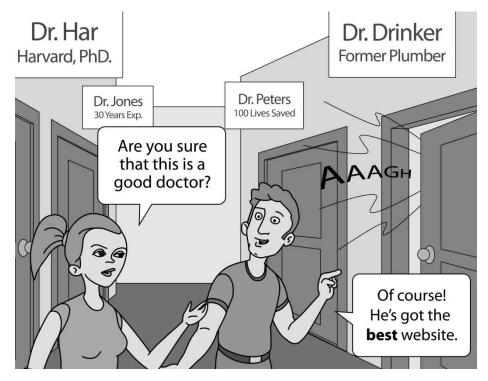# How to Process Project Information

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In this article, we will learn how to analyze information and mitigate potential mental problems, particularly how to process huge amounts of information we receive on a daily basis. For example, not all of the information we receive is of the highest quality, in fact, much of the information we receive is deliberately manipulated to "trick" our brains, so that we make decisions that may not be in our best interests, like buying something that we do not want or even need.

My Dentist Has a Very Nice Web Site

Imagine that you are managing the development of a software application for computer-aided design of bridges and interchanges. As one of the requirements, your team needs to implement an interactive map of the bridges and roads. Obviously, you don't want to develop your own mapping engine from scratch, so decided to purchase a mapping component for your software. There are dozens of such components available. Some of them are freeware, others cost a lot of money. Some of them support multiple mapping data formats, others work only with one proprietary format. Some of them work for desktop computers, others have a web interface. It will take a while only to formulate a selection criteria; then you will need to evaluate the different applications, possibly by contacting different vendors. Then you will need to get different quote, procure the software, and get training. Underlying all of this is a fundamental issue: you need to process a huge amount of information. It is not enough to simply cruise the internet and make your decision purely on what you discover on the websites of various vendor, in the same way, you should not select your dentist based solely on dentists' web site (Figure 9.1) as they tend to be somewhat self-serving. But remember, the mapping component is only 1% of your project. How long should the software selection and procurement would take? How much will it all cost including evaluation, training, and software licenses? Most likely, you will only develop very rough estimates.

This is a key issue in project management. As part of your job as a project manager, you have to process a lot of information: you must deal with the demands of numerous stakeholders, complex technologies, conflicting requirements, and ensuring that all this is accomplished within a short period of time. To properly process this information you have have to do some analysis, but you cannot spend all of your time selecting suppliers or calculating your budget. How can you process this mass of information quickly and efficiently? Where can you take shortcuts and where would taking shortcuts lead to problems?

All Marketers are Liars

Car manufacturers spend more than $13 billion a year on advertising their products. According to Jeffrey Hauser, sales consultant and author of Inside the Yellow Pages book (Hauser 2007), auto manufactures usually spend about 1% of their revenues on advertising. Figures for other industries are much higher: retail stores: 2% to 3%, service businesses: 3% to 5%, new business startups: 5% to 7%, fast moving consumer products: 8% to 10%, pharmaceutical or cosmetic companies: 20% and up (Hauser, 2010). Eventually, the cost of this advertising is passed onto consumers as part of the final price. This means that when you buy a $30,000 automobile, you are paying the advertising companies a few hundred dollars for their effort in persuading you to purchase the product. If this were the planet Vulcan as fictionalized in the Star Trek series, where the inhabitants are governed completely by logic and rational thought, they would select a car by reading the analysis provided by such publications as Consumer Reports that includes unbiased comparisons of all the models with prices, features, reliability, etc. But we are not Vulcan's and businesses realize that they can push the odds that we will buy their particular product in their favor by appealing to our emotions. So they spend billions to

appeal to your emotions, and try to minimize the effect that reason will play in your buying decisions. In effect, they are making an appeal to the irrational side of your nature to part with your hard earned cash to purchase something that you probably do not need. Undercoating anyone? So let us be clear regarding what we are saying, the next time you purchase a new car, you will pay hundreds of dollars extra for someone's deliberate attempt to delude you. A red sports car will not make your hair grow back, nor will a large pickup turn you into a cowboy.

It is not our intent to argue that all advertising is irrational. It certainly is not from the perspective of the manufacturers. Advertising is a multi-billion dollar industry that provides a valuable service. How would you be able to notify people about your new invention, or the massive 50% sale off all furniture that you are having this weekend (though in reality still represents about a 20% markup)?

Another interesting phenomenon contributing to the irrational choices is the cost of brands. If you buy a Coca Cola drink, you are paying a premium for the brand. According to the Millward Brown Optimor Ranking, in 2007 the most expensive brands were Google ($66.4B), General Electric ($61.9B), and Microsoft ($55B). While it is true that often brand name products are superior to the less expensive alternatives. But often when a similar, but less costly alternative is available people will still chose to purchase a brand name product. For example, generally the only difference between brand name and generic prescription drugs is price. According to the Blue Cross insurance, Prozac is 19 times more expensive than it generic equivalent, Zantac 16.5 times more expensive, and Ritalin is 2.5 times more expensive (Blue Cross and Blue Shield of Michigan 2010). Obviously, when it comes to particular brand name products, people are under some kind of illusion. Why else would they pay 19 times more for the exact same substance just because it carries a certain brand name? At least when you wear a Rolex watch this sends out a message about yourself – that you are wealthy and can afford it. Unless you are willing to open up your bathroom cabinet for the perusal of friends and strangers to prove that you can afford to needlessly spend money on brand name drugs, spending that extra money does not convey any concrete benefits.

Seth Godin who wrote bestselling book "All Marketers Are Liars" noticed that successful marketers don't talk about features or even benefits of a product. Instead, they convey a story that people want to believe (Godin 2005). They tell us that $40,000 Lexus ES than would be much better than $25,000 Toyota Camry, though they are virtually the same car, that a brand name drug is more effective than a generic though they are exactly the same product. Advertisers have a repertoire of tricks to convince us to make irrational choice. They appeal to our emotions, use available and anchoring heuristics, trick our memory, and use all sort of other sleights of hand.

When you process information for your project, be aware that many people want you to make a choice that may be beneficial for them, but not for you. It is no only marketers that want you to make mental mistakes. Intentionally or unintentionally, our managers and our team members, our government and our media, our customers and our suppliers create a breeding ground for us to make irrational choices by supplying us with distorted, incomplete, and

improperly analyzed information. The world is very dangerous: there is no such thing as 100% reliable and unbiased information. All information we receive has to some extent been transformed by the source it came from. This transformed or processed information most likely,

There is no impartial information. Information you received processed by you or other people. As a result all information would become biased and distorted to a different extent.

intentionally or unintentionally, includes someone's personal bias which may impair your ability to make good decisions.

"Time-zone" Trick in Project Management?

In 2010, the Canadian government proposed to change the lyrics of Canadian national anthem from "true patriot love in all thy sons command" to the perhaps quite cumbersome "thou dost in us command" to make it gender neutral. Revamping the Canadian anthem to meet some amorphous "inclusivity" objective turned out to be very low on the list of priorities of most people and this initiative was quickly dropped from the government's agenda.

The Russian government had an even more revolutionary proposal that also had negligible correlation with the necessities of the country: they wanted to reduce the number of time zones across the country to somehow magically improve the nation's economy. In fact, time zone changes occur quite frequently in Russia compared to other countries. In most cases, the changes only affect specific regions that are forced to move back and forth from one time zone to another. Within governments or other organization, schemes such as this are quite common when leaders are faced with many intractable problems such as unemployment, the economy, regional or political disputes. They invent an issue in hopes of distracting people from the more pressing issues at hand. If people are really upset about job losses, lack of services, taxes, propose a time zones change or the date for switching to daylight saving time. In the short term, people will be more concerned about getting to work on time and will forget that the government just raised taxes. Once people become habituated to the time zone change, the government has an arsenal of other potential innovations: start major discussions in regards to changing the colors of the national Coat of Arms, reintroduce a new format for license plates, or change the regulations related to passport photos for babies (no smiling).

Experienced project managers know about the "time zone" trick. If senior management asks about something they cannot deliver, project managers will focus the presentation on something small and perhaps irrelevant that everybody understands and that can be delivered quite quickly. The project is behind schedule. This fact can be mentioned briefly, but it's much better to focus on things like a successful client presentation or the results of the latest fire drill. By switching attention from the poor project performance to the exciting, but essentially irrelevant events, we can create the illusion that the project delay is not all that important.

Do you want your software development project to be approved? No problem. Just briefly explain the project in terms that no one else in the room understands, and then demonstrate a marketing brochure with a portrait of Lady Gaga. The brochure and the

appropriateness of Lady Gaga would be discussed for an hour and your project will be approved without any unnecessary questions.

"Peak-end" rule in Project Management

Here is another illusion related to a way how people process information. In a test, one group of patients had a standard colonoscopy. In a second group after a standard colonoscopy, the doctor left the instrument in place for a short time. It was unpleasant but not as much as for the first group because instrument was not moving. It turned out that over a five-year period after the exam, patients in the second group were more likely to comply with calls for follow-up colonoscopies than patients in the first group. The reason was that people in the first group had much less unpleasant experience at the end of the procedure. This effect, how we judge our past experiences - almost entirely on how they were at their peak (whether pleasant or unpleasant) and how they ended is called the "peak-end" rule (Kahneman 1999). In fact "peak-end" rule may be an instance of the representativeness heuristic.

According to this rule, in theory you can tell your boss exactly what you think about the organization, project, or about him personally, as long as at the end of the conversation you tell him that he is a great visionary and superb leader. However we strongly do not recommend you experiment with this as in particular situations it may not unfold as planned and your boss will remember all of your opinions with negative consequences for you.

Filtering Information for Your Project

If you have not read Dr. Mara Sidoli's paper "Farting as a Defense against Unspeakable Dread" the title would sound quite… how to say it politely, very strange. But in reality it is a valuable research published in peer reviewed journal.

 Not all things, which seem to be strange, are actually irrational (Ig Nobel 2010). Here are few examples. The Ig Nobel Prizes are a parody of the Nobel Prizes given for ten achievements that "first make people laugh, and then make them think." Francis M. Fesmire of the University of Tennessee's College of Medicine received the 2006 Ig Nobel award in Medicine for his paper "Termination of Intractable Hiccups with Digital Rectal Massage". Claire Rind and Peter Simmons of Newcastle University, in the U.K., received their 2005 Ig Nobel peace prize for electrically monitoring the activity of a brain cell in a locust while that locust was watching selected highlights from the movie "Star Wars." At first glance, performing research on locusts watching Star Wars or treating hiccups through unconventional methods can seem a waste of time. However, taken in another light, these pursuits do make sense and are represent quite valuable research.

Since there is only limited amount of information that we can process, the first thing we do is dismiss information that we deem irrelevant. This approach works quite well in most cases. The question is how should people decide what is relevant and what is not. We recommend that for each problem you have, you should clearly define a set of filters for selecting relevant

information. For example, if you are trying to book a hotel in Las Vegas using the Internet, you can start with a very broad set of criteria, such as hotel ratings, location, and amenities. When you see the results, you can narrow you search based on information from the previous search and continue to do so until you find what you are looking for. If you use a very narrow set of filters at the beginning, such as hotels on the strip, you may miss good deals for hotels in the downtown.

For example, if you trying to choose a mapping component for your bridge and interchange design software, you need to create a comprehensive list of 40 applications and then apply the following filters:

- remove all that are not web based: this will remove 50% of the candidates from your list

- remove all that do not support a standard mapping data format: this will remove another 25 % from your original list

- remove all that cost more than $25 per license: this will leave you with a final list of eight candidates.

Now you may have only 8 software application. You may now use a check list to compare features of different software tools. Interestingly, among these eight applications there are some innovative tools; for example, some are optimized for smart phones and tablet computers something that you did not consider when you were creating your selection criteria. Since you already removed 32 applications from you candidate list which were obviously irrelevant, you can now spend some time reviewing some innovative tools.

I did not read this book, but I know I do not like it.

"I don't understand why people like Placido Domingo's singing: he coughs, forgets the words, and cannot sing half the notes."

"Have you ever heard Placido Domingo sing?"

"Not in person, but my neighbor Joe sings all of Placido's songs in the shower."

Unfortunately, we hear or participate in the

> People tend to express opinions when they asked about it even they are not familiar with subject or did not perform the analysis.

similar exchanges all the time, though they may not have as good a punch line. When we are asked to express an opinion about something that we have little or no expertise in, we generally respond without too much hesitation. Here is another example. In 1957 Boris Pasternak wrote his novel Doctor Zhivago (Pasternak 1997). For his efforts, Pasternak was awarded the Nobel Prize for Literature in 1958 (which he refused to accept). The book was frowned upon by the Soviet authorities, but had a great success in Western countries. Because of Doctor Zhivago's success in the West, Russian authorities ran a campaign against the book. In published letters and during

meetings it was very common to hear the following opinion, "I did not read Doctor Zhivago, but strongly condemn it". How could people read the book if it was prohibited? Later on this phras became an adage in Russian culture, which people used when forced to give an opinion on a subject of which they had little or no knowledge. As an aside, we hope "I did not read this book but I strongly condemn it" isn't heard when discussing this book.

Why do we feel compelled to provide an opinion on something of which we know little or nothing? Psychologically, there is the fear of embarrassment, of been seeing as out of the loop or uniformed.

Let's assume that you read the following headline: "Florida state budget fails to account for snow removal in Florida Keys". Or an opposition politician on TV paints a vivid picture of the horrible consequences for residents if Florida experiences its first snowfall in living memory. Once you are exposed to this, you most likely will form an opinion. The politician may have a good point or not (we refuse comment on these matters so as not to influence your opinion). However, the main issue is just that, once your opinion is formed, it not only shapes your own actions, it will serve to shape the opinion of anyone you discuss this with. You can actually express opinion indirectly or passively merely by viewing it on the Internet as web traffic influences how some web sites work. The more times you view the web page, the higher the ranking the page will receive and will increase the spread of this information. If you tend to side with the politician regarding the snowfall budget, your point of view will tend to spread to other people. We don't blame you. The tendency to express opinions when asked is a psychological effect that we all inherited from our early ancestors. We place the blame on individuals or organizations (government, media, polling companies, marketers, etc.) who insist on soliciting opinions from people on very complex subjects who have little or no knowledge on the subject.

This effect is very common in project management. How long does it take to create a report? Often, we can be inclined to come up with an answer right on the spot to avoid been seen as either incompetent or uniformed. It is better to ask for additional time to analyze the question as a wrong answer can have a life of its own and lead to all sorts of unexpected difficulties.

Any Suggestions About What to Do?

So at the point you might be say (and we hope that you are at least thinking this), "You've convinced me, yes there is lots of bad information out there, information is distorted, important components are missing, and we cannot even have complete trust trust in reputable sources of information. But I have a project to manage. What should I do?"

Here are a few ideas:

1.   To judge the quality of project information, try to understand how this information was obtained. In particular, how many layers of interpreters are between you and original source of information? Was it a result of detailed analysis or it just was a judgment call of one individual?

2.   Even if the project information comes from very reputable sources, try to understand how well substantiated it is and what is the original source of information. Could you find any original project documents: plans, notes, design documents?

3.   When selecting product, services, and components for your project, you will be approached by people who will distort information in an attempt to sell you something. Ideally, you should perform a competitive analysis of features and benefits of products you are looking for. However, time constraints may not allow this. Therefore, we suggest that before you talk with a sales person or engineer, clearly identify your requirements and record them for easy review. Since an analysis of products and services may involve a large number of variables, keep the number of questions you ask a vendor to a minimum and then steer your conversation towards these questions. Otherwise, the vendor may focus on something you do no need.

4.   We often dismiss or overlook important information because it is new, strange, or does not fit to the boundary of your research. Always keep an open mind and you might find something form a completely different subject area that will improve your project.

5.   If you are asked to provide an opinion (e.g. estimate) always state that you will can only provide one after a detailed analysis.

6.   Try not to be emotional when processing information. This is what has happened with many people during health care 2009-2010 reform debates in US. Public health management is such a complex issue that experts who have studied the subject their entire working lives cannot agree about the consequences of particular aspects of the legislation. Nevertheless, people created very strong opinions about the subject with subsequent volatile emotions. Because the situation became so emotional, people became very focused and stopped processing new information and the confirmation bias becomes very pervasive. The more emotional people become, the stronger opinions they have and vice versa. To stop this vicious cycle, they have taken a break and completely stop thinking about the issue for some time. Take a deep breath and do the analysis.

7.   It takes some efforts to obtain and process information. In decision analysis theory these efforts are called Value of Information. In most cases there is an actual cost associated with value of information. If you need to confirm that information you already have is accurate and reliable, you may try to obtain additional data. For example, you may ask different doctor for a second opinion. Additional information may cost you extra and many cases it would be cheaper assume the risk and live with less reliable data than pay for new

information. There are a number of formal methods how to calculate value of information (Virine and Trumper 2007; Schuyler 2001; Clemen 1996). But you can do very simple assessment: how much will it cost you to get the additional data, for example, how much time and money will it cost you to go to the second doctor.

References

Clemen, R.T. 1996. Making Hard Decisions, 2nd ed. Pacific Grove, CA: Brooks/Cole Publishing Company

Godin S. 2005. All Marketers Are Liars: The Power of Telling Authentic Stories in a Low-Trust World. Portfolio Hardcover.

Hauser J. 2007. Inside the Yellow Pages: A Revealing Look into Directory Publishing and Tips for Creating More Effective Ads, Explained by a Former Yellow Page Salesman, BookSurge Publishing, 2007

Hauser J. 2010. How Much Should You Spend on Your Yellow Page Advertising Budget? EZineArticles. Available at http://ezinearticles.com/?How-Much-Should-You-Spend-on-Your-Yellow-Page-Advertising-Budget?&id=147774 (Accessed April 11,2016)

Ig Nobel. 2010. Improbable Research: Research That Makes People Laugh, Available at: http://www.ignobel.com. (accessed April 11,2016).

Kahneman, D. 1999. Objective Happiness. In Well-Being: The Foundations of Hedonic Psychology, eds. D. Kahneman, E. Diener, and N. Schwarz, 3–25. New York: Russell Sage.

Pasternak B. 1997. Doctor Zhivago. Pantheon

Schuyler, J. 2001. Risk and Decision Analysis in Projects, 2nd ed. Newtown Square, PA: Project Management Institute

Virine L. and Trumper M. 2007. Project Decisions, The Art and Science., Vienna, VA: Management Concepts.