



Why is Popcorn So Expensive at the Cinema?

The Case of Thailand

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Abstract

This study examines the pricing strategy “low ticket price and high concession price” that has been adopted by most cinemas in Thailand. Five hundred and two samples were surveyed about their decision and action towards this pricing. A game theory model is introduced to show how this pricing strategy could be a Subgame Perfect Nash equilibrium. The result of this study confirms that the cinema is moving toward the right direction. The pricing strategy that the cinema currently adopts can make the highest profit. Importantly, it is satisfied by most moviegoers. In addition, people are willing to pay when ticket price is increasing more than when there is an increasing in concession price. From the data analysis, the cinema is better not to increase the price of ticket higher than 40 Baht and 20 Baht for concession price.

I. Introduction

When you are entering a cinema, you usually smell a scent of butter from popping popcorn and the sound of pop soda filling into the cup. This experience will not be met if you were watching a movie at your house. Nowadays, watching movies at the cinema become popular entertainment activities among many groups of people. People are going to the cinema for relieving the stress, dating with beloved one, having fun with friends and etc. Most people usually buy popcorn and pop soda to consume while watching movie in order to increase their utility. Popcorn and pop soda are choices from many concessions that was selected by the moviegoers. However, most of the concessions at the cinema are much more expensive comparing to those similar one selling outside. Are the moviegoers losing their benefit from this pricing strategy? Is it reasonable for the cinema to price the concession expensive like this? Is it because of movie theater monopoly power so they are able to raise the concession price to be very high?

In general, the entertainment industry including cinema usually struggles with unstable revenue and a loss situation. Since it is not a necessary good, the consumption will be based on the economic condition and the preference toward this kind of good can be easily changed. Moreover, it is hard to extract the information from the customers as the demand is derived from the desired leisure and the luxurious experience. However, the cinema is still in the business because it is better to continue to operate as the initial investment of the cinema is very huge. Thus, it becomes a task for the movie theater owner to price its product wisely in order to make Movie Theater able to escape from the loss that is going to happen in the future. (Tereyagolu N. et al, 2012)

Changing to the customers' side, every moviegoer needs to pay for a movie ticket in order to watch a movie in the theater but it depends on each person decision whether they want

to pay for consuming concessions or not. The movie theater is trying to bundle the experience that the customers will not be met elsewhere and trying to sell them at a high price but reasonable enough to reach customer's willingness to pay. When people are thinking that the high concession price usually brings a huge amount of profit to the cinema, it is resulting from the way that they compare these concessions selling in the cinema to the similar one selling in the grocery store. People just thought that because the movie theater "can" raise concession price due to its monopoly power but actually it is a 'must' for them. The cinema has to decide whether it should raise the price of a movie ticket or concession in order to cover all cost and not leave some group of customers behind.

The cinema is afraid of facing a loss situation and the moviegoers are in the position that they are being extracted their consumer surplus since most people usually think ahead that the cinema will only be a one who benefit from this situation and the customers are on the place of losing their entire surplus. Hence, this research would try to prove whether a high concession price that most cinemas adopt nowadays is a good pricing strategy or not?

II. Background

In the past, the cinema had nothing related with popcorn. Smith (2001) During the day that there was only a silent film, the sound of people crunching popcorn in the cinema, even more, creates the feeling of annoying. After the sound was added to the film and the cinema industry started to be bigger together with a situation that people are seeking for the activity that can make them feel better during the Great Depression, popcorn that used to be a street food thus turning to be one of the most preferred foods selected by most people during that period since it was cheap, mobile and tasty. At first, the cinema did not sell popcorn itself. However, it was pressured by number of people were buying street popcorn and bringing it to the cinema so the cinema allowed the vendor to sell it inside the lobby for free. During the

World War II, there was a limitation of a competition of a snack that is required sugar. Thus, the left of only popcorn during that day later made it finally embedded in the heart of most people all over the world.

Turning to Thailand, it is normal to see people eating popcorn in a cinema nowadays. However, in the past, did the popcorn act as a complementary good with a movie experience? We have to thank Mr. Sakon Taechaphoonpon, who started the legacy of popcorn in Thailand. With his passion, he made ice cream and popcorn business to be a part of Thailand's cinema industry. Eventually, the biggest Thailand movie theater at that time, Sala Chaluemthai was going to open so it became a starting point of ice cream pop and popcorn. Since Mr. Sakon had known Mr. Blevin who did popcorn business in the United States so he decided to contact Mr. Blevin to bring popcorn business to Thailand. Popcorn was firstly started to sell at Sala Chaluemthai Theater after it was opened for 3-4 month. Finally, it becomes a snack that was sold side by side with a movie ticket at the cinema. (ธนาทิพ, 2004)

III. Literature Review

In the past, most movie theaters in the United States have employed a uniform pricing model prices for difference good. The same price is charged for all movies, seats, special days and etc. It is possible for a movie theater to create a potential profit from this kind of pricing. (Orbach B. and Einav L., 2007) However, there is an argument from Johnson J. (2005) whether the movie theater should rather employ the price discrimination in order to maximize its profit.

Looking into the cinema industry in Thailand, there are only 2 big companies that cover almost all market shares in this industry which are Major Cineplex and SF Cinema City. Both cinemas have contributed about 95 percent of Thailand's cinema market share. (Marketeer.co.th, 2015) It could be told that they have monopoly power in their hands. From Locay L. and Rodriguez A. (1992) research, it said that the cinema monopolist usually charges

a two-part price which are entrance fee and the price of popcorn. In the reality, all moviegoers are not the same. Because every moviegoer needs to be charged at the same admission ticket price or not too much different in price if they are watching in the same theater then there will be only one way left in order to get more revenue from them. The cinema needs to raise the price of popcorn to be above a marginal cost so it will be able to capture more from those people with large consumer surplus than it will lose by having to lower its entrance fee.

According to Coate and Verhoeven (2014), Cinema industry does not create much revenue to cover all the cost since there is many costs including opportunity cost occurred. High labor cost, the impact of illegal downloading, fixed cost of infrastructure, lower attendance and etc. are some examples of the cost that cinema industry need to bare. Thus, the cinema may not be able to cover all cost alone if it depends their revenue only from selling an admission ticket. It becomes a reason why cinema needs to turn to focus its business of selling concessions too. However, it does not talk about what is the pricing scheme used by the cinema so the loss of cinema may not actually occur in every cinema business.

From Tereyagolu N. et al (2012) research that had been conducted the in the Northeast orchestra in the USA, it is similar to the case in Thailand that the admission ticket price is divided into different prices based on their ages, show date and time, the cooperation with a credit cards firm resulting in some discount and important is the closeness of the seats to the screen and how comfortable they are. The one who has special privilege discount over others will be able to gain higher consumer surplus than others. The good seat will have resulted in more expensive price. However, there must be someone who is willing to pay more for it. Moreover, the customers are able to postpone their purchases of admission ticket as if they want to get a future promotion and discounts which will result in higher consumer surplus. Nonetheless, it needs to be considered about all of the opportunity cost if they are waiting for other kinds of promotions and discounts too.

Aside from revenue from selling admission ticket, selling concession is another income of the movie theater that it will get from the moviegoers. The price of concession at Movie Theater always fascinates people. Movie Theater is going to receive a high-profit margin from selling concession which may derive from this monopoly power and the lack of competition. (Gil and Hartmann, 2012) Among different types of concession selling at a cinema, popcorn is the most popular one that moviegoers will buy at Movie Theater. The important point is that some people like popcorn more than others and the owner of the movie theater cannot separate them from others like the way that separates people from choosing their preferable movie. So the purpose of popcorn is to extract different sum from different customers. (Landsburg, 1993) Thus, the moviegoers thought in their mind that the cinema now extracts their entire surplus.

Baker (2006) argues that each pricing usually has its own reason. Pricing on purpose can make someone such a high profit. Each customer in the market has different sensitivity to the price change and to each kind of product. Before the firms have decided to use its own pricing strategy, they surely think about the cost and benefit of them and also the customers. Therefore, it can be told that every pricing will have some point that benefits both sides of the market.

Despite the food and drink is a product that sometimes complement with a movie experience. The change in the price of them does not directly affect the number of customers who come to watch a movie at a cinema. (Competition commission, 2013) Nevertheless, popcorn, pop soda, snacks and etc. are counted as another significant product for the cinema industry. The cinema is the only one who is allowed to sell food and drink product in its area so it can be called as the monopoly that has a significant market power in the market. (พจนานุกรม

และ วรรณวิภาจค์, 2013) With a monopoly power, it makes the cinema have the ability to raise the price of concession to be high. (Pindyck and Rubinfeld, 2013)

IV. Theoretical Framework

The decision making is normally related to Game Theory since the decision makers normally consider about the player and strategic options, and also preferences and reactions. The strength of Game Theory is the methodology that provides for structuring and analyzing problems of strategic choice. In each game, there are players, actions, payoffs, and information. In order to maximize their payoffs, the players will use their plans in which they already consider the information of another player known as strategies. The equilibrium in the game will be resulted from the combination of the strategies chosen by each player and thus later show the final actions from both players as an outcome. The model is very useful as it provides the decision makers a clearer and boarder view of the situation. This helps the decision makers to develop their strategic decision making well.

Game Theory may be revealing the potential effects of changing the rule of the game. In some game, one player in the game has the ability to prior move or he becomes a leader when he can commit to a strategy. After one player is already choosing his choice, the chosen strategy informs another player about it. The second player needs to respond to first player's committed strategy.

Nash equilibrium can be used to solve game theory where each player acts according to their response. It is a set of strategies such that no player has an incentive to change his strategy given every other's strategy. Sometimes, there are two Nash equilibria in the game but one of them does not make sense. In order to decide which one makes sense and which one does not, it needs another solution concept, the Subgame Perfect Nash Equilibrium. A Subgame Perfect Nash Equilibrium (SPNE) is an equilibrium in which every sub game is also in Nash equilibrium.

Since the case that we are going to examine is the game between a cinema and the moviegoer. The cinema will be the first one who determines the pricing strategy and the moviegoer will later decide how he will act toward the cinema's pricing. So in this research, the framework of a sequential game, a game in which players move in turn, responding to each other's actions and reactions, will be adopted. The sequential game includes the order in which players take action, the information that players have at the time they must take those actions, and the times at which any uncertainty in the situation is resolved. Since it is a sequential game, the extensive form will be used. With an extensive form, the game can contain a part that could be considered a smaller game in itself or it can be called as a sub game in a larger game. Importantly, there is need of backward induction to compute equilibrium. However, there is a problem in extensive form games that players act in turns which later causes "empty threats". In some game, a player can change his mind from adapting his strategy because he knows that another player will acknowledge and then be forced to change his strategy. With this reason, this can cause the first player to get more benefit. Therefore, the changing in the choice of one player from the whole strategy is too weak for extensive form game. From this problem, it requires SPNE to eliminate empty threats by requiring ideal play in any sub-game the players find themselves in.

In order to understand more why we have to adopt extensive game with Subgame Perfect Nash Equilibrium, an example from *Games and Information: An Introduction to Game Theory* by Eric Rasmusen is a good one. It is a game of "Entry Deterrence I". It uses game theory in explaining a choice selected by the entrant and the incumbent. There are 2 players which are the entrant and the incumbent. The entrant decides whether to "Enter or Stay Out". If the entrant enters, the incumbent can Collude with him, or Fight by cutting the price drastically. For the payoffs, at the monopoly, price market profits are 300 and 0 at the fighting

price. Entry costs are 10. Duopoly competition reduces market revenue to 100, which is split evenly. This is a dynamic game with symmetric information.

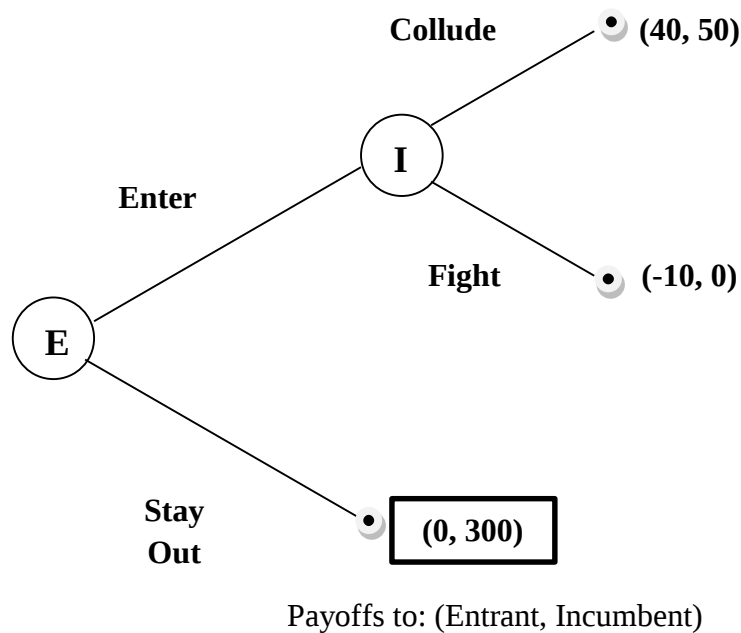
The strategy sets can be discovered from the order of play. They are (Enter, Stay Out) for the entrant, and (if entry occurs, Fight if entry occurs) for the incumbent. The game has two Nash equilibria as shown in figure 1.1. As the paper has mentioned that Nash equilibrium sometimes is unable to tell the whole story and the information also lost by condensing from extensive form to the normal form so an extensive form is needed. With a prior move of the entrant which will later respond by the incumbent thus it becomes a sequential game. Moreover, it is better to reformulate the game as the incumbent moves first, deciding in advance whether or not to choose Fight before the entrant moves. Since the model lets the entrant choose first then it is better for the entrant to enter and good for the incumbent to collude so that the payoff will be maximized at (0, 300) as shown in figure 1.2 With a Subgame Perfect Nash Equilibrium, the problem of credible threat is solved.

Figure 1.1 Entry Deterrence I in a matrix form

		Incumbent	
		Collude	Fight
Entrant	Enter	40,50	-10,0
	Stay Out	0,300	0,300

Payoffs to: (Entrant, Incumbent)

Figure 1.2 Entry deterrence I in an extensive form



In addition, the use of price discrimination will be used in the model to explain more about the pricing strategy used by the cinema to price its product. Different customers have different behavior. Some like popcorn more than others while some are not preferred at all. Cheap popcorn attracts popcorn lovers and makes them willing to pay a high price. But to take advantage of that willingness, the cinema needs to raise ticket prices so high that it drives away those who come to see the movie.

By engaging in price discrimination, businesses are actually increasing social welfare and making more products and services available to the poorest members of the society. The price theory offers tremendous insight into human behavior.

V. Methodology

This research would employ both primary and secondary source data. In primary source data, there will be a total number of 502 surveys self-administered questionnaires related to the moviegoers' decision at the cinema conducted to customer's side. The first section of the questionnaire related to demographic questions including age, gender, income level and education level. The second would be a multiple choice related to their decision towards the different pricing of the ticket and concession, the reason of purchasing goods and the willingness to pay for the higher price at a cinema. (See Appendix 1) For the cinema's side, there will be an interview conducted to a person who knows information about the cinema pricing strategy. We choose to interview Mr. Supat Ngamwongpaiboon, a marketing director of SF Cinema City. The interview questions will be divided into 2 sections. In the first section, there will be questions about the cost and revenue structure of SF Cinema and the trend of the cinema industry in Thailand. Since this research is going to analyze the effect of a ticket and concession price on the customers' side so the second part would be questions focusing on cinema pricing strategies and promotions. (See Appendix 3) With the interview, it will make us understand more about the reason of each pricing strategy.

To get the most accurate result, the secondary data source is needed. The related research and journal and Thailand's cinema information will be used in the analysis too. The research will use an available data to examine the cost structure of the movie theater looking at what is its main cost and where its profit comes from. Additionally, there will be an investigation more on the factor that contributes profit to most cinemas. Since Marketeer.co.th (2015) has mentioned that Major Cineplex has contributed about 75% of entire cinema industry's market share, it is trustworthy enough to use its information to explain the entire characteristic of the cinema industry.

After that, a descriptive analysis would be used as data analysis approach of the demographic information of the respondents in the first place. Then, the analysis will be conducted pass through the economic theory; Game theory and Two-part tariff model as it has been written in a theoretical framework.

VI. Data Analysis and Result

In the Cinema industry in Thailand, there are 2 sides in the market which are the cinema and the moviegoers. Major Cineplex and SF cinema city have contributed almost of the cinema industry's market share so both cinemas have a monopoly power in their hands. (Marketeer.co.th, 2015) In addition, the moviegoers will not receive a similar experience if they are watching movies at their house. If they want to see the movie as it releases then they should come to the cinema. Hence, it can be told that the cinema has a bargaining power over a customer. Hence, the cinema has an ability to firstly set any pricing strategy as it desires. Because we are going to focus on the action of the cinema and the respond from the moviegoers so we will eliminate other revenues from other businesses such as Bowling, Karaoke, Advertising and etc. from this game.

From the interview, we get an evidence to support the argument from Coate and Verhoeven (2014) that the cinema cannot depend its revenue only from selling the ticket because there is a lot of costs occurred. The cost of a cinema is mainly divided into 3 parts; the cost of head office, operating cost in each branch and the investment in future projects. For the cost of head office, there is a cost for various departments including management, accounting, business development, human resource, marketing and etc. On the contrary, the operating cost in each branch will consist of the rental fee, infrastructure fee, employee salary and many other things. Importantly, the cinema needs to pay the movie producers half of that movie selling ticket revenue. Lastly, there will be a cost for the future projects such as the cost of construction

of new branches. Seeing from these mentioned costs, if the cinema does not decide to involve in other businesses, it will not be able to survive in the market. This also supports our research that why the cinema needs to sell the concession to the customers. It has no mean to extract all customer surplus, but it is a necessity for the cinema to do it.

Since there is some group of the moviegoers who just want to come to the cinema only for watching a movie and do not want to pay for expensive concession price. Thus, it becomes another reason why the cinema needs to separate the selling of ticket and concession from each other. The one who chooses to buy the concession even it is expensive; it means that they are willing to pay for it. It becomes an opportunity for the cinema to do the price discrimination to collect as much as revenue as it can. The moviegoers will be charged a price for a movie ticket in order to be able to watch a movie in the cinema. Later, they can choose whether they want to increase their utility while watching movie by eating a snack or drinking a pop soda. The moviegoers who still left their consumer surplus will decide to buy them. The cinema will be able to get all every level of customers while the leftover customer surplus moviegoers will choose to buy concession which brings more revenue to the cinema. From the price discrimination theory, this way from pricing is called a two-part tariff. It is one form of second-degree price discrimination. As consumer's price per unit is not constant thus it is a way to extract welfare from customers.

The price paid to the ticket will be called as lump-sum fee and to a concession will be called as a per-unit fee. Since in Thailand, the admission ticket price is mostly divided into 2 prices, normal seat and premium seat, then it is considered to be Two Two-Part Tariff. The cinema can increase its profits from offering a two two-part tariff instead of a single two-part tariff. As we will focus on the effect of *"the high admission ticket price and low concession price"* and *"low admission ticket price and high concession price"* thus we will assume that the

price of the admission price will raise in the same proportion even it charged different prices for different types of seat.

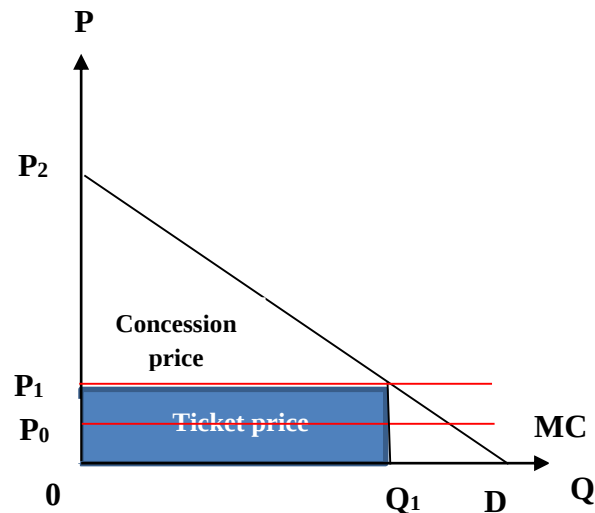
Some group of customers is very price sensitive and the cinema does not want to leave this group behind so it keeps the ticket price to be low by charging higher prices to the one who loves to eat snacks. The cinema just gives the customers an opportunity to enjoy a movie more with popcorn. This is called, “two part tariff”, a pricing strategy in which the customer must pay fee in exchange for the right to buy the product. The cinema is charging a ticket price followed by concession price.

With the characteristics of a moviegoer that some like popcorn more than others together with the inability of the cinema to separate these customers when they are buying a movie ticket. It needs a method to separate them from those who just want to watch movie. The selling of concession allows customers to divide and self-identify themselves. This allows the cinema to segment different types of moviegoers which making cinema charge them varying prices depending on the value perceived.

To see why most cinemas all agree to sell concessions in addition to the ticket, the answer can be explained through Price Discrimination model. Since in each cinema, both ticket and concession have been set to have a different price, so it is better to use a setup price instead of a real number. In figure 2, we assume that in this explaining model the cinema will set a ticket price at P_1 which is a higher price than the cost at P_0 . The cinema will charge at price P_1 per ticket and there will be Q_1 moviegoers come to watch a movie at a cinema. Because snack lovers have high value on concession, the cinema uses this opportunity to set the concession price to be high enough to cover moviegoers' entire consumer surplus. If there was no selling of concession, the area below the demand curve and above the price, P_1 would be consumer surplus and the cinema will receive revenue only at amount P_1Q_1 . However, by charging a

concession price equal to consumer surplus, the cinema is able to convert the consumer surplus into additional revenue which is at the amount $(P_2 - P_1)/2$. It can be concluded that by engaging in two-part tariff, it will make a cinema has higher revenue.

Figure 2 A graph showing a two-part tariff model adopted by most cinema



Information about Players in Game Theory Model

Most Cinemas ‘Pricing Strategy in Nowadays

From Major Cineplex Annual Report, concession sale has margin of 69% while the sale of movie ticket has a margin of only 18%. By comparing both margins together, it can be concluded that most cinemas adopt **“low ticket price and high concession price”** pricing strategy.

In addition, from the interview, we get more reasons explaining why a cinema needs to set a ticket price to be low and concession price to be high. “The ticket is set according to the real cost because the cinema needs to pay half of its ticket revenue back to the movie producer hence the cinema cannot sell the ticket at lower than nowadays price. In addition, the cinema cannot set the margin of ticket to be that high like in case of concession because it will

discourage the customers to come to a cinema. On the contrary, the price of concession at a cinema is actually high. With the reason that the consumption of concession in a cinema is a thing that increases the utility for the customer so we decide to increase the price in order to maximize the revenue” said Mr. Supat. With this information, it makes us sure that selling concession at high price can really create a huge profit to the company.

Moviegoer Characteristics

To construct characteristics of a player for customer side in the game, we will use the result from the survey that has done by moviegoers. Looking at Table 1, the highest choice selected by most moviegoers is shown in red color. The result of customer decision at cinema survey told that the ticket price is already reasonable. Most moviegoers prefer the cinema set a low ticket price and high concession price. Moreover, they normally buy concession to eat while watching a movie. Even though most of them complain that concession price is expensive, they still buy and enjoy eating them. It may be derived from the way that most moviegoers usually go to theater in a group such as with family or friends so they can afford to buy expensive concession. They share concessions together which makes the cost of concession per person become lower. In addition, most moviegoers said that they love to eat popcorn and drinks while watching a movie so it means that it is their habit. Despite expensive concession price, it is hard for them to give up buying concession to consume in a cinema.

Table 1 A summary statistics table of the result from survey that is used as characteristics of moviegoer in a game.

Survey Question and Answer	Amount (people)	Percentage
Who do you go to the cinema with?		
Alone	146	29.1%
Friends	310	61.9%
Lover	129	25.7%
Family	189	37.7%
Others	3	0.6%
Opinion towards ticket price		
Reasonable	272	54.2%
Too expensive	228	45.4%
Too cheap	2	0.4%
Decision of buying popcorn at a cinema		
Buy	292	58.2%
Not buy	210	41.8%
Reason of buying concessions		
I love to eat popcorn and drinks while watching a movie.	206	70.8%
I like popcorn which made by a cinema since it has better taste.	85	29.2%
I want to have a bite to eat.	66	22.7%
Others	24	8.2%
Opinion towards concession price		
Reasonable	30	7.7%
Too expensive	463	92.3%
Too cheap	0	0%
Customer's preferable pricing strategy		
High ticket price and low concession price	147	29.3%
Low ticket price and high concession price	335	70.7%

Source: Constructed from the author's own survey.

Nowadays, the pricing strategy “low ticket price and high concession price” is adopted by most cinemas. There are many questions that people are curious about this pricing whether is it reasonable for the cinema to price the concession expensive likes this? Does the high concession price make the moviegoers worse off? Does the high concession price lead to the lower number of people buying concession in the future? Is nowadays' cinema pricing strategy going on the right way? In order to explain, the use of Game Theory to model a choice selected by cinema and moviegoer is a good way.

Game Theory Model

In this model, there are 2 players which are cinema and moviegoer. The cinema has a first mover advantage to take a prior step before the moviegoers do as it is a sequential game. The key difference from a game with simultaneous moves is that now the first mover will anticipate the second mover's response when choosing its strategy. This is a game tree with perfect information. Every node is associated with a player who makes a move by choosing the next node. The game starts at the initial node and ends at the terminal node which creates the outcome and determines the players' payoff. In figure 2 of this game, the tree will grow from left to right.

Firstly, the cinema is trying to find a pricing strategy which can maximize its profit and the moviegoer is choosing whether that he will buy ticket and concession or not responding to the price that the cinema has already set. Looking into the action of the cinema, there are only 2 choices for cinema in this game. Since we will examine the effect on the moviegoer, the model will include only the decision on the customer affected products which are a movie ticket and concessions such as popcorn and pop soda.

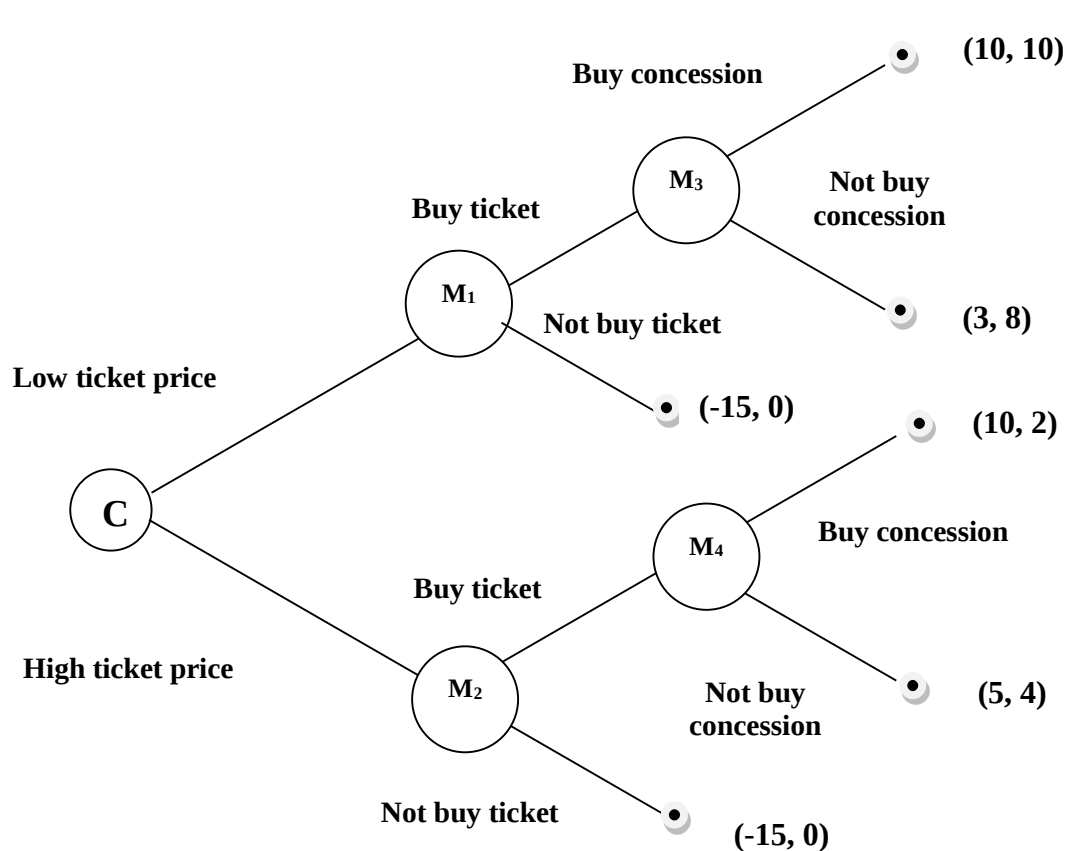
There are 2 choices that the cinema can choose to do,

1. **Low ticket price:** To set low admission ticket price in order to make every moviegoer affordable to purchase it and set the price of concession to be high in order to capture higher customer surplus.
2. **High ticket price:** To set high admission ticket price in order to get higher revenue from people who really want to watch at a cinema and low concession price in order to make every moviegoer enjoy consuming concession which later increase the utility of them. The increasing in the utility will be able to make moviegoers come back to watch a movie at a cinema again.

The cinema, C, makes a first move, choosing “*High ticket price*” or “*Low ticket price*”. Then the moviegoer, M, is informed about that choice. M can then decide separately between “*buy ticket*” and “*do not buy ticket*” in each case. Since the game does not end yet, M who decides to buy a ticket will continue to choose between “*buy concession*” and “*not buy concession*”. The resulting payoffs are the same as the strategic-form game in figure 3.

The resulting payoffs will be derived from the outcome of the survey done by 502 randomly selected moviegoers and the information that we get from the secondary data such as the annual report of Major Cineplex and the cinema’s interview. Importantly, the result of the survey will be used as a characteristic of a moviegoer in a game.

Figure 3 Cinema and Moviegoers game in an extensive form



C and M will represent a cinema and a moviegoer, respectively.

Payoffs to: (Cinema, Moviegoer)

If C decides to do *“Low ticket price”*, the moviegoer loves it. According to the result of a survey, most moviegoers decide to continuously buy concession at cinema even though its price is expensive. The moviegoer likes to eat a snack while watching movie thus it concludes that it is a habit of a moviegoer so he prefers to eat a snack. Moreover, because of it is like a complementary good with movie experience thus it makes most moviegoers easily decide to buy it. He satisfies as they love to eat it while watching a movie and it has a good taste. This brings the utility of moviegoers to be higher. Since in this choice, the moviegoer decides to *“buy both ticket and concession”* so the cinema can sell both of their products and hence receive the highest profit which makes payoffs (10, 10). However, because the moviegoer loves to eat concession and in the case that they will not buy it, therefore, he loses the additional utility that he will gain if he decides to buy concession to eat when watching a movie. This situation makes the cinema receive only the revenue from selling the ticket at a low price. The payoff of cinema will reduce a lot as it cannot sell the concession in high price. This makes the payoffs become (3, 8) for the case that moviegoer decides to *“buy ticket but not buy concession”*.

If C decides to do *“High ticket price”*, this strategy is not preferred by the moviegoer. With the target revenue, either way of pricing strategy can bring the same amount of revenue to the cinema so the payoff of cinema will be the same of 10 if the moviegoer buys both ticket and concession. In the case that the moviegoer has to buy a ticket at a high price, this will lead to moviegoer unsatisfaction. Since he already comes to come to the cinema, he still wants to watch a movie even though the ticket price is high. Even the cinema set the price of concession to be low, the moviegoer has to pay more even it is in a small amount. As he already pays high price for a ticket at a door so he does not want to pay more. Thus the payoffs for both side will be (10, 2) as moviegoer decides to *“buy ticket and buy concession”*. On the other hand, if he has to buy a movie ticket at a high price, he will feel better if he does not need to pay more for

concession. . Since the moviegoer decides to buy only ticket, the cinema receives only the selling of expensive movie ticket which will make cinema's payoff to be higher than selling a movie ticket at a low price. Hence, the payoffs will be (5, 4).

If the moviegoer responds to the strategy done by the cinema by giving up buying the ticket, he will not receive any utility from watching a movie at the cinema. On the other hand, the cinema is facing a loss as the moviegoer does not buy a ticket and it still needs to pay for cost running a business. Therefore, the both sides' payoffs is (-15, 0) for both pricing strategies.

An Extensive game with perfect information can be analyzed by backward induction. This technique solves the game by first considering the last possible choices in the game. In this game, M moves last. Since the moviegoer knows that the game will end after his move, he can select the action which is best for him. If C has decides to set "*low ticket price*", then the moviegoer prefers to "*buy ticket*". Because of a low ticket price, a moviegoer still has leftover customer surplus thus he is willing to pay more for high concession price as the concession can make them enjoy their time more. Moviegoer decides to "*buy both ticket and concession*", since his resulting payoff of 10 is more than 8 and 0 when "*buy ticket and not buy concession*" and "*not buy ticket*", respectively. If C has chosen to set "*a high ticket price*", then the moviegoer prefers to "*buy ticket and not buy concession*", since his resulting payoff of 4 is more than 0 and 2 when "*not buy ticket*" and "*buy ticket and buying concession*", respectively. These choices by M are indicated by arrows in figure 2.

Once the last moves have been decided, backward induction proceeds to the players making the next-to-last moves. Being rational, the cinema anticipates the subsequent choices by a moviegoer. The cinema, therefore, realizes that its decision between "*Low ticket price*" and "*High ticket price*" is effective between the outcomes with payoffs (10, 10) or (5, 4) for the two players, respectively. Clearly, the cinema prefers low ticket price, which results in a

payoff of 10 for it, to high ticket price, which led to an outcome with payoff 5. So the unique solution to the game, as determined by backward induction, is that C, the cinema, set low ticket price and high concession price and M, the moviegoer, responds by buying a ticket and continue to buy concession with the highest payoffs (10, 10).

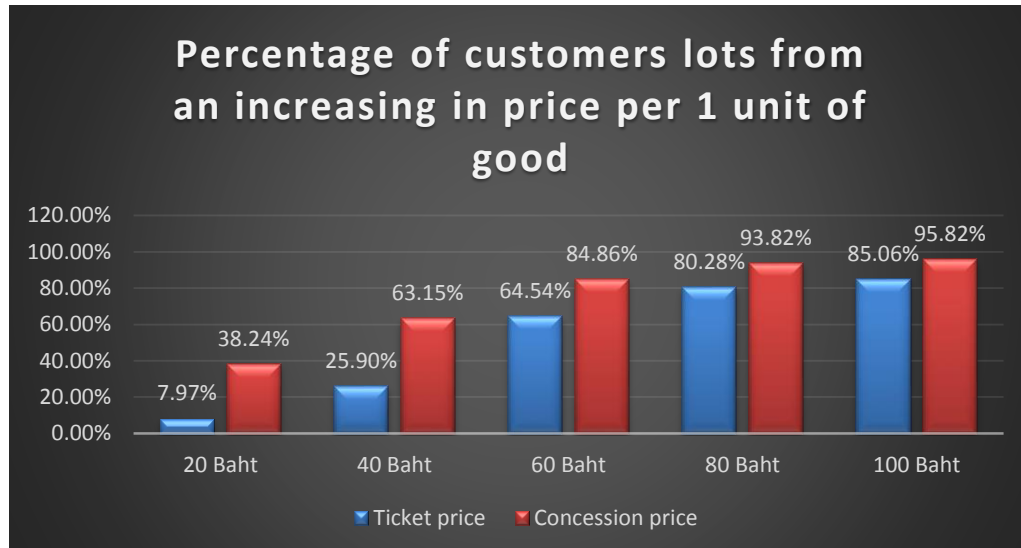
VII. Policy Recommendation

The result from the survey tells that the best pricing strategy for cinema and is satisfied by most customers is to set “low ticket price and high concession price”. If cinema considers whether to increase either ticket price or concession price, it needs to carefully think about the amount of increasing in the price since the overabundant increasing in the price of both products can later cause the cinema to lose more number of customers rather than gaining more profit. From figure 4, you will see that the increasing in the ticket price and concession price by 100 Baht can bring the number of customers give up buying them approximately by 85% and 96%, respectively. There is a rapid percentage change as a price of ticket price increasing from 40 Baht to 60 Baht. The percentage of customers lost have been increasing by 39% which is the largest different for all over the change from each price to each price. On the other hand, the increasing in concession price by 20 Baht from current price can cause the customers to change their buying decisions nearly 40%. If the cinema has already decided that it is going to increase either ticket price or concession price, the cinema is better not to increase the price of ticket higher than 40 Baht and 20 Baht for concession price.

Looking at figure 4, the red column will represent the percentage of customers lost from an increasing in price of 1 unit of concession while the blue column will represent the same situation happen to 1 unit of a ticket. You will see that every red column is always higher than the blue one. It means that there are more people give up to buy concession when its price is increasing comparing to the increasing in the ticket price. Since the ticket price is not too high

compared to concession price, it reflects in the willingness to pay. More people are willing to pay when ticket price is increasing more than when there is an increasing in concession price. Importantly, when both ticket and concession price increases by a small amount, it creates a large different of the customers loss percentage among both good. However, when the price is increasing to 100 Baht, the different in the gap among both customer loss percentages is reducing. As the price is increasing to some certain point, the customers in the market will actually know that it is too expensive for them to purchase it. Their willingness to pay will reduce as the price is increasing too high. (Pindyck and Rubinfeld (2013) With this reason, the cinema is better to increase the price at only a suitable amount if it is necessary in order to prevent a large customer loss and hence a reducing in the profit in the future.

Figure 4 A graphs showing a percentage of customer lost from an increasing in price per 1 unit of good



Source: Constructed from the author's own survey

VIII. Conclusion

Most moviegoers usually complain about the expensive concession price. However, they still decide to purchase it. Not only the moviegoers continue to criticize but the cinema also hesitates to customers' decision whether what pricing strategy it should adopt to make them please. The expensive popcorn or concession price extracts different sums from different customers. Popcorn lovers, who have more fun at movies, pay more for their additional pleasure. Thus, the expensive popcorn price makes the cinema able to set the ticket to be low in order to provide more products and services to the poorer one in the society. This is a kind of cross-subsidy. From the result of game theory, it clearly shows that the cinema is moving toward the right direction. This pricing strategy, set a low ticket price and high concession price, is satisfied by most customers deriving from their purchasing habit. Additionally, it brings the highest profit to the company. More people are willing to pay when ticket price is increasing more than when there is an increasing in concession price. However, the cinema should beware about that. An excessive increasing in price of the products may reveal its negative effect on both cinema and moviegoers.

IX. Limitation and Further Improvement

This research examines the result of the pricing strategy that has been adopted by the most cinemas in nowadays. However, it considers only a normal type of cinema. In order to prevent the bias that is going to happen from the different type of customers, the premium one is eliminated from the model as it has a different pricing strategy. Since this research used the result of a survey as characteristics of s moviegoer in a game model so some that do not has same characteristics as a player in a game may not agree with the conclusion. The further study would be better to include more number of surveys and do more models based on different customer groups.

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Appendices

Appendix 1: The Customer Decisions at Cinema Survey that had been conducted to represent the characteristics of moviegoer in the model.

Customer Decisions at Cinema Survey

Please tick one box in each of the questions below and add any further comments in the space provided.

1. Gender ☐ Female ☐ Male
2. Age_____ years old
3. Occupation
☐ Government officer
☐ Private Employee
☐ Business Owner
☐ Student
☐ Others (Please specify) _____
4. Education level
☐ Below Secondary School ☐ Secondary School ☐ Bachelor Degree
☐ Master Degree ☐ Doctorate Degree
5. Your income per month
☐ Less than 5,000 Baht ☐ 5,000-9,999 Baht ☐ 10,000-14,999 Baht
☐ 15,000- 19,999 Baht ☐ 20,000-29,999 Baht ☐ 30,000-39,999 Baht
☐ 40,000-49,999 Baht ☐ More than or equal to 50,000
6. What cinema brand which you usually go to watch movie?
☐ SF ☐ Major Cineplex ☐ Scala / Lido ☐ Century Movie
☐ Others (Please specify) _____

7. You usually go to cinema with _____?
- ☐ Alone ☐ Friends ☐ Family ☐ Lover Others (Please specify)
- _____
8. On average, how frequently do you go to watch movie at cinema?
- ☐ Less than once a month ☐ 1-2 times/month ☐ 3-5 times/month
- ☐ 6-10 times/month ☐ More than 10 times/month
9. What is your opinion towards the movie ticket at cinema in nowadays?
- ☐ Reasonable ☐ Too expensive ☐ Too cheap
10. What is the objective in watching movie at cinema? (can answer more than 1 choice)
- ☐ To relax ☐ To entertain ☐ To follow a trend
- ☐ To follow a work of favorite actor or director
- ☐ Others (Please specify)_____
11. Do you normally buy popcorn or drinks at cinema?
- ☐ Buy (Answer question 12&13) ☐ Not buy (Answer question 14 onwards)
12. What is your opinion towards the concession at cinema in nowadays?
- ☐ Reasonable ☐ Too expensive ☐ Too cheap
13. Does a taste and quality of popcorn have effect on selecting a cinema brand? (SF, Major and etc.)
- ☐ Yes ☐ No
14. What is the reason for you to buy concession or drinks at cinema?(can answer more than 1 choice)
- ☐ I love to eat popcorn and drinks while watching a movie.
- ☐ I like popcorn which made by a cinema since it has better taste.
- ☐ I want to have a bite to eat.
- ☐ Others (Please specify)_____

15. What is your reason of not buying popcorn or drinks at cinema?

☐ I think the price is too expensive.

☐ I do not like eating those things.

☐ I intentionally come to cinema only for watching a movie.

☐ Others (Please specify)_____

16. If the cost structure changes and the cinema decide to adjust the price to be higher,

which of the following choices create incentive for you to still visit the cinema?

☐ Raising the ticket price and keeping the same concession price

☐ Raising the concession price and keeping the same ticket price

17. Thinking about your last movie watch, if the cinema decides to raise the price of that movie by the following amount, would you still buy the ticket to watch that movie?

Price increase per ticket	buy	Not buy
20 THB		
40 THB		
60 THB		
80 THB		
100 THB		

18. Thinking about the case that in the future the cinema decides to raise the price of movie ticket until the highest price you choose to buy in previous question, if the cinema continues to raise the price of each concession by the following amount, would you still buy them?

Price increase per concession	buy	Not buy
20 THB		
40 THB		
60 THB		
80 THB		
100 THB		

Thank you for your time and consideration

Appendix 2: The table showing the result from the survey that has been included in the research analysis

502 Samples

1. What is your gender?

Answer	Amount (people)	Percentage (%)
Female	287	57.2%
Male	215	42.8%

2. What cinema brand which you usually go to watch movie?

Answer	Amount (people)	Percentage (%)
SF Cinema	148	29.6%
Major Cineplex	331	66.2%
Scala/Lido	2	0.4%
Century Movie	2	0.4%
Others	17	3.4%

3. You usually go to cinema with _____?

Answer	Amount (people)	Percentage (%)
Alone	146	29.1%
Friends	310	61.9%
Lover	129	25.7%
Family	189	37.7%
Others	3	0.6%

4. What is your opinion towards the movie ticket at cinema in nowadays?

Answer	Amount (people)	Percentage (%)
Reasonable	272	54.2%
Too expensive	228	45.4%
Too cheap	2	0.4%

5. What is the objective in watching movie at cinema? (can answer more than 1 choice)

Answer	Amount (people)	Percentage (%)
To relax	146	29.1%
To entertain	310	61.9%
To follow a trend	129	25.7%
To follow a work of favorite actor or director	189	37.7%
Others	3	0.6%

6. Do you normally buy popcorn or drinks at cinema?

Answer	Amount (people)	Percentage (%)
Buy	292	58.2%
Not buy	210	41.8%

7. What is your opinion towards the concession at cinema in nowadays?

Answer	Amount (people)	Percentage (%)
Reasonable	30	7.7%
Too expensive	463	92.3%
Too cheap	0	0%

8. What is the reason for you to buy concession or drinks at cinema?(can answer more than 1 choice)

Answer	Amount (people)	Percentage (%)
I love to eat popcorn and drinks while watching a movie.	206	70.8%
I like popcorn which made by a cinema since it has better taste.	85	29.2%
I want to have a bite to eat.	66	22.7%
Others	24	8.2%

9. What is your reason of not buying popcorn or drinks at cinema?

Answer	Amount (people)	Percentage (%)
I think the price is too expensive.	172	81.9%
I do not like eating those things.	40	19%
I intentionally come to cinema only for watching a movie.	41	19.5%
Others	6	2.9%

10. What is your preferable cinema pricing strategy?

Answer	Amount (people)	Percentage (%)
High ticket price and low concession price	147	29.3%
Low ticket price and high concession price	335	70.7%

11. Thinking about your last movie watch, if the cinema decides to raise the price of that movie by the following amount, would you still buy the ticket to watch that movie?

Price increase per ticket	Buy (people)	Percentage (%)	Not buy (people)	Percentage (%)
20 THB	462	92%	40	8%
40 THB	372	74.1%	130	25.9%
60 THB	178	35.5%	324	64.5%
80 THB	99	19.7%	403	80.3%
100 THB	75	14.9%	427	85.1%

12. Thinking about the case that in the future the cinema decides to raise the price of movie ticket until the highest price you choose to buy in previous question, if the cinema continues to raise the price of each concession by the following amount, would you still buy them?

Price increase per concession	Buy (people)	Percentage (%)	Not buy (people)	Percentage (%)
20 THB	310	61.8%	192	38.2%
40 THB	185	36.9%	317	63.1%
60 THB	76	15.1%	426	84.9%
80 THB	31	6.2%	471	93.8%
100 THB	21	4.2%	481	95.8%

Appendix 3: The interview question that was conducted to the marketing director of SF Cinema City

First part: Questions about overall cinema industry

1. What is a cost and revenue structure of a cinema?
2. What is a future trend of the cinema industry in Thailand?
3. What is a competitive environment of cinema industry in Thailand?

Second part: Questions about pricing strategy and promotion

1. How the future trend of cinema industry in Thailand affects the cinema's pricing strategy and promotion.
2. From the data collection, we will see that the price of both ticket and concession is rising every year, is it resulting from the higher cost or demand so that the cinema can continually increase the price?
3. Why does the cinema set the price of concession to be very expensive comparing to the similar one selling outside?
4. Why does the cinema have to set the ticket price to be as same as the concession price even though the cost of concession is relatively lower?
5. How large does a low peak time affect the revenue of a cinema?
6. Most of the students complain that the price of concession at a cinema is very expensive. What is a decision of a cinema towards this customer group? Does a cinema have a plan to set a special promotion for them?
7. From the result of the survey, most moviegoers prefer the cinema to set "low ticket price and high concession price". This evidence shows that the customers have more willingness to pay when ticket price is increasing more than when there is an increasing in concession price. What is your decision towards this situation?

8. What is the reason behind “Wednesday Proomotion”?
9. What will be your strategy in order to make people come to SF Cinema?
10. Do you have a plan to adjust the taste of the popcorn that is currently selling at a cinema?
11. From the result of the survey, most customers will buy a ticket in the case that the cinema does not increase the price higher than 20 Baht per 1 ticket. Does the cinema have a decision to increase a ticket price to the maximum price stated by the customers?
12. From the result of the survey, the price of concession at a cinema is very expensive. However, most of them will continue to buy concession in the case that the cinema does not increase the price higher than 20 Baht per 1 unit of concession. Does the cinema have a decision to increase a concession price to the maximum price stated by the customers?