Choice Engineering in Project Management

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People often make poor choices because of illusions. At the same time, they don't perform any analysis that would improve their decisions because of other illusions to which they are subject. Is there a solution to this problem? Establishing effective processes is always considered an effective way to improve project management. For example, if a project manager follows mandatory guidelines in time, scope, cost, risk management and other knowledge areas, this should improve the quality of the decisions made during the execution of the project and reduce chance of failure. But such processes are hard to implement, often expensive, and grudgingly followed if at all by some team members once they have been introduced. In many cases, especially for smaller projects, it would be more beneficial to create an environment within which people are encouraged on their own volition to make better choices, rather than mandate these choices. This is called *choice engineering*.

The Processes vs. Illusions

The number of doctors per capita in Russia is significantly higher than in the US: 4.25 per 1000 people vs. 2.3 per 1000 people based on 2002-2003 data (Nationmaster, 2010). In most cases Russian doctors are as qualified as physicians in Western Europe and North America. At the same time, the quality of health services in Russia is significantly lower than in these countries. There are different reasons to explain the difference: relative lack of equipment and medicine is certainly a major factor. But perhaps more fundamentally is the situation where standard medical processes are either absent or poorly implemented. For example, after cleaning a floor, a nurse may go directly to assist with the delivery of a baby without first washing her hands or a doctor may perform surgery after a night of heavy drinking. The fundamental reason for these problems, as we have already learned, is illusions. The doctor is under the illusion that he can successfully remove an appendix despite his hangover. Because of illusions, the doctor makes a poor decision.

There are processes that could mitigate this and other similar situations. For our example, a campaign could be conducted to educate surgeons that contrary to their own beliefs, drinking a bottle of vodka prior to performing surgery will not improve their performance, and is not only detrimental to their health, but that of their patients. Hospitals could routinely institute sobriety checks, or require the surgery team to take undergo a quick breath analyzer test before surgeries

are performed. A process could be put in place to contact replacement surgeons if they are required and so on.

The Project Management Institute's "A Guide to the Project Management Body of Knowledge "(PMBOK® Guide) (Project Management Institute, 2009) is an accumulation of the experience of hundreds of project managers and defines the most important project management processes. If these processes are followed, it should significantly improve the performance of the organization. The problem is that implementing and maintaining these processes is hard work.

For example, you are managing a project: establishing international counterfeit goods production and distribution organization. Such a project may have many risks, including potential arrest by various law enforcement agencies, inaccurate counterfeit Rolex watches, continuously breaking handles on fake Louis Vuitton bags, and fake Viagra which creates nothing but diarrhea. Because of the risky nature of this project, you would like to set up a risk management process. Here is what you need to do:

1. Assign somebody in your organization or hire a consultant to tailor a risk management process for your counterfeiting operation.
2. Find and evaluate tools that can perform risk analysis and management. Then purchase the software and roll it out to your organization. Your IT department will be unhappy as they will now have the added burden of supporting said software (IT is never happy about anything). You need to ensure that the software can communicate with other software used in your business, for example your counterfeit inventory management system, but good luck. Software applications resist most attempts to communicate talk with each other despite claims of "seamless integration."
3. Your workers will require training both to use the software and follow the new process. This will be quite difficult as your counterfeit business has gone global, goods produced in China, packaged in Malaysia, shipped from Brazil, and sold in the US. Everybody speaks a different language.
4. You then to to put a review or auditing system in place to ensure that the risk management system is being used properly. You need to ensure that all required fields are consistently defined. For example, the probability of the risk that the "Counterfeit Giorgio Armani dress will not be completely destroyed after first wash" equals 1%, the impact is "full loss of the item", and cost of risk is $0.01 (as the customer will never be able to track down the seller let alone, you the manufacture. The risk management strategy is "Accept". Done many times, this represents a lot of information that your employees must enter and track. There is a good chance that they will look for shortcuts or ignore the process all together. As a further complication, you must take into account that your organization may be running several other processes and systems.

Most processes are strictly defined. People *must* perform their task in a certain order: enter risks with their properties, analyze risks, define risk management plan, update risk status, convert risks to issues, close risks, etc. All these steps are mandatory: if a step is not completed, the whole process can grind to a halt or provide misleading information. If the most important risk "Merchandise is confiscated" is not entered into the system, the process will fail. It would be

like publishing a dictionary, but not including several commonly used words. Since it would be unclear how many words were missing, the comprehensiveness and usefulness of the dictionary comes into question. Where such systems or processes are unquestionably useful is in situations where things are explicitly banned as in airline security. While we may question the efficacy of banning certain things from airline flights, having strict processes to ensure that banned products or objects do not make it onto the plane is an effective way of meeting this goal

So currently you are looking at spending considerable time and resources on a risk management system, but it is apparent that any savings you may gain from it may be less than what you must spend to implement and maintain it. If your business is large and complex, it will probably make financial sense to go ahead with the system as there is a good chance that it will save you money. But if your counterfeit project is relatively small, you only produce and sell counterfeit Gucci shoes and the only risks you have are "broken heel" (pre-sale of course) and "competition from counterfeit Gucci shoes"? What if you don't need to explicitly ban something?

What Is Choice Engineering?

Minnesota tax officials conducted the following experiment. Groups of taxpayers were given four kinds of information:

Group 1: Were told that their taxes will go towards paying for services that they generally approved of: education, policing etc.

Group 2: Were threatened with punishment for non-compliance with the tax system.

Group 3: Were provided information how they could find assistance for filling out their tax forms.

Group 4: Were told that 90% of Minnesotans had already properly completed their tax returns.

So which group was most likely to submit a correct tax return on time? If you answered Group 4 you are correct. As it turned out, the other interventions had little or no impact on tax compliance. This study points out that people are more likely to follow certain rules if they believe that other people are following them as well. Providing the information that most people were complying with the tax system essentially created an environment in which people made better choices. Without instituting a strict process or threatening penalties, people were impelled to make good choices themselves; the process helped to steer them towards a better choice, but without restructuring or eliminating their freedom of choice. The original idea was suggested by Richard H. Thaler and Cass R. Sunstein (Thaler and Sunstein, 2007). They called this "choice architecture", their choice of a title was most likely due to the focus of their work – how people make decisions in regards to health and wealth. In project management, we refer to the same concept as "choice engineering."

One of the simplest examples of a choice engineering is a checklist. Commonly, when you need to fill out a number of related forms, you are also given a checklist that allows you to check that you have filled out and included all of the required forms. You

> Choice engineering is a creating of processes or environment in which people would be steered towards making better choices rather than mandating these choices.

can use the form or ignore it at your own peril, but most of us will choose to refer to it. Alternatively, you could choose just to penalize people who fail to complete the forms properly, you may get compliance, but it would be short lived and grudgingly given. It is much simpler and effective to provide a simple checklist.

As for our counterfeiting project, if your organization is relatively small and uncomplicated, you might instead provide a simple list of common risks rather than than a comprehensive risk management system. There will still be a process, but with much less strict rules. For example, this risk list will appear each time shipment information is entered into the computer system, the will encourage your employees to think about the risks and hopefully address them on a regular basis. What is most important is you *don't mandate* the use of this risk list. You create an environment in which people can use the risk list in an easy a relatively unobtrusive manner by applying a very few simple rules.

Policing is an alternative to choice engineering and refers to mandating choices or certain analysis procedures.

Policing vs. Choice Engineering?

On September 6, 1976, the Russian fight pilot Victor Belenko, defected to Japan on his Mig-25 fighter plane (Barron, 1983). He took off from military airstrip in the Russian Far East, landed on civilian airport in Japan, and instantly requested to be transferred to US authorities. The airplane's systems and weapons, which where quite advanced, were reviewed by US authorities. The airplane itself was later returned to Soviet Union. A few years after Belenko's defection, Russian newspapers carried the news that Belenko had been killed in a car accident. The subtext of this article was that the KGB had had a hand in the accident. It reality, Belenko is still alive and well. To discourage people in Soviet Union from defecting, the KGB had engaged in choice engineering. Killing a dissident outside of the USSR is an expensive and complicated endeavor, easier just to plant the story and let people make their own choices. Rumors about KGB agents assassinating political opponents were greatly exaggerated by Hollywood. Given the financial problems the Soviet Union was facing, can you imagine how much it would cost for the KGB to send an agent to the US, pay for his travel, accommodation, drinks, and various payments involved in organizing a traffic accident? Then multiply it by the number of all the defectors who had fallen into disfavor with the regime and this would entail a significant portion of the KGB budget. Essentially, the KGB had two alternatives: *policing* (assassination) or choice engineering. Of the two, the latter is by far the easiest and cheapest route.

People make bad choices because they are affected by certain illusions and are unable to make correctly analyze situations. Both policing and choice engineering will help people perform better analyses (Figure 1). However, policing entails a significant restriction in choices and it is the freedom of choice that is a main lubricant in society. Without freedom of choice, projects, technology, and society would gradually grind to a halt. Therefore, it is in our best interests to provide a framework that allows freedom of choice while encouraging individuals to make good choices that are in their best interests.

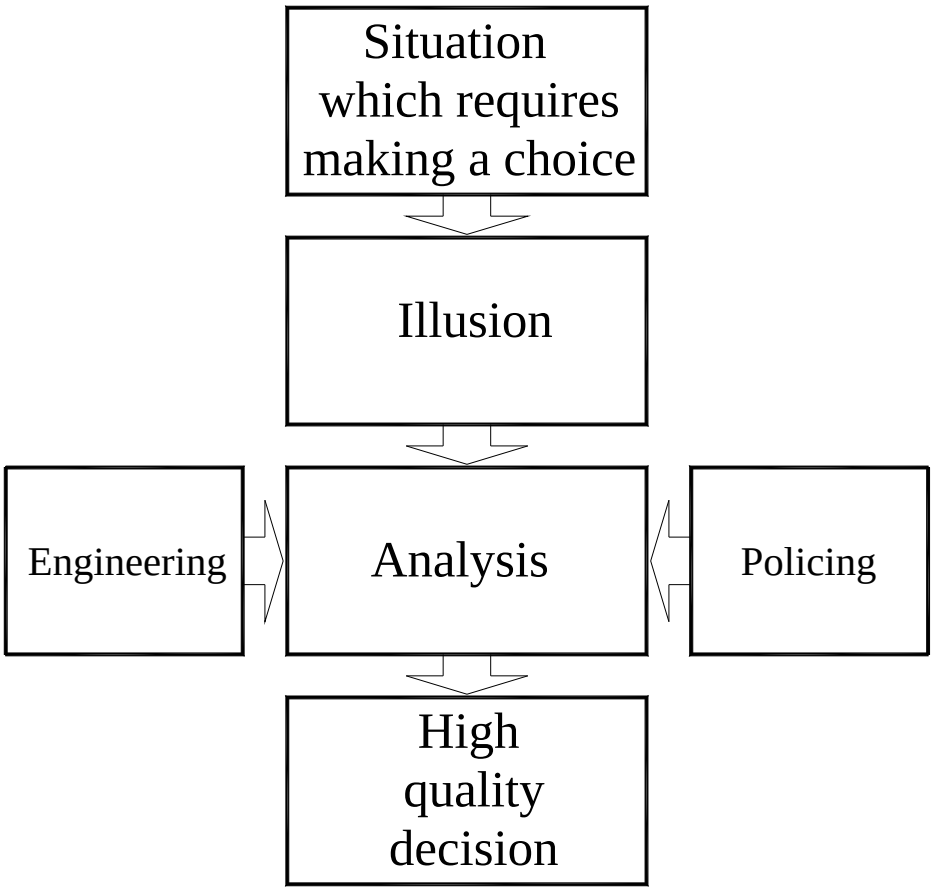

Figure 1. Policing and engineering help to make better project decisions

For example, how can we minimize smoking? The government could try prohibition, but as experience has shown, this tends to foster black markets and criminal enterprises. In this example, policing will be a very unproductive approach and most people understand this. Instead, governments and health organizations have turned to choice engineering. Choice engineering entails limiting smoking so specific areas, restricting tobacco advertising, increase the price of tobacco products, etc. People can still choose to smoke, but the cumulative effect is an environment that is not very supportive for smoking. Most important in choice engineering is that it must be structured around human psychology. For example, messages that are conveyed graphically have a greater affect on people's choices than verbal messages. Graphic messages are used extensively in Canada's anti-tobacco campaign. All cigarette packs include very graphic images of diseases caused by smoking – cancerous lungs, ulcerous sores etc. Not pretty, but effective. Some other ways to fight tobacco addictions happened to be less effective because of psychological reasons. For example, according to some research 'Shaming' smokers can have the opposite effect and make them less likely to quit as it may lead patients to "hide" their tobacco use from doctors (Backwell 2010). Therefore, choice engineering must be found based on good knowledge and understanding of human decision-making.

Here is another advantage of choice engineering. The more rules we set the more opportunities to break these rules we have. Since there are very few rules in choice engineering there is a greater chance that these rules will be followed.

When Policing Is Necessary

In the latter part of the 1980's, Russia was facing a growing threat from the Chechen independence movement led by. Zelimkhan Yandarbiyev. The resulting conflict between Russia and the Chechen resulted in a couple of bloody wars and many lives on both sides of the conflict. The politics and agendas of the various factions in involved were very complex and the problem seemed intractable. So when the Russian government was deciding on a course of action in regards to the problem of Zelimkhan, they were probably not looking to plant false rumors regarding his untimely demise (or timely, depending on your viewpoint). Instead, they sent agents to Qatar where on February 14, 2004 they assassinated Yandarbiyev using a car bomb (Rainsford, 2005). The two agents responsible for the murder were quickly arrested, convicted, and sentenced to life in prison. One wonders whether after so many years of using ruses like planting rumors, whether the Russian spy agency either no longer had sufficient budget for this type of project or they had lost the specific professional skills required for a project of this difficulty. Regardless, this is an example when project managers in the Russian security apparatus decided not to rely on choice engineering: by killing Yandarbiyev their intention was to send a clear message to their opponents.

In each project there is space for policing and choice engineering (Figure 2). In large projects, where the role of deception plays a significant role in poor decisions, policing should play a major role as it would be difficult to eliminate deception by choice engineering. At the same time, in smaller projects the role of illusion in creating bad choices is much more prevalent and choice engineering is an effective tool to drive people towards better choices. Prior to 2008, most governments failed to regulate some of the more complex activities associated with securities, particularly derivatives and their trading. Regulators relied mostly on choice engineering: they thought that the market would provide the corrective mechanisms to punish poor choices. After the financial crisis of 2008-2009, more rules were introduced and more rules are still considered: the ratio of policing vs. choice engineering in this area is continuously shifting towards policing. At the same time, a significant amount of freedom of choice for financial managers still remains. Completely removing the freedom of choice would be the equivalent of moving to a socialist or centrally managed economy.

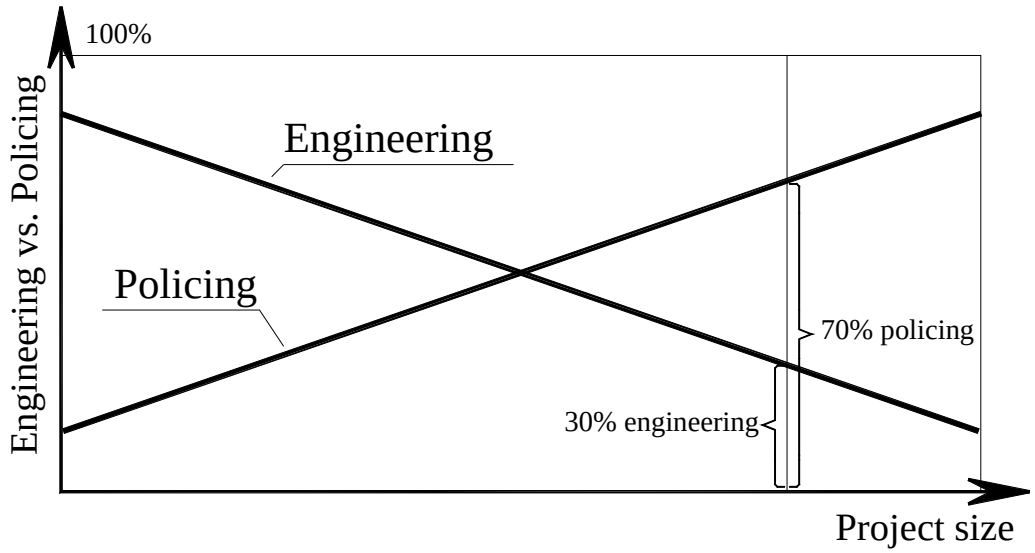

Figure 2. Difference between policing and engineering

Table 1 illustrates the difference between policing and choice engineering:

		Policing	Choice Engineering
1	Freedom of choice	Significantly restricted	Much less restricted
2	Cost of establishing and running	Expensive	Relatively inexpensive
3	Problems with establishing and running the process	Easier to define by describing rules and guidelines. Difficult to maintain because compliance must be constantly monitored.	Requires knowledge and understanding of human psychology. Choice engineering is harder to define, but easier to control
4	Mitigating effects of illusions (unintentional errors and deception (intentional errors)	Most effective in mitigating deception.	Most effective in mitigating negative effect of illusions.
5	Where to use	Large projects and certain areas of all projects, where strict processes are necessary e.g. safety and security.	Any projects where poor quality decisions are possible due to illusions.

Table 1. Comparing policing and choice engineering

A few ideas regarding Choice Engineering

Here are few simple things you can do in your project to enable choice engineering:

1. Checklists and templates

These are the simplest tools for choice engineering. No complicated procedures, just checking on a few check boxes to ensure that they have not forgotten anything. If you want people to follow a risk management process, don't ask them to memorize Chapter 11 of PMBOK® Guide (Project Management Institute 2009). Just provide risk identification template with a few predefined standard risks. Limit paperwork. A rule of thumb is as much as needed, as little a required.

2. Full Disclosure

Perhaps you have been asked to participate in the development of new software product that is estimated to take one year to commercialize. You have a few questions. Who will buy it? How much will it be sold for? How will potential clients use it and what are the proposed benefits? You discover no one on the development team knows much about it. Management probably know the answers, but have not passed that information onto the development team assuming that they don't need to know this information; it is not critical to the performance of their job. One final question, would you take on this project, would you enjoy working in this environment? This is critical, without this information, a key motivational factor is missing – why are we doing this project, what value to our clients does it represent? Without this essential

knowledge, you might as well be digging one hole to fill another. The thought is not inspriring. Therefore, it is incumbent upon management to tell or "disclose" to their project team as much information as possible. Further, they should always take steps to ensure that this information reaches and is understood by the project team. Often organizations simply dump information onto the company web on some obscure URL and then claims that everything has been provided. Full disclosure is a type of choice engineering that addresses many problems with the projects, particularly the disengagement of project team members, who do not feel any ownership in the end product and just work from 8 to 5. Full disclosure pushes people toward better choices without enforcing them.

3. Competition.

Competition between different organizations helps to create better products. Competition between different project team and even between different groups or people within a project team will foster an environment that pushes people to do more analysis, which leads to better choices, and eventually find better solutions.

4. Education

Project management education and training with focus on decision analysis and human psychology is an important choice engineering tool. For example, if you decided to cheat on your taxes, (just a little bit). The reason why you think that you will be fine is that you do not know how many people have actually been caught. This is a very a common illusion in which you make choices based on incorrect assumptions or incomplete information. Instead of checking statistics regarding the rate that tax evaders are discovered, you instead rely on your gut feelings or intuition. In reality, tax authorities have quite a good record at discovering tax evaders, including smalls one.

If you learn about different types of illusion, as well as many others, it will minimize the chance that you will be a subject of these illusions. In next part of this book, you will learn about common psychological errors and pitfalls, and what to do about them.

- Choice engineering is designed to push people towards making better choices without restricting these choices.
- An alternative to choice engineering is policing which mandates certain processes and decisions.
- In most projects there is certain space for both policing and choice engineering. In large projects where these is a significant role of deception, policing can be prevalent.
- A few ideas for choice engineering in project management include 'full disclosure, 'embracing competition', and education on human decision-making.

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