Award nominations and eight wins for Best Animated Film. This is far more than any other studio since the category was added in 2001.

The only exception to its stellar record was *The Good Dinosaur*, which was released in late 2015, after Pixar had yanked it from release the previous year. The firm had

pulled the film away from its director as it began to search for new ways to rework the story. Pixar had done this before, and insists that rethinking an animated film is not uncommon, especially when you are working with fresh, untested ideas. In the end, although *The Good Dinosaur* worked well as family entertainment, it did not quite meet the lofty standards for originality and creativity set by Pixar's other films.

The continued success of its films has put aside doubts about the ability of Pixar to maintain its creativity after being acquired by the Walt Disney Company in 2006 for the hefty sum of \$7.4 billion. The deal was finalized by the late Steve Jobs, the Apple Computer chief executive, who then served as the head of the computer

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EXHIBIT 1

Pixar Films

All of Pixar's films released to date have ended up among the top animated films of all time based on worldwide box office revenues in millions of U.S. dollars.

Rank	Title	Year	Revenue (\$US millions)
1	Toy Story 3	2010	\$1065
2	Finding Nemo	2003	\$940
3	Monsters University	2013	\$745
4	Up	2009	\$735
5	The Incredibles	2005	\$630
6	Ratouille	2007	\$620
7	Monsters, Inc	2002	\$575
8	Cars 2	2011	\$560
9	Brave	2012	\$555
10	Wall-E	2009	\$535
11	Toy Story 2	1999	\$515
12	Finding Dory	2016	\$485
13	Cars	2006	\$460
14	Toy Story	1995	\$390
15	A Bug's Life	1998	\$365
16	Inside Out	2015	\$356
17	The Good Dinosaur	2015	\$123

Source: *IMDB, Variety*.

animation firm Pixar. Disney CEO Bob Iger worked hard to acquire Pixar, whose track record made it one of the world's most successful animation companies. Both Jobs and Iger were aware, however, that they must protect Pixar's creative culture while they carried it over to Disney's environment.

Jobs and Iger were convinced that Pixar's link with Disney would be mutually beneficial for both firms. In Jobs's words: "Disney is the only company with animation in their DNA."¹ John Lasseter, who oversees all story development at Pixar, denied any negative effects from Disney's acquisition of his firm and insisted that Pixar's films were increasingly being subjected to higher standards by critics because of its string of successes. If some of the studio's films had fallen a bit short, this could be attributed to some growing pains rather than compromising on its standards under Disney.

Ed Catmull, president of Pixar, reiterated his firm's commitment to take whatever steps were necessary to put out the best possible films. "Nobody ever remembers the fact that you slipped [up in] a film, but they will remember a bad film," he said.² Catmull's remarks indicated that Pixar was dedicated to its lengthy process of playfully crafting a film to replace the standard production line approach traditionally pursued by Disney. This contrast in culture was best reflected in the Oscars that employees at Pixar proudly display, but which someone dressed in Barbie doll clothing.

After having won another Academy Award for Best Animated Film for *Inside Out* the previous year, Pixar failed to receive a nomination in January 2017 for *Finding Dory*. The sequel was heralded by critics, however, and went on to become one of the biggest box office hits of 2016.

Pushing for Computer Animated Films

The roots of Pixar stretch back to 1975 with the founding of a vocational school in Old Westbury, NY, called the New York Institute of Technology. It was there that Edwin E. Catmull, a strait-laced Mormon from Salt Lake City who loved animation but couldn't draw, teamed up with the people who would later form the core of Pixar. "It was artists and technologists from the very start," recalled Alvy Ray Smith, who worked with Catmull during those years. "It was like a fairy tale."³

By 1979, Catmull and his team decided to join forces with famous Hollywood director George W. Lucas, Jr. They were hopeful that this would allow them to pursue their dream of making animated films. As part of Lucas's film-making facility in San Rafael, California, Catmull's group of aspiring animators was able to make substantial progress in the art of computer animation. But the unit was not able to generate any profits and Lucas was not willing to let it grow beyond using computer animation for special effects.

In 1985 Catmull finally turned to Jobs, who had just been ousted from Apple. Jobs was reluctant to invest in a firm that wanted to make full-length feature films using computer animation. But a year later, Jobs did decide to buy Catmull's unit for just \$10 million, which represented

a third of Lucas's asking price. While the newly named Pixar Animation Studios tried to push the boundaries of computer animation over the next five years, Jobs ended up having to invest an additional \$50 million—more than 25 percent of his total wealth at the time. "There were times that we all despaired, but fortunately not all at the same time," said Jobs.⁴

Still, Catmull's team did continue to make substantial breakthroughs in the development of computer-generated full-length feature films (see Exhibit 2). In 1991, Disney ended up giving Pixar a three-film contract that started with *Toy Story*. When the movie was finally released in 1995, its success surprised everyone in the film industry. Rather than the nice little film Disney had expected, *Toy Story* became the sensation of 1995. It rose to the rank of the third highest grossing animated film of all time, earning \$362 million in worldwide box office revenues.

Within days, Jobs had decided to take Pixar public. When the shares, priced at \$22, shot past \$33, Jobs called his best friend, Oracle CEO Lawrence J. Ellison, to tell him he had company in the billionaire's club. With Pixar's sudden success, Jobs returned to strike a new deal with Disney. Early in 1996, at a lunch with Walt Disney chief Michael D. Eisner, Jobs made his demands: an equal share of the profits, equal billing on merchandise and on-screen credits, and guarantees that Disney would market Pixar films as they did their own.

Boosting the Creative Component

With the success of *Toy Story*, Jobs realized that he had hit something big. He had obviously tapped into his Silicon Valley roots and turned to computers to forge a unique style of creative moviemaking. In each of its subsequent films, Pixar continued to develop computer animation that allowed for more lifelike backgrounds, texture, and movement than ever before. For example, since real leaves are translucent, Pixar's engineers developed special software algorithms that both reflect and absorb light, creating luminous scenes among jungles of clover.

In spite of the significance of these advancements in computer animation, Jobs was well aware that successful feature films would require a strong creative spark. He understood that it would be the marriage of technology with creativity that would allow Pixar to rise above most of its competition. To get that, Jobs fostered a campus-like environment within the newly formed outfit similar to the freewheeling, charged atmosphere in the early days of his beloved Apple, where he also returned as acting CEO. "It's not simply the technology that makes Pixar," said Dick Cook, former President of Walt Disney studios.⁵

Even though Jobs played a crucial supportive role, it was Catmull who was most responsible for ensuring that the firm's technological achievements created synergies with its creative efforts. He has been the keeper of the company's unique innovative culture, which has blended Silicon Valley

EXHIBIT 2 Milestones

1986	Steve Jobs buys Lucas's computer group and christens it Pixar. The firm completes a short film, <i>Luxo Jr.</i> , which is nominated for an Oscar.
1988	Pixar adds computer-animated ads to its repertoire, making spots for Listerine, Lifesavers, and Tropicana. Another short, <i>Tin Toy</i> , wins an Oscar.
1991	Pixar signs a production agreement with Disney. Disney is to invest \$26 million; Pixar is to deliver at least three full-length, computer-animated feature films.
1995	Pixar releases <i>Toy Story</i> , the first fully digital feature film, which becomes the top-grossing movie of the year and wins an Oscar. A week after release, the company goes public.
1997	Pixar and Disney negotiate a new agreement: a 50-50 split of the development costs and profits of five feature-length movies. Short <i>Geri's Game</i> wins an Oscar.
1998–99	<i>A Bug's Life</i> and <i>Toy Story 2</i> are released, together pulling in \$1.3 billion through box office and video.
2001–04	A string of hits from Pixar: <i>Monsters Inc.</i> , <i>Finding Nemo</i> , and <i>The Incredibles</i> .
2006	Disney acquires Pixar and assigns responsibilities for its own animation unit to Pixar's creative brass. <i>Cars</i> is released and becomes another box office hit.
2008	<i>Wall-E</i> becomes the fourth film from Pixar to receive the Oscar for a feature-length animated film.
2009	<i>Up</i> becomes the fifth film from Pixar to receive the Oscar for a feature-length animated film.
2011	<i>Toy Story 3</i> receives five Oscar nominations and wins two, including one for Best Animated Film.
2011	Steve Jobs dies, leaving Ed Catmull in charge.
2013	<i>Brave</i> becomes the seventh film from Pixar to receive an Oscar for Best Animated Film.
2015	<i>Inside Out</i> becomes the eighth film from Pixar to receive an Oscar for Best Animated Film.
2016	<i>Piper</i> received a nomination for an Oscar for best animated short film.

Source: Pixar.

techies, Hollywood production honchos, and artsy animation experts. In the pursuit of Catmull's vision, this eclectic group transformed their office cubicles into tiki huts, circus tents, and cardboard castles with bookshelves stuffed with toys and desks adorned with colorful iMac computers.

One of Catmull's biggest achievements has been the creation of what is called the Pixar Braintrust (see Exhibit 3). This creative group of employees, which includes directors, meets on a regular basis to assess each movie that the firm is developing and offer their ideas for improvement. It is such emphasis on creativity that has kept Pixar on the cutting edge. Each of their films has been innovative in many respects, including of course making the best possible use of computer animation. "They're absolute geniuses," gushed Jules Roman, co-founder and CEO of rival Tippett Studio. "They're the people who created computer animation really."⁶

Catmull has worked hard to build creative innovation into programs to develop all the employees, who are encouraged to devote up to four hours a week, every week, to further their education at Pixar University. The in-house training program offers 110 different courses that cover subjects such as live improvisation, creative writing, painting, drawing, sculpting, and cinematography. For many years,

the school's dean was Randall E. Nelson, a former juggler known to perform his act using chain saws so students in animation classes had something compelling to draw.

Becoming Accomplished Storytellers

A considerable part of the creative energy at Pixar always goes into story development. Jobs understood that a film works only if its story can move the hearts and minds of families round the world. His goal was to develop Pixar into an animated movie studio known for the quality of its storytelling above everything else. "We want to create some great stories and characters that endure with each generation," Jobs stated.⁷

For story development, Pixar relies on 43-year-old John Lasseter, who goes by the title of "vice president of the creative." Known for his collection of 358 Hawaiian shirts and his irrepressible playfulness with toys, Lasseter has been the key to the appeal of all of Pixar's films. Lasseter gets very passionate about developing great stories and then harnessing computers to tell these stories. Most of Pixar's employees believe it is this passion that has ensured the string of commercial hits. Lasseter is widely regarded as the Walt Disney for the 21st century.

Ed Catmull	President, producer
John Lasseter	Chief creative officer, producer, director, writer
Jim Morris	Business manager
Brad Bird	Director, writer
Pete Doctor	Director, writer
Harley Jessup	Production designer
Bill Cone	Production designer
Ricky Nierva	Production designer, art director, character designer
Ralph Eggleston	Art director
Randy Barrett	Character designer, set designer, matte painter
Tia Kratter	Shading art director, digital painter
Bob Pauley	Character designer, sketch artist
Jay Shuster	Character and environment designer

EXHIBIT 3

Sample of Roles

Source: Pixar.

When it's time to start a project, Lasseter isolates a group of eight or so writers and directs them to forget about the constraints of technology. The group bounces ideas off each other, taking collective responsibility for developing a story. While many studios try to rush from script to production, Lasseter takes up to two years just to work out all the details. Once the script has been developed, artists create storyboards that connect the various characters to the developing plot. "No amount of great animation is going to save a bad story," he said. "That's why we go so far to make it right."⁸

Only after the basic story has been set does Lasseter begin to think about what he'll need from Pixar's technologists. And it's always more than the computer animators expect. Lasseter, for example, demanded that the crowds of ants in *A Bug's Life* not be a single mass of look-alike faces. To solve the problem, computer expert William T. Reeves developed software that randomly applied physical and emotional characteristics to each ant. In another instance, writers brought a model of a butterfly named Gypsy to researchers, asking them to write code so that when she rubbed her antennae, you could see the hairs press down and pop back up.

At any stage during the process, Lasseter may go back to potential problems that he may see with the story. In *A Bug's Life*, for example, the story was totally revamped after more than a year of work had been completed. Originally, it was about a troupe of circus bugs run by P.T. Flea that tries to rescue a colony of ants from marauding grasshoppers. But because of a flaw in the story—why would the circus bugs risk their lives to save stranger ants?—co-director Andrew

Stanton recast the story to be about Flik, the heroic ant who recruits Flea's troupe to fight the grasshoppers. "You have to rework and rework it," explained Lasseter. "It is not rare for a scene to be rewritten as much as 30 times."⁹

Pumping Out the Hits

In spite of its formidable string of hits, Pixar has had difficulty in stepping up its pace of production. Although they may cost 30 percent less, computer-generated animated films take considerable time to develop. Because of the desired emphasis on detail, Pixar completed most of the work on a film before moving to the next one, until Catmull and Lasseter decided to work on several projects at the same time. Still, the firm has not been able to release more than one movie a year.

To push for increased production, Pixar has built up its workforce to well over 1,000 employees and turned to a stable of directors to oversee its movies. Lasseter, who directed Pixar's first three films, supervises other directors who are taking the helm. *Monsters Inc.*, *Finding Nemo*, *The Incredibles*, *Ratatouille*, and *Brave* were directed by some of this new talent. But there are concerns about the quality of directors that Pixar can rely upon to turn out high-quality animated films. Michael Savner of Bank of America Securities commented: "You can't simply double production. There is a finite amount of talent."¹⁰

To meet the faster production pace, Catmull has added new divisions, including one for development of new movies and one to oversee movie development shot by shot. The eight-person new-movie development team has helped to generate more ideas for new films. "Once more ideas are

percolating, we have more options to choose from so no one artist is feeling the weight of the world on their shoulders," said Sarah McArthur, who served as Pixar's vice president of production.¹¹

Catmull keeps pushing technology to improve the quality of the animation. During the production of *Brave*, for example, the animators had to make the curly hair of the main character appear to be natural. Claudia Chung, who worked on the film, talked about their reaction to various methods they kept trying: "We'd kind of roll our eyes and say, 'I guess we can do that,' but inside we were all excited, because it's one more stretch we can do."¹² At the same time, new animation software, Luxo, has allowed the use of fewer people, with no more than 100 animators working on each film.

The high standards of the firm cannot be compromised for the sake of a steady flow of films. This was evident in their decision to delay the launch of *The Good Dinosaur* because they felt that they had to rethink the film. Everyone at Pixar remains committed to the philosophy that every one of Pixar's films should grow out of the very best efforts of the firm's animators, storytellers, and technologists. "Quality is more important than quantity," Jobs had emphasized. "One home run is better than two doubles."¹³

Catmull works hard to retain Pixar's commitment to quality even as it grows. He uses Pixar University to encourage collaboration among employees, and to instill the key values that are tied to Pixar's success. And he has helped devise ways to avoid collective burnout. A masseuse and a doctor now come by Pixar's campus each week, and animators must get permission from their supervisors if they want to work more than 50 hours a week.

To Infinity and Beyond?

Over time the individuals behind the success of Pixar have only become more instrumental. After it acquired Pixar, Disney placed Catmull and Lasseter in charge of the combined animation business of both Pixar and Disney. Two of the films that were nominated in January 2017 for Best Animated Film, *Moana* and *Zootopia*, were both made at Disney under the supervision of these Pixar heads. For Lasseter, the new responsibilities for Disney represent a return to his roots. He had been inspired by Disney films as a kid and he started his career at Disney before being lured away to Pixar by Catmull. "For many of us at Pixar, it was the magic of Disney that influenced us to pursue our dreams of becoming animators, artists, storytellers and filmmakers," Lasseter remarked.¹⁴

Something that had to be adjusted to was the loss of Jobs, who passed away in 2011. At the same time, everyone at Pixar understands that their success can be attributed

to the new talent the firm is able to recruit and train to work together. This recognition leads to a culture of continuous exchange of ideas and fosters a collective sense of responsibility on all their films. "We created the studio we want to work in," Lasseter remarked. "We have an environment that's wacky. It's a creative brain trust: It's not a place where I make my movies—it's a place where a group of people make movies."¹⁵

Pixar's string of successful films is particularly striking, given that there has been a considerable increase in the number of animated films released each year. Over the past decade, there have been years when as many as 16 films have been offered, as more and more studios have grabbed for a share of this lucrative market. The growth in competition has led to a string of losses at Dreamworks Animation, Pixar's largest competitor. Lasseter welcomes the competition because it forces Pixar to stick to its commitment to quality. "I like healthy competition," he says. "I'd rather be in a healthy industry than be the only player in a dead industry."¹⁶

Think about how off-putting a movie about rats preparing food could be, or how risky it must've seemed to start a movie about robots with 39 dialogue-free minutes. We dare to attempt these stories, but we don't get them right on the first pass. This is as it should be.

—Ed Catmull from his book, *Creativity, Inc.*, published in 2014

ENDNOTES

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