How to Use the Sunk Cost Effect Wisely to Increase Revenue

Take Live Sports Software as an Example

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ABSTRACT

The sunk cost effect is the choice to act in an irrational way by dwelling on past payoffs to avoid the negative emotions associated with losses. Today, the theory of sunk costs effect itself is well researched, and in some studies, sunk costs effect has been specifically applied. For example, the banking industry is looking at ways to prevent non-performing loans by looking at ways to avoid the sunk cost effect. The purpose of this study is to identify the most common decision-making behavior of consumers when faced with a sunk cost problem, and through their irrational decisions operators can gain access to arbitrage opportunities. This study uses the paid use of live sports software as an entry point, completed by questionnaires and data analysis. The study found that consumer decision making behavior can be driven by the use of sunk cost strategies, once consumers have spent money on live sports software for some reason, up to three-quarters of the population experience a sunk cost effect and their irrational decisions drive them to make further purchases, even if the event being shown is one they do not like. Through this discovery, the sunk cost effect can be effectively used to increase consumer stickiness and loyalty to a product.

Keywords: *Sunk cost, Behavioral decision-making, Paid applications, Psychology, Behavioral Economics.*

1. INTRODUCTION

The original definition of the sunk cost effect is that if people have already paid for a good or service, they will increase the frequency of using it. This may be due to the tendency of people to self-justify, to be reluctant to admit their past mistakes and to want to be consistent with their previous choices, or to the strong motivation of people to make up for their past losses. Loss aversion is the perception that losses are more unbearable to people when they are faced with the same amount of gains and losses. Loss aversion reflects an asymmetry in people's sensitivity to loss and gain, with the pain of facing loss greatly outweighing the pleasure of facing gain. People's risk preferences for gains and losses differ because they have different attitudes to equivalent gains and losses. When it comes to losses, people behave as risk seekers. Given the choice between a certain loss and a gamble to minimize that loss, most people will choose to take the gamble. This is because most people are extremely reluctant when they are in a losing position and would rather take a potentially greater risk to gamble. In any case, the sunk cost effect has a great potential to cause people to make irrational behavioral decisions. At the same time, the presence of loss aversion can make it difficult for them to correct their irrational behavioral decisions.

Generally speaking, people usually think about how to avoid sunk costs, but rarely use them to generate benefits for themselves. However, for a shrewd businessman, using the right approach to generate sunk costs for potential customers can increase the chances of converting potential customers into real customers. The researcher will use the consumption of live sports apps as the background of the questionnaire and use the results of the scenario questionnaire to explain how prospect theory can be used to create sunk costs for consumers. This study can be used to demonstrate the huge impact of the sunk cost effect, where every sunk cost that consumers invest in paid live sports software can be used by merchants to increase revenue. At the same time, it would be a universal law that the results of this research could be generalized from paid live sports software to other areas, by operating in the same way to generate revenue.

2. LITERATURE REVIEW

When a consumer makes a purchase on something, his next decisions will change as a result of those purchases. “Our decisions are often influenced by irrecoverable past costs, even when the current course of action turns out to be unfavorable, reflecting a cognitive bias known as the ‘sunk-cost effect’”[1].

The sunk cost error, in particular, occurs either when “(a) options preceded by some investment (money, effort, time) are preferred to other prospectively equivalent options (the work-ethic effect), or when (b) an agent persists in a particular endeavor not because of prospective gains, but because of costs already incurred.” and “Future prospects are often negatively correlated with past investments”[2]. So the researcher will use the research to show how operators can develop strategies to induce others to incur sunk costs.

Arkes and Blumer (1985) explain the sunk cost effect is ‘manifested in a greater tendency to continue an endeavor once an investment in money, effort, or time has been made’. This seems to point us towards a virtuous cycle of revenue growth if users have the means to increase user stickiness and keep consumers engaged.

Traditionally, economists believe that past costs should not be allowed to influence your future decisions. While people may feel sorry for past costs, a rational decision maker should always be interested only in the future benefits of current investments. The prospect theory tenet of loss aversion, however, induces sunk cost pressure and renders the traditional economic perspective incomplete. People often feel obligated to use a service despite not really wanting to do so, because they have misgivings about “wasting” their investment[3].

Prospect theory can be used in this study to explain the emergence of sunk costs. In 1979, Daniel Kahneman and Amos Tversky, professors of psychology at Princeton University, introduced prospect theory, one of the expectancy theories of decision theory. The theory holds that individuals have different risk attitudes based on their reference points. Due to marginal effects, the value function is concave for profits and convex for losses. This S-shape of the value function suggests that people are typically risk averse in the profit condition and risk seeking in the loss condition. Another characteristic of the value function is that it is steeper for losses than for profits. Kahneman and Tversky's research in the 1970s showed that the psychological impact of "losses" and "gains" on people was "overwhelming" for losses. win". It was also found that loss is twice as stimulating as the joy of gain.

The ability to improve user stickiness is an important indicator in the study results to determine whether revenue can be improved.“ Positive consumer participation behavior has a positive effect on consumer perceived value, negative consumer participation behavior harms consumer perceived value, and consumer perceived value has a positive impact on consumer happiness and stickiness. Consumer happiness plays an intermediary role between consumer perceived value and consumer stickiness[4].”

3. METHODOLOGY

3.1. Respondents

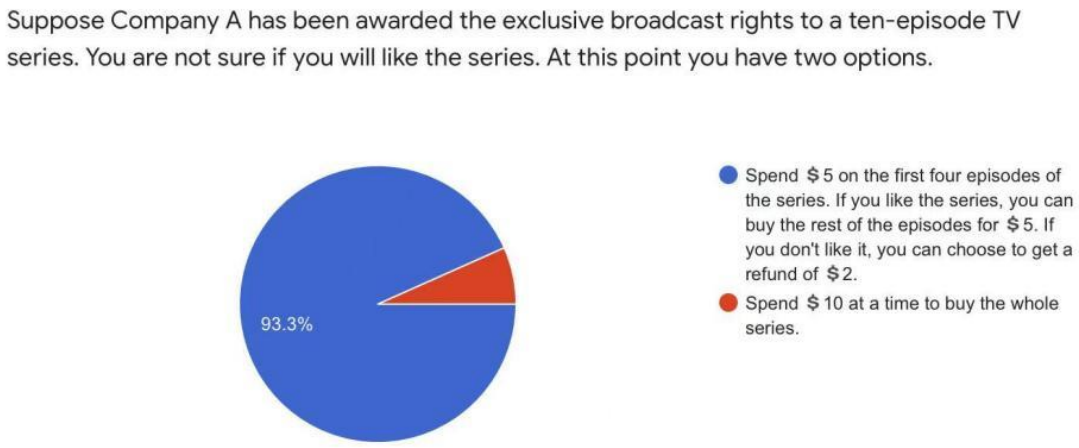

Figure 1 Prospect theory test

In order to eliminate the potential effects of cultural differences, the current study collected 180 valid questionnaires (61 males, 119 females) from China and 45 valid questionnaires (33 males, 12 females) from the United States. it's worth noting that 129 of the 225 samples had previously studied finance-related courses. After testing, their decision-making style was consistent with the predictions of prospect theory.

3.2. Scenario of the questionnaire

Scenario: Tonight, you are going to watch a sports

game as a pastime. You find that all the games are only available for viewing on a pay-per-view basis, so you pay in

advance for a ticket to watch tonight's 8:00 game A on a live sports event app. When you get to 8:00, you find that another much more popular game B is also starting at the same time and has been temporarily changed to a free event (you only have one device to watch the game, there is no case of watching both at the same time). So, you are faced with a decision situation. (Question 1)

Question options include 'Watch Game A', 'Watch Game B' and 'Other'. If respondents chose to watch game A, the researcher assumes that they exhibit a sunk cost effect.

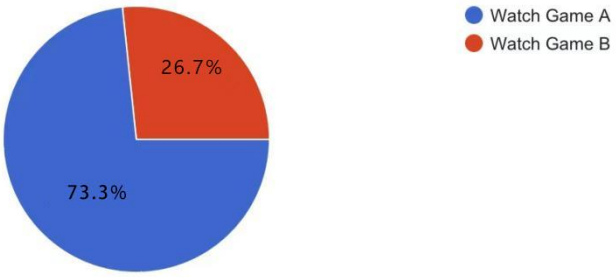

Figure 2 Result of question 1

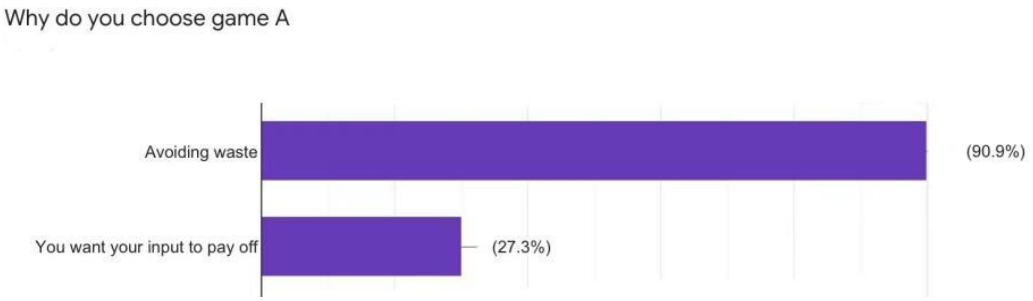

Figure 3 Result of question 2

According to the literature, the main reasons for the sunk cost effect come from two sources: avoidance of waste and the hope that past inputs will pay off. So in order to prove the reliability of this data, another question was designed to explore it in depth.

According to the data collected, people seem to be more afraid of wasting their money. It's probably that a waste of money that's causing them more visual damage.

3.3. Other questions

In order to investigate the value of the sunk cost effect available to operators, questions were also designed to examine the extent to which these respondents relied on the app they had used.

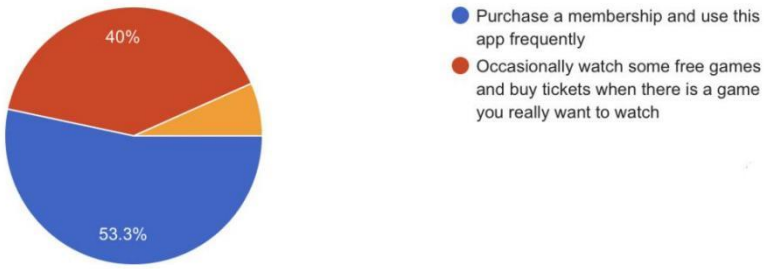

Figure 4 Result of question 3

'If you find that people who have purchased tickets on this app will get a 20% discount when they purchase a membership on it, and members can watch all games for free! Then you will... ' (Question 3)This result is important, if a large percentage of people want to continue to use the app and open a membership, it proves that operators are indeed profitable.

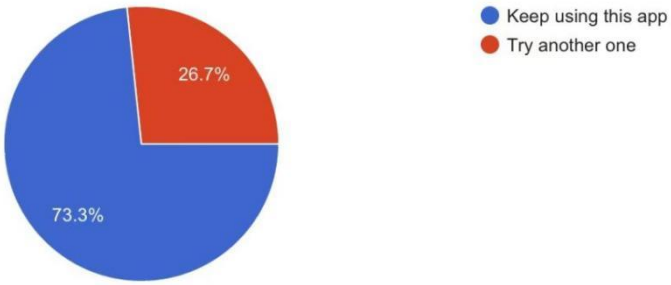

Figure 5 Result of question 4

'Assuming you bought a ticket to watch the game on this app (and didn't buy a membership), would you prefer to try another app or continue using this one next time (assuming all apps bring the same sense of experience).' (Question 4) If option a is selected, then it shows that consumption will make users very sticky.

3.4. Results

3.4.1. Examining the existence of sunk cost effects in a live sports app population using

The presence of a monetary sunk cost effect is shown in the decision to watch Match A, whereas those who choose to watch Match B or have no preference for Matches A and B are unaffected. A sunk cost impact is experienced by 73.3 percent of those polled.

3.4.2. The explanation of the app's user stickiness

User stickiness refers to the degree of dependence and expectation of re-consumption formed by the combination of loyalty, trust and positive experience of a brand or product. In this study, people can interpret it as the willingness of customers who have already spent money on sports payware to make further purchases. User stickiness also refers to increasing the number of users on both sides of each other's use, just as people all do in the usual relationship between two people on both sides.

In question 1 the researcher has concluded that 73.3% of respondents (165 respondents) would prefer to watch the game they paid for, suggesting that they are affected by the sunk cost effect. Of these 165 people, 136 chose to continue using this software in question 4, a whopping 82.4%. Of the remaining 60 respondents, only 5, or 12.0%, said they would continue to use the software. This statistic shows that once consumers have incurred a sunk cost on a product, they are more likely to become dependent on that product due to the sunk cost effect.

From the perspective of loss aversion, consumers do not want their initial investment to be wasted, which in this study means that consumers are more willing to continue to use the live sports app, and what the app developers need to do is to improve the consumer experience, to meet the consumer's "gamble" mentality, so that they feel that the initial investment is This can effectively increase user stickiness and gain more revenue.

4. DISCUSSION

The prospect theory explanation of the sunk cost effect implies that the previous investment is not fully discounted. In these instances, people's expectations do not start from the status quo, but from the losing side of the value function. According to this interpretation, previous investments are seen as losses that are still present in the decision maker's brain when he or she evaluates the next behavior. Because the value function is convex with respect to losses, further losses do not cause a larger reduction in value. On the contrary, it can be seen from the loss side of the value function that a profit causes a massive increase in value. The risky reinvestment of funds to sunk costs in the hope of a good outcome is more likely to occur than a complete withdrawal of the investment.

As an operator, it is a good way to create more revenue for yourself by using reasonable ways to make others incur sunk costs

Learn to control the psychological impact of sunk costs. People are irrational animals, and it is human nature to consider sunk costs, and it is difficult for people to make absolutely rational decisions. But when people know the principle of sunk cost, they can do more in-depth thinking when making decisions and try their best to avoid making some irrational behaviors.

5. CONCLUSION

From the data collected earlier, the researcher concluded that 1) the main reason for sunk costs is that people do not want to waste their inputs, 2) sunk costs have two effects, one is to increase the frequency of people's use of the item, and the other is that people are willing to spend more on their existing inputs, 3) a large

proportion of those affected by prospect theory will be affected by the sunk cost effect.

Therefore, as an operator, they can increase revenue by these methods. First, users' consumption decision behavior can be driven by using sunk cost strategies, such as measures to encourage purchases or installment purchases to generate sunk costs and thus lead to the formation of more consumption behaviors. Then when users pay for your products, they will increase the frequency of use of this product, as well as increase loyalty to this product. Operators can use simple strategies such as buy one get one free to give customers a longer experience and thus maintain their desire and loyalty over a longer period of time.

The sample size of this research study is still small and the age of the respondents is concentrated in the 20-30 age group, which has certain limitations. In the future, the scope of the survey could be expanded to extract more reliable data and more generalised patterns. This is not a normal phenomenon for two cultures that are very different from each other, and cultural differences can be used as a starting point for further research.

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