

Sunk Cost Effect: The Concorde Failure

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It was on the 21 of January, 1976 when the first two commercial flights of **Concorde** – the first commercial jet to exceed the speed of sound in the history of civil aviation – took off. On that day, a long period of experimentation lasting almost 12 years ended and the era of supersonic commercial travel began. Twenty-four years later, on the 25 of July, 2000, an Air France Concorde crashed into a hotel just a few minutes after takeoff from Paris Charles de Gaulle Airport, killing 100 passengers, nine crew members and four hotel guests. Three years later, the companies that had funded the Concorde project at the time and had adopted it in their fleets – Air France and British Airways – officially closed the program.

Shortly after its launch, the project showed significant economic limitations. Between wrong marketing choices, exorbitant production, maintenance, management, fuel costs and a very low request rate due to the high flight price, it was clear from the beginning that the project would be a financial failure. Despite this, the British and French governments continued to invest heavily

in the project, until the tragic accident in Paris.

Let's go back in time to a few years before the dramatic accident.

Imagine that you are the manager of Concorde's R&D division and you are faced with two possible scenarios. In the first scenario, you've already invested nine hundred million euros in the project and you have to decide whether to invest another hundred to complete it. In the other scenario, you have not yet invested anything in the project and you have to decide whether or not to allocate one hundred million euros.

What would you do?

You will probably be tempted to say yes in the first case and no in the second one.

If you think about it, however, considering that the two situations are completely equivalent (i.e. in both cases the project is not that profitable), this would be quite irrational.

Why this choice?

Because you would be considering non-recoverable costs, which are

nothing more (no pun intended) than a waste of money.

If you have a degree in economics or have done studies in this area, you will recognize the link to what is known as “**opportunity cost**”. In fact, when you make choices that justify sunk costs, you are underestimating, if not ignoring, the opportunity cost itself.

Well, when one is wrong in considering sunk costs, one is faced with a cognitive distortion known as the **Sunk Cost Effect**, otherwise known (although this term in the context of scientific publications mostly concerns the animal kingdom) as the **Concorde fallacy**.

It is from the Concorde case described above that the appellation “Concorde fallacy” was born, which, for some aviation enthusiasts, is certainly very evocative.

The French and British governments, probably because they had already heavily invested money and prestige in the project, continued to bet on Concorde, investing further money in the famous aircraft, even when it was clear that it would certainly not be financially sustainable. The final result was an investment at a total loss and also in terms of human lives, even if due to a set of unfortunate circumstances. The “fallacy of sunk costs” or “Concorde fallacy” properly sums up the behavior of the two governments.



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If we want to describe this effect, we could say that it is a bias that concerns the paradoxical behavior whereby, when we have put so much effort, time, and/or money into a project that is now going badly – to an extent that we are faced with an irrecoverable loss – instead of abandoning the project and limiting our losses, we tend to continue to invest even though this will only increase our losses.

The examples of such an effect in history are many. Let’s take a few that are certainly closer to our everyday lives.

(This one will greatly appeal to those whose groom is doomed).

You are at a restaurant. You have ordered a set menu dinner that includes several courses, such as appetizers, first course, second course with side dish and dessert. An hour goes by and you have finished the main courses. You are very satisfied, all the dishes were delicious. Now, it’s time for dessert (a nice slice of lime cheesecake). After

tasting it, you realize that you are so full that you would rather leave it.

What do you do? Do you stop eating the dessert or do you keep eating some more, maybe all of it?

Many people will continue to eat the dessert even though they are full so as to justify the expense already incurred (remember? The menu includes dessert), after all, they think it would be a waste to “pay for it and not eat it”.

Another example, this time for sports fans.

Imagine you have paid 80 euros for a ticket to a championship basketball game that is played an hour’s drive from your home. The ticket is nominative and cannot be transferred to others. On the day of the game, there is a snowstorm that makes it risky to get behind the wheel.

Would you still go to the game?

Now, imagine instead that the ticket was given to you as a gift. Would you be more or less likely to go to the game?

Many people would be more likely to go to the game in the first case, that is, if they had paid for the ticket out of their own pocket. However, again, as with the cheesecake, the ticket represents an **unrecoverable cost**. Whether or not you paid for the ticket should have no effect on your choice to go to the game.

Oh yes, the fallacy of sunk costs is evident in many everyday decisions.

Even in romantic relationships!

The Concorde/unrecoverable cost fallacy also drives people to go on with unhappy relationships. If someone refused to break up with their partner, despite not being happy with that person and being disappointed, just because leaving them would involve throwing away the best years of their life, they would, in fact, be incurring a (non-recoverable) cost of the time and effort they spent with them during their time together.

As these examples show, keeping irrecoverable costs in mind can be costly, not only in terms of money, but also in terms of time, effort, and...heartache.

According to Friedman et al. (2007), there are at least two distinct psychological mechanisms underlying “bad” decisions with respect to sunk costs.

The first mechanism, which well explains our tendency toward self-justification, is “**cognitive dissonance**” (Festinger, 1957). According to this theory, people who have invested their resources in an unprofitable activity, “revise” (irrationally) their beliefs about the profitability of the investment in order to avoid the unpleasant realization that they have made a mistake and wasted resources.

The other psychological mechanism is “**loss aversion**” (**Prospect Theory** by Kahneman and Tversky, 1979), which induces people to choose an additional investment, whose incremental return

has a negative expected value, but which still has some (remote) chance of allowing a positive return.

Some experimental evidence also suggests that the sunk cost fallacy is driven by negative emotions caused by the prospect of having invested unsuccessfully, such as fear of failure or of being judged.

But such negative emotions are not the same for everyone.

In 2003, Moon and his research team found that anxious individuals might be more sensitive to the pressures inherent in typical sunk cost situations and, thus, be more motivated to continue investing in a failed plan.

Conversely, because the sunk cost effect is fueled by unrealistically positive future expectations, individuals suffering from depression would be more likely to stop investing additional resources in a project (Wener, 1975).

Escalation effect

It is also worth remembering that the Concorde or sunk cost fallacy can start a vicious cycle called the **escalation situation**.

In fact, when a project of any kind starts to go wrong, the sunk cost bias may irrationally push us to make even more investment in the project and, thus, make us incur an even greater sunk cost, which is even harder to ignore and justify, and which, in turn, will encourage further outlay of money and so on.



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A very well-known example of “escalation” is that which recounts the conduct of the United States in the **Vietnam War**. According to the analysis of then-Secretary of State George Ball, in 1965, from the moment soldiers began to fight and die, it became impossible to retreat for fear that these soldiers had died in vain. Therefore, additional soldiers were sent in, many of whom died in turn, at which point withdrawal became even more difficult.

These were the words Ball wrote to President Johnson:

“The decision before you is crucial. From the moment large numbers of troops are involved in direct combat, it will greatly increase casualties in a war that soldiers are ill-equipped to fight, in an unfriendly, when not openly hostile, environment. And the moment we suffer major casualties, that will be the beginning of an almost irreversible process. Our involvement will be such that we will not be able (except at the price of national humiliation) to abandon the war before we have achieved our stated objectives.”

Well, again, escalating situations are common in everyday life. When an individual has a losing investment, a faltering career, or even a troubled marriage, they are often faced with the difficult choice between striving to reaffirm their behavior and seeking a new alternative.

Think about R&D labs, how many difficult decisions they have to make about how and whether to continue in a

project or back off from disappointing ones!

To conclude, studies on the Concorde fallacy/unrecoverable costs and the escalation effect, as well as the daily observation of our behaviour, leave us no escape: both individuals and organizations inevitably often lose control of their actions and end up throwing their money into the wind.

References

1. Angner E. "A Course in Behavioral Economics", Red Globe Press, 2020.
2. Arkes, H. R., & Ayton, P. (1999). The sunk cost and Concorde effects: Are humans less rational than lower animals?. *Psychological bulletin*, 125(5), 591.
3. Dijkstra, K. A., & Hong, Y. Y. (2019). The feeling of throwing good money after bad: The role of affective reaction in the sunk-cost fallacy. *PloS one*, 14(1), e0209900.
4. Friedman, D., Pommerenke, K., Lukose, R., Milam, G., & Huberman, B. A. (2007). Searching for the sunk cost fallacy. *Experimental Economics*, 10(1), 79-104.
5. Kahneman, D. & Tversky A.(1979). *Prospect theory: an analysis of decision under risk*, 263-292.
6. Moon, H., Hollenbeck, J. R., Humphrey, S. E., & Maue, B. (2003). The tripartite model of neuroticism and the suppression of depression and anxiety within an escalation of commitment dilemma. *Journal of personality*, 71(3), 347-368.
7. Staw, B. M., & Ross, J. (1989). Understanding behavior in escalation situations. *Science*, 246(4927), 216-220.
8. Wener AE, Rehm LP (1975) Depressive affect: A test of behavioral hypotheses. *Journal of Abnormal Psychology*, 84, 221–227.