

## The Creation of Thai Animation: The Analysis Through the System Theory

<sup>1</sup>Samrit Bhukonglee, <sup>1</sup>Preechawut Apirating and <sup>2</sup>Nattapong Yamcharoen

<sup>1</sup>Faculty of Fine and Applied Arts, Khon Kaen University, Nai Muang Sub-District,  
Muang District, 40002 Khon Kaen, Thailand

<sup>2</sup>Faculty of Communication Arts, Kasem Bundit University, 1761 Pattanakarn Road,  
10250 Suanluang, Bangkok, Thailand

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**Abstract:** This research is a qualitative research studying 8 full length Thai animations: Sudsakorn, Khan Kluay, The Life of Buddha, Nak, Khan Kluay 2, Echo Planet, Yak the Giant King and The Story of Mahajanaka. As for the research process, the data was collected from the direct practitioners through in-depth interviews. The data was then analyzed through system theory in order to acquire the history of Thai animations. From the research, it was found that there are three important inputs: artists, budget and technology. This research created 2 different types of production process of the animations: the 2 dimensions productions which result in 2 following animations: Sudsakorn and The Life of Buddha The 3 dimensions productions which result in 6 following animations: Khan Kluay, Nak, Khan Kluay 2, Echo Planet, Yak the Giant King and The Story of Mahajanaka. After the release of each animation, what followed were gross and many rewards. Khan Kluay was the most successful by winning over 79 million baht and won over 4 Thailand National Film Association Awards which include best movie script and best movie of 2006.

**Key words:** Animation, Thai animation, history of Thai animations, applied sciences, system theory, Sudsakorn, Mahajanaka

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### INTRODUCTION

Human have always full length to record the movement of the things around them, since, ancient time. Cave paintings which were made by pre-historic people shows images of 4 legged creatures, sometimes 5 or 6. Williams (2002) had noticed that the fact that these pre-historic men have more legs than reality was that they were trying to record the movements of those animals while they were running. Thousands of years after wards, men had discovered "Persistence of vision". This principle explained that human vision will remember any pictures that they saw for a couple of moments eventhough there were newer pictures that replaces the old ones which also related to Yeon-Hee Hwang and Hai Beom Kim have mentioned in their study that modern innovation technology is shifting toward human-oriented technology structure combining technology and emotion. So, the principle of persistence of vision made men realize the connection between the old pictures and the new pictures they saw. This principle turned into moving pictures. When still pictures were shown through human eyes continuously at a certain speed which led to the creation of animations later on.

In 1896, Thosmas Edison who were at the time experimenting with a project on creating moving pictures on films has invited James Stuart Blackton to joined his project. Blackton's job was to draw series of pictures that shows animal's movment little by little in each frame. Once, Blackton was done with the pictures, Edison would then took the pictures and put them together at a later process. In 1906, they released their work which was called "Humorous Phases of Funny Faces". That was the first time that drawings and pictures were put together which could be considered as the ancestors of animations (Williams, 2002).

Up until the 1910s, a short animation, Felix had become famous all over the world through simple black and white drawing which shows the charms of the character. "Felix" was the animation that brought Walt Disney to the animation industry which resulted in, 1928 when Mickey Mouse first appeared in "Steam Boat Willie" which was the first animation of the world with recored audio. That was the first development that Walt Disney had brought to the world of animation. Disney had created anothere miraculous thing in 1932 with an animation called "Flowers and Trees" which was the first coloured animation in the world. A year after that "Three

Little Pigs” came out. Later in 1937, Walt Disney released “Snow White and the seven Dwarfs” to the audiences. That was the first full length animation of the world. That animation had perfectly raised the level of acceptance for animations to be considered as art with an impressive story throughout the whole 83 min. The success in both the gross and the critics of Snow White and the Seven Dwarfs became the basic of many other animations by Walt Disney (Williams, 2002).

Up until the year 1995, Pixar Animation Studio had created a new history to the animation business through the creation of the first full length 3D animation called “Toy Story”. This kind of animation is different from the hand drawn animations by Disney. It was created through the rendering of the pictures through the calculation of computers. The production of this kind of animation was accepted and spread quickly throughout the world, including Thailand.

As for the animations in Thailand, it all started from the effort of Payut Ngaokrachang, who was considered as “The Father of Thai Animation” or “Thai Walt Disney”. Payut pioneered Thai animations from short animations as an experiment in 1955 call “A Miracle One Morning” (in Thai). Later on when he became more skilled in making animations, Payut had created the important history for Thai animation through the creation of “Sudsakorn”, the first full length animation of Thailand. It was a pity that no full length Thai animation was ever made ever, since, “Sudsakorn”, it wasn’t until 2006 or 27 years later, that Kantana Animation Studio created the second full length Thai animation called “Khan kluay”.

Khan Kluay was create using 3D process like the animations by Pixar. Khan Kluay by Kantana was considered very successful until many companies in Thailand turned their attention to the production of many full-length animations in Thailand. Since, 2006 when Khan Kluay was released to 2014, there were all together 7 full length animations that was shown in Thai movie theatre: Khan Kluay, The Life of Buddha, Nak, Khan Kluay 2, Echo Planet, Yak the Giant King and The Story of Mahajanaka. Including Sudsakorn, Thailand will have altogether 8 full length animations. However, throughout these 10 years, the histories of all the 8 animations were never recorded in detail. There was only public relation information which were not in-depth information with no contain no useful historical information for Thai animation business.

Therefore, the goal of this research was to bring up this topic of compiling the information to answer the question of how Thai animations were created, especially, after 2006 as well the questions to why full-length Thai animation came into continuous production after having disappeared for 27 years.

**The objective of the study:** To study the history of full length Thai animation.

**The scope of the study:** The animations that will be studied has to be full length feature films produced by Thai people and came into the theatre in Thailand. These consist of 8 following animations: Sudsakorn, Khan Kluay, Khan Kluay 2, The Life of Buddha, Nak, Yak the Giant King, Echo Planet and The Story of Mahajanaka.

## MATERIALS AND METHODS

The history of Thai animations this time is the study of only 8 full length Thai animations which consist of Sudsakorn, Khan Kluay, The Life of Buddha, Nak, Khan Kluay 2, Echo Planet, Yak the Giant King and The Story of Mahajanaka. The collection of the data was done through the interviews of these practitioners:

- Khan Kluay, Interview, Kompin Kemgumnird, Director
- The Life of Buddha, Interview, Dr. Wallapa Pimthong Producer
- Nak, Interview, Natthaphong Ratanachoksirikul Director
- Khan Kluay 2, Interview, Taweelap Srivuthivong Director
- Echo Planet, Interview, Kompin Kemgumnird Director
- Yak the Giant, Interview, Punlop Sinjaroen, Assistant Director
- The Story of Mahajanaka, Interview, Nop Dharmavanich, Director

Apart from the in-depth interviews of the practitioners, this research also compiled the data from the documents due to the fact that Payut Ngaokrachang, the Director of Sudsakorn had passed away in 2010. Therefore, the collecting of the data about the animation needed research from the following documents:

A book called “Life, Payut, Animation” (in Thai) which is a biography of Payut’s life and work by Suttana (2006).

A book called “Yak the Giant King” which has the same name as the movie edited by Kunsachee Wongsawattananukul. The book compiled the interviews of the director, the crew and all the cast on Yak the Giant King.

Audio recording of an interview with Payut Ngaokrachang. The name of the interviewer and time of the interview is unknown. This recording is being kept in the Library and Mediatheque “Cherd. Songsri”, Salaya, Nakhon Pathom.

From the information from the research, the data will be analyzed through “System theory”. This theory was adapted by Thasanabanchong (2002a, b) to analyze Thai movie industry in the past. Therefore, this theory was used to study animations which can be seen from the overall Thai animation industry from the past to the present. This theory consists of 4 analytical aspects:

Input which consist of all important components that contribute to the production of an animation such as the budget and the knowledge in the production.

Process which is the production process of each animation. Output which is the unique characteristic of each animation that was created such as length and year.

Outcome which is the result that comes after the release of each movie. This research will analyze 2 aspects: the gross and the awards in this case, the research only focuses on Thailand National Film Association Awards. After the nalalysis of the data, the result will be presented through descriptive analysis.

**Result of the study:** From the in-depth interview with the directors, the assistent directors and the producers of all the 7 animations in combination with the research documents, the history of each animation are as follows:

**Sudsakorn:** Saneh Klaikluan was the first Thai person to successfully create “Running animation”. But the experiment itself was never developed into animations, since, it was never supported by the government. When Saneh passed away, the knowledge in producing moving pictures went away with him. Years later, younger animation artist like Payut Ngaokrachang made Saneh’s dream became a reality.

Payut learned from Saneh’s colleague that Saneh drew his animation on a transparent sheet. Payut decided to experiment by using the X-ray films from the hospital and wash them in lye in order to make the film transparent and draw animations on them. Through this experiment, Payut discovered and became confident that that was the way moving cartoon should be done. Payut decided to redo the experiment by buying transparent sheets and draw animations on them. This experiment ended up as the first Thai animation called “a miracle one morning” which was 20 min long. The film was shown at Chalermthai on July 5th, 1955. Payut created 2 more short animations later on called “the new adventure of hanuman” (in Thai) and “A Child and A Bear” (in Thai) which were shown in 1960 (Suttana, 2006). After that, Payut never create any more animation until 16 years later when he decided to do what he most desired in life, to create full length animation.

Payut started from asking for funding starting with police lieutenant general Bantheung Gumpanartsaenyakorn who was willing to take the risk and invest 3 million baht under the condition that Payut needed to be responsible for all the production process and the gross from the movie should be split to each of them every other time the movie was shown. After receiving enough funding, Payut started the project right away by searching for an appropriate story and eventually chose “Sudsakorn”, a character from Sunthornpoo’s main novel “Phra aphai mani” to be made into an animation. Due to the fact that Payut saw Sudsakorn as a child that was raised by a hermit. Sudsakorn therefore was a kid with morality who can be an example of Thai kids who would be watching the animation.

As for the production process, Payut was responsible for the main drawing that shows the movement throughout the story at night due to the fact that Payut still need to work at USIS during the day and his students will be colouring the drawings during the day. The drawings were then filmed using a 35 mm. film. Payut needed to draw over 66,000 draings alone until he permanently lost his right eyesight in 1979. Due to the length of 82 min, Sudsakorn was shown for the first time on 13 April 1979. That was the first full length animation of Thailand. Sudsakorn was able to make 2 million baht which was considered very high at the time (Suttana, 2006).

**Khan Kluay:** Khan Kluay was the first full length animation from Kantana Animation Studio Ltd. Eventhough Khan Kluay was the most famous animation, it had an origin as a television series.

Mr. Jareuk Kaljareuk, the owner of Kantana told the work team that the new serie for the copany needs to be about elephants. The script writers needed to do a lot of homework after receiving the assignment and they found one of the most interesting ideas, that was to tell a story of King Naresuan during the elephant duel. The writer team named his elephant Khan Kluay according to the character of the elephant that had a beautiful arch back similar to the Khan Kluay or the banana branch and used it as the title.

The script team had to tell the story of an elephant by making the elephant into a living and talking freely just likes human beings. Through this kind of story telling, Kantana found that there was no way that they can shoot using a real elephant while making them do what they needed them to do, so, the created an elephant using visual effects. That wasn’t possible in Thailand due to the

limitation of human resources and the technology requires doing it. The only option left for them at the time was to turn this tv serie into an animation.

Kantana started a search for the crew that would make this animation a reality. The first team that came in to over see the production was a team of Foreigners which consist of Tod Polson as the Director and visual developer, Ariel Prendergast as script writer and Aaron Sorensen as the Assisting Director. These three person oversee the Thai crews. Tod's team had created a trailer for the animation when Kantana saw the production by Tod's team, they decided to move Khan Kluay up from being a TV serie into a full-length movie to be shown in theatre. Unfortunately, after a year of production, Kantana wasn't impressed with the story line that Tod's team came up with. After the contract of the first team ran out, Kantana decided to not renew the contract. Khan Kluay, therefore, fell into the hand of a new, young blood, Thai director, Kompin Kemgumnird.

Kompin have had an experience working with Walt Disney as an in-betweener in 2 movies, Tarzan (1999) and Atlantis, The Lost Empire (2001). After having left Disney, Kompin had a chance to work with Blue Sky Studio in the company's first production of Ice Age (2002). It was here in Blue Sky that Kompin got promoted to an animator and started to learn about the production process of 3D animations. This knowledge and experience was what Kompin was using in directing Khan Kluay, the animation later on.

Khan Kluay was the first full length animation in Thailand that was produced using 3D softwares throughout the whole production. Khan Kluay was released to the movie theatre on May 18, 2006. It was the second full length animation in Thailand after Sudsakorn.

**The Life of Buddha:** This animation got started from a woman named Dr. Wallapa Pimthong who was responsible for the production of this animation. Before becoming an animation creator, Dr. Wallapa Pimthong had an opportunity to be a coordinator for a project called "Genius classroom" by the ministry of education. This project required a creation of an interactive media and an animation character as a medium to communicate to the learners. This had brought Dr. Wallapa Pimthong to get to know many animation creators and saw the influence of Thai animations towards the audiences, especially, children. She came up with an idea that if she wants to send a message to the society doing through animations would create an impact at a larger scale. This is the starting point that sparks Dr. Wallapa Pimthong to want to make animations (Pimthong, 2015).

Dr. Wallapa had invited Asst. Prof. Krismant Whattananarong, one of the committee members that involved with the quality control for the "Genius classroom" to sit in the Director chair for this movie and invited animators whom she used to work with to be part of the production of this animation. Most of the animators were from a company called Tai Wang. It just, so, happened that during the time that Dr. Wallapa started to produce the animation called The Life of Buddha, Tai Wang company was on its way of closing down. Many animators who still loved making animations decided to come work for Dr. Wallapa. This allowed the creative team to move on with their work without any obstacles. As for the story of the animation, there was none other than what Dr. Wallapa had always had on her mind, only the story of Lord Buddha due to the fact that she really had a strong belief in Buddhism.

After the production process gets started, the biggest obstacle for the production was the budget. No financial institution wanted to give a loan out to this company due to the fear that that the movie would lose profit and would not have money to pay back to the bank. The government themselves also didn't see the importance and provide no funding. However, Dr. Wallapa had to put her house her land and her car in the bank in order to take out a loan as budget for this Lord Buddha film.

"The Life of Buddha was created using 2D production through the drawings on several frames to show the movement of the characters. Each drawing will then scanned into digital files and later, colored using a computer program. The post process after this point was all done on computers until it was released as a movie. After 4 years of dedication and effort, The Life of Buddha, the animation was shown in movie theatres on December 5, 2007. It was the third full length animation of Thailand with the duration of 98 min.

**Nak:** Nak was the first and only animation produced by Beboydeg Ltd., company, established by Boyd Kosiyabong a well-known song writer in Thailand. Apart from music, animation was another thing that he loved. Boyd Kosiyabong got to meet with many cartoonists and set up a team called B-Boyd characters working on two magazines called Katch and Manga Katch as the two main projects. Due to financial problems later on, B-Boyd characters had to be discontinued these magazines. However, the cartoonist working at the company at the time still love drawing, Nuttaphong Ratanachoksirikul, the editor for the two magazines at the time had to struggle to find some work for his crew. He came up with an idea of making an animation as a television show. He invited his

friends who used to work on animations from other countries to come and help trained the team. B-Boy character was then changed to Beboydcg Company Ltd. And continuous produced animation shows for TV.

The team at the time had created a trailer for a full-length animation with the story of Japanese Super Hero team. They called this movie “Cyberger”. Eventually, they got an opportunity to present this trailer to Somsak Techaratanaprasert the owner of Sahamongkol Film International which is a big movie production company of Thailand. After watching the trailer Somsak allowed this team to continue producing the movie, except that it has to be about “Mae Nak”, the most famous love story of Thailand between man and ghost. If the movie isn’t about Mae Nak, Somsak will not allow the movie to be made. Beboydcg didn’t hesitate to grab this opportunity to produce the movie eventhough it wasn’t what they wanted to do.

After that the team started to write the script by having Nuttaphong Ratanachoksirikul as the director. In this animation, they were trying to redefine Mae Nak. They wanted to tell a story of Mae Nak in the angle that has never been talked about before. Eventually, the movie was just borrowing the character of Mae Nak from the Thai folklore in a whole new story line which talked about the love between Mae Nak and her kid, the devotion that a ghost like Mae Nak tried to give to human in order to maintain the peace of humanity.

This movie took about 6 years to make. It was released to the theatre on April 3, 2008. It was the 4th full-length animation of Thailand with the duration of 90 min.

**Khan Kluay 2:** The first Khan Kluay was released in 2006 and became really successful in both the gross and the awards. Kantana therefore approved of the second animation project under the name Khan Kluay 2. In this sequel, the story was about Khan Kluay after winning the elephant duel in the first one. Khan Kluay went to live in the palace with Chabakaew his beloved wife. However, Khan Kluay needed to go out to war very often that he didn’t have time to take care of his family. This conflict between the love of the country and his family was what the Khan Kluay 2 was trying to communicate to the audience.

For Khan Kluay 2 originally, Kantana wanted Kompin Kemgumnird to take over as the director but Kompin denied. He proposed Taweelap Srivuthivong to take over as the director of Khan Kluay 2 instead and Kantana didn’t oppose to that Kemgumnird. Taweelap wasn’t a stranger but one of the person who was also involved in the first Khan Kluay movie. Taweelap had been working

as an illustration artist until he got a chance to work as one of the crew in the first Khan Kluay movie as the Art Director. The main responsibility for Taweelap was to control the beauty of each frame and every detail that would go on screen. Apart from being the art director, he also contributed many suggestions and ideas to the Khan Kluay team Srivuthivong. Therefore, the fact that Kompin proposed Taweelap to take over the project wasn’t a coincidence but he was confident about Taweelap’s skill and was certain that he could lead Khan Kluay 2 to the same success as the first one.

Khan Kluay 2 took around 3 years to produce and was released on March 26, 2009. It was the second animation by Kantana but the 5th full-length animation film of Thailand.

**Echo Planet:** This movie was directed by Kompin Kemgumnird, the director from the first Khan Kluay movie. Due to the fact that he gave over Khan Kluay 2 project to Taweelap to direct which allowed him to have a lot of time on his hand to come up with the ideas to tell the story. After the production Khan Kluay 2, Kompin came back again with the script of a new animation that he lay the plot out himself in which he called “Echo Planet”.

Echo Planet was an effort by Kompin to present the picture of Thai rural area and the lives of the long neck karen people who live far away from the technology and material world. Two Karen siblings, the main character saved Sam’s life by accident. Sam was the only son of the President of Capital State, the most powerful country of the Wests. In order to repay the debt, Sam decided to bring the two siblings to Capital City, the capital to Capital State. It was there that the director showed the clash between the “Old world” and the “New world” which was what he intended to present. At the end of the day what the movie wanted to show the audience was that the old way of life which was the way of nature was the best way to counter global warming and can sustainably heal our world.

Similar to the two animations released earlier by Kantana, Echo Planet took around 3 years to produce and was release on August 2, 2012. This was the 6th full-length animation of Thailand and the 3rd for Kantana with the duration of 90 min.

**Yak the Giant King:** This movie came from the personal reference of Prapas Cholsaranont. He was an animation lover and had dreamed that one day he would direct his own animation. Currently, Prapas Cholsaranont is working with Panya Nirunkul and had opened up a company called Workpoint Entertainment Ltd. and had produced

television shows. Even with his success from his various works in the entertainment business, he hasn't forgotten about his dream to create his own animation. One day he met a man who would later on make his dream a reality; Chaiporn Panichrutiwong, a young artist from Silpakorn University who has had experience with the world's renowned game company (Piampiyachart, 2012).

After returning to Thailand, Chaiporn went and worked with Vithita Animation Company Ltd. At the time, the company had brought "Pang Pond", a famous character from "Kai Hua Roh" magazine and turned it into an animation through 3D production process that he had learned while he was abroad which had become a production base for Vithita Company. Eventually, "Pang Pond, the Animation" was created in a 3D animation as a TV serie in 2002. After the team had created the first 3D animation for Thailand, Chaiporn moved to work with Prapas Cholsaranont at Workpoint and that was the time that Chaiporn needed to pioneer the first animation for Workpoint.

Once he got his right hand man, Prapas moved ahead with his project. He used a famous Thai novel and turned it into an animation. The movie that he picked was "Ramayana". It was a story that had been ingrained into the minds of the Thai people. But to tell the whole story of Ramayana, the team felt that it was difficult to just pull out some of the parts and tell it to the audiences in a limited amount of time. Especially, if the audiences don't have any background knowledge of the story who will never understand what was going on. With these limitations, Prapas Cholsaranont came up with the new idea of bringing Ramayana into a new setting. (The same kind of concept that was used in "Nak" by beboydcg).

For this movie, after starting writing the script in 2004, the movie took 8 years in production through 3D production process by using the same software as Khan Kluay by Kantana. The movie was released on October 4, 2012. It was the 6th full-length animation of Thailand with the duration of 100 min.

**The Story of Mahajanaka:** The Story of Mahajanaka was the only animation that came from the government's initiative which was the Software Industry Promotion Agency (Public Organization) or SIPA. This department is responsible for support and develops digital contents within Thailand. Therefore and support for the animation production fell into the hands of SIPA. However, SIPA was just a supporting unit, it doesn't have enough manpower to produce the actual content. Therefore, SIPA needed to find assistants in order to make this project a success. It was considered luck for SIPA that

Thailand already had a group of animation firms that came together called Thai Animation and Computer Graphids Association (TACGA). SIPA therefore, contacted TACGA to spear head the production of "The Story of Mahajanaka" by department will be providing the budget in the production. Eventhough it wasn't a huge budget, since, it was the animation to commomerade King Rama IX, TACGA was very honored to be part of this project.

The board of TACGA had a meeting and chose 3 representatives to be the director of this animation. The 3 directors were Kriengkrai Supornsahusrungsri, Thananchanok Suban Na Ayudhaya and Nop Dharmavanich. After TACGA came up with the directors, they discussed further about which company will be leading the production. The committee came to the same conclusion that producing a full-length animation was too big for 1 company to handle. This had created a new phenomenon that had never happened in Thailand which was the collaboration of several companies to produce one animation. TACGA had asked for volunteers within the associations and had acquired 15 companies. The 3 directors had a meeting to deligate the jobs between the companies and the deadline for the jobs. They also acted as advisors providing the feedback and suggestions until the work came out good.

The Story of Mahajanaka was a 3D animations and the 8th full-length animation of Thailand with the duration of 110 min. It was primiered on November 28, 2014. After that the animation was shown in all the theatre within the Major brand on November 29 and December 6, 2014, 2 times per day; 10 am and 3 pm in order for the Thai people to go see for free. It was also shown on television from the December 6-8, 2014.

#### **Conclusion and the analysis of the system theory frame:**

The information above was the background of all the 8 animations that was acquired through indepth interviews from the practitioners and the document research. If we were to analyze the information using the system theory, we would be able to see the big picture of the history of Thai animations clearly. According to the system theory, the analysis will be done in 4 points: input, process, output and outcome.

**Input:** The input within the system theory means that basic componenets that is required in the production of the animations. From the analysis of the 8 animations, it was found that the most important input or what we can call the "Creating point" of the Thai animations consist of 3 inputs: artist, budget and technology.

**Artist:** One animation would require tens of lives of people working in the team or even hundreds in some big companies. However, all the artist will need to follow the direction of the big artist called “The director”. Apart from directing the course for the movie, the director also has the power to make all decisive decision in many aspects of the production process. Therefore, this research had used the names of the directors as the representatives of the artist involved in the production of the 8 animations. There are altogether 10 following directors:

- Sudsakorn, Director, Payut, Ngaokrachang
- Khan Kluay, Director, Kompin, Kemgumnird
- The Life of Buddha, Director, Krismant Whattananarong
- Nak, Director, Natthaphong, Ratanachoksirikul
- Khan Kluay 2, Director, Taweelap, Srivuthivong
- Echo Planet, Director, Kompin, Kemgumnird
- Yak the Giant King, Director, Prapas
- Cholsaranont, Chaiporn, Panichrutiwong
- The Story of Mahajanaka, Director, Kriengkrai Supornsahusrungsri
- Thananchanok, Suban Na Ayudhaya, Nop, Dharmavanich

For these 10 artists, at one point graduated from Silpakorn Univeristy; Some from the Faculty of Architecture and some from technology study.

**Budget:** For the budget of each animation, the source of gross is different and can be categorized into 4 types: private investor, company investment, central budget and government’s funding according to the following detail:

**Private investors:** Are investors who use their own money to invest in the animations and also by depending on other source of funding more or less. There are 2 people that fits in this category:

- Pol. Gen. Banthoeng Kampanatsaenyakon, funded Sudsakorn
- Dr. Wallapa Pimthong, funded, The Life of Buddha

**Company’s investments:** Are the investment to the animations in the name of the companies: using the budget for all the production process. There are 2 companies that fit this category:

- Kantana Animation Studio Ltd., Funded, Khan Kluay, Khan Kluay
- 2 and Echo Planet, Sahamongkolfilm International Co., Ltd., Funded, Nak

**Central budget:** Is through fundraising from close friends. The money was then put in the central funding and used for the animation production. There is only one animation that fits into this category and that was: Yak the Giant King. The investors for this movie was the following: Workpoint Entertainment Company Ltd., Sahamongkol film International Co., Ltd, Superjeew Company Ltd., Chaiporn Panichrutiwong (personal money) and Prapas Cholsaranont (personal money).

**Government’s funding:** Was the funding provided by the government’s office to create the animation. The office was the office responsible for directly supporting creative work; That was the Software Industry Promotion Agency (Public Organization) or SIPA who support the budget for The Story of Mahajanaka.

**Technology:** As for all the 8 animations, the production tools used in producing the animations were all from other countries. Therefore, we can briefly conclude that Thai animations still mainly rely on the technology from other countries. However, from the information of this research, it was found that Payut Ngaokrachang was the only person who didn’t depend the technology from other countries but relying on the “Borrowed” method from different sources and endless experimenting until he found a way to make moving pictures. It can be concluded that the technology in animation production can be categorized into 2 categories: depending on foreign technology and the technology that Payut Ngaokrachang had adapted and created.

The three inputs which are artists, budget and technology are the important inputs that help create each of the animations. It was admirable that each animation was all from Thai artists which show that Thai people also have this kind of skill which can be competed with other countries. Apart from this, many investors in Thailand are also ready to invest in full-length animations even though it might require tens of millions of baht. But as for the technology in the production, Thailand still needs to depend on the software of from other countries in every production process.

**Production process:** After all the three inputs, the artists, the budget and the technology are all put together, the next stage is the production process. In all the 8 animations, the production process can be further categorized into 2 kinds: 2D animation production process and 3D animation production process.

**2D animation production process:** Is a traditional animation process which requires drawings of the



Fig. 1: The year when each of the animation were released chronologically

character frame by frame continuously in order to create the movement. There are only 2 animations that fit this category: Sudsakorn and The Life of Buddha. These 2 movies show only a few minor differences in the production process.

Sudsakorn was the only animations in Thailand that truly used the traditional animation process, drawing and coloring on the transparent sheets and record using a 35 mm film. The recording is done for each individual picture and put together to create moving pictures. This was the same technics that Walt Disney had been using. As for the life of Buddha, the drawings were also done for each fram but it was done on study and then scanned into digital files. The coloring part was done in the computer as well as other special technics and the post production.

**3D animation production process:** is a new technic for creating animations. The first animations that used this kind of technic were Toy story which came out in 1995. This production process is totally different from the traditional way. All the process happens in computers. Each still picture were then put together to create movements. Each of the frames came from the calculation of the background, surface and lighting which would be rendered into 1 still picture. Only the pre-production part wasn't done in commputers. All the other process fully relies on computer works. No pictures were hand drawn. There are 6 movies altogether that rely on this kind of production process: Khan Kluay, Nak, Khan Kluay 2, Echo Planet, Yak the Giant King and The Story of Mahajanaka.

**Output:** The combination of the 3 inputs: artists, budget and technology led to the production of animations. The production process also took years before the animations were completed at the end of the production process.

From "Sudsakorn", the first full-length animation that was aired in 1979 until "The Story of Mahajanaka" in 2014,

Table 1: The gross from the 8 animations

Movie	Year released	Estimated gross (Million baht)
Sudsakorn	1979	2
Khan Kluay	2006	79
Khan Kluay 2	2009	77
Echo Planet	2012	19
The Life of Buddha	2007	17
Nak	2008	10
Yak the giant	2012	58
The Story of Mahajanaka	2014	No admission fee no record of gross

Thailand has had altogether 8 following full-length movies Sudsakorn, Khan Kluay, The Life of Buddha, Nak, Khan Kluay 2, Echo Planet, Yak the Giant King and The Story of Mahajanaka. If all the animations were to be put on a timeline, it will produce the following timeline (Fig. 1).

**Outcome:** The production processes of each of the animation were difficult. After the production is done and the animations were already shown in theatre, one indicator that will determine the success is the gross. And here are the gross from the 8 animations (Table 1).

Apart form the gross, the awards are also another outcome from the production of each movie. This research will only consider the Thailand National Film Association Awards due to the fact that it's a national award which is the biggest and most formal award in Thailand. Here is the list for the animations:

Khan Kluay was nominated for 6 awards and won in 4 following awards: best music, best recording, bests screenplay and best picture. Khan Kluay 2 was monimated for 4 awards but didn't win in any award.

Echo Planet was nominated for 3 awards and won 2 following awards: best original song and best recording and sound mixing. The Life of Buddha was nominated for 3 awards and won 1 award: best original score.

Nak was nominated for 3 awards but didn't win any award. Yak the giant king was the movie with the most nominations similar to Khan Kluay which was 6 nominations but didn't win any award.



The Story of Mahajanaka wasn't nominated for any award due to the fact that it was produced in honor of King Rama IX and wasn't seeking any benefit or award.

In conclusion, if we look at the history of Thai animations through the system theory lens, since the first animation, *Sudsakorn* in 1979, we would find that Thai animations were created through only 3 important inputs: artists, budget and technology. These three inputs were the most basic. If one of the inputs was missing an animation can never be made. When all the 3 inputs come together, it will lead to the production of animations. In Thailand, animations were only produced through 2 methods: 2 Dimension (2D) and 3 Dimensions (3D) which will result in the production of 2 types of animations, the 2D movies consist of *Sudsakorn* (1979) and *The Life of Buddha* (2007). There are 6 D animations: *Khan Kluay* (2006), *Nak* (2008), *Khan Kluay 2* (2009), *Echo Planet* (2012), *Yak the Giant King* (2012) and *The Story of Mahajanaka* (2014). The last part when looking through the lens of system theory is the outcome. This research focused on the gross and the awards. It was found that *Khan Kluay* was the most successful animation both in the gross and the awards. It made over 76 million baht and was nominated for 6 awards and won 4 awards which include big awards such as best screenplay and best picture of 2006.

## RESULTS AND DISCUSSION

From the conclusion of the background of Thai animations, it was found that Thai animation was created on the 3 important bases: artists, budget and technology. Without any of the input, the animations will never be created. However, considering the year that each of the animation was released, it was found that *Sudsakorn* which was released in 1979, the other animations were all released post 2006. This phenomenon led to the question of why Thai animations were all created during this period of time. The basic answer to this question was that, since, animations were created based on these three inputs, we can fairly assume that all the three inputs, artists, budget and technology, all came together during that time. The next question would be what caused the three input to come together at that point in time in Thailand. This question forced us to think back to an important phenomenon in the history of animation when *Toy Story* was created in 1995.

This animation was the first 3D animation of the world created by Pixar Animation with John Lasseter as

the director. The released of *toy story* shook the world and totally changed the production process from the original process. Hand drawings and coloring was unnecessary. These new productions of 3D animations are all created by computers. Only the pre-production part required works on study. This kind of process helps save time and man power which also mean that lower cost of production. Therefore, this 3D production process became popular in no time within Hollywood and spread throughout the world soon after. Certainly, Thailand was one of the countries that were influenced by this phenomenon.

The popularity of *Toy Story* pushed many company in America to bring in 3D animation production technology into their company and sold the technology in a form of softwares that people can buy and install in their computer. Production technology became a primary input with easy access. As for the artists who will be using these technologies, most of the Thai artists have had experience working in other countries, especially in America such as *Kompin Kemgumnird*, the Director of *Khan Kluay* who had prior working experience with Disney). He came back to work in Thailand, since, 1997. After these artists came back, they also brought back with them the knowledge and the experience that they required from their work abroad. After requiring the technology and the artists who will be using them, Thailand was in the ready stage, only lacking the budget. However, that wasn't the problem, since, this 3D animations requires less funding. Many investors in Thailand were willing to support. When the investors became involved, that completed the three basic inputs: artist, technology and budget. Thai animations were created from these three basic inputs. The first 3D animation was "*Pang pond, the Animation*" produced by *Vithita Animation Ltd.* and aired on channel 3 in 2002. Four years afterwards, "*Khan Kluay*", the first full-length 3D animations was released in Thailand in 2006. These three inputs, artists, budget and technology are not only the important inputs for Thailand. Even the first 3D animation like such a "*Toy Story*" also needed to rely on these three inputs.

Pixar was started by a scientist named Ed Catmull. Catmull and his team at the University of Utah found a way to create surfaces with computer and were able to create a 3D model. They were also able to fill in the surface and the lighting to the model. Since, he had always been a fan of Walt Disney animation since, he was a child, Catmull believed that the technology will be able to lead to creation of animations. Catmull and his team are

considered the first basic input to the creation of animations. Although, Catmull didn't have any artistic ability to create an animation, later on, he met John Lasseter.

John Lasseter was an animator from Walt Disney. He graduated from art school and had a dream to create animations using 3D production. The combination of Catmull's technology and his creativity, he was able to successfully create a 3D animation. "The Adventure of Aally and Andre B." was the first 3D animation by John Lasseter. This animation was created since, Catmull's team was still working with George Lucas; and later on with Steve Jobs and changed the name to Pixar. John created another short animation called "Luxo Jr." This animation was very successful and was nominated for best short animation at the Oscar. This success was what made Pixar a Pixar company that everyone knows of Thechaisrisutti.

The beauty and the content of Luxo Jr. made Walt Disney lower his pride and asked John Lasseter to come back and work for Disney again. John refused but instead asked Disney to come and invest with Pixar. After all the detail was discussed, Walt Disney decided to work with Pixar by providing the budget to create 3 full-length animations with Pixar handling all the production. This was the point when the first full-length animation was created with John Lasseter as the representative of the creative artist and Ed Catmull's team a representative for the production technology and Walt Disney as the representative for the budgeting.

## **CONCLUSION**

The creation of Toy Story showed that the technology in the hands of Catmull would not be much of a benefit if there were no creative tools and the ability to produce and increase the ability by many folds. When the budget input was added as the last input that completed the 3 required inputs which are artists, budget and technology which are the same input as the creation of the Thai animation.

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