

Managers! Are You Solving Problems or Making Decisions?

In a recent survey by the Business Objects magazine managers listed *problem-solving* as their highest priority; very few said *decision-making*. In order to gain a competitive edge, it is imperative that we separate Problem-Solving, from Decision-Making – *problem-solving is unique to the problem, while decision-making is unique to the person*. Let me explain...

Consider the problem in the box.

Now Jimmy is the “domain” expert. He did a great job as far as solving your problem – he provided you with four options. Jimmy has no earthly idea about your personal circumstances: your financial worth; debt-level; job-security; your financial obligations or if you have a relative who could use this vehicle.

So who do you think should make the decision? Certainly not Jimmy – the domain expert; he did a great job giving you the options but not answers! Now it is your job to make the decision!

Problem Solving.....

Your car starts to make a funny noise and you take it to Jimmy – your trustworthy local mechanic. After running some tests Jimmy tells you that there is a gear-train problem. So naturally you ask him what you should do.

He gives you several options. He can do a temporary fix, but he cannot provide you with any assurances. He could also install a refurbished unit or even a brand new unit. Jimmy also points out that since your car is somewhat old, you may consider just selling the car and getting a new one.

Why would one analyst recommend a stock to be a *good buy*, while another would deem it to be a *sell*? Both might have access to the same information – yet they arrive at completely different decisions! The same is true of buyers and sellers in the stock market. This supports our claim that decision-making is *unique to the person*.

The real reason is how we humans handle data. Before a decision is made – *all quantitative data are transformed in to qualitative interpretations*. This is where we inject our values, biases, preferences, etc. into the decision; what we refer to as common-sense and gut-feel. In fact if not for such differences we would not have a stock market!

Yes! Commons-sense and gut-feel are integral to any decision. When we say – “*it is my decisions*” – what we mean is that it reflects my gut-feel. However, because of the information overload we face today, management needs help to navigate through this sea of information. Hopefully is it clear now that *decision-making* is quite distinct from *problem-solving*.

Yes, we recognize that often the same person is the problem solver and the decision-maker. What is important is that you recognize this difference, and act accordingly – be aware of the existence of the problem-solving phase.

The Need for a Holistic Approach

First we must recognize – that even if we make an optimum decision – there is no guarantee that we would have the desired outcome.

You might ask the question “What is a good decision”?

When someone says “*it was a good decision*” (in the past tense), what he/she means is that the *outcome* proved it to be so. Unfortunately, we judge a decision to be *good or bad*, based on the *outcome*. Thus, at the time we made decisions, we cannot say we made good decisions – we have to wait for the *outcome*. All we can say is that we used a reliable methodology to arrive at the optimum decision. Thus it is the process that we can judge – not the outcome [See box].

This is analogous to driving a car. When driving, there is no guarantee that we would not have an accident. Yet, if we were to adopt a defensive driving posture [*the process*] we are less likely to have an accident.

The Role of Creative Thinking in Decision-Making

It does not matter, how good a decision-making tool you use – *your best decision is only as good as the best option you have identified!* Therefore we need to train leaders and managers to think *creatively*, to identify out-of-the-box solutions.

But we have a problem! Jimmy goes through life being molded to be a conformist; and now we want him to be an “out-of-the box thinker!

- *At home, Mom & Dad say.. “Jimmy why can’t you be like Joe!”*
- *Then at school the teacher says.. “Jimmy, why can’t you be like the other kids?”*
- *Jimmy goes to work and the boss says... “I don’t know where you come from but in this company – we have mission statements, best practices, policies, procedures, etc – we expect you to conform!”*

Sadly, *creative-thinking* is not an in-born trait – certainly not for everyone. Without formal training in creative-thinking, the problem-solver will not be able to generate meaningful options or solutions. Most schools teach *critical thinking* – now it is time to encourage our leaders to *think creatively*.

The Seven-Step Holistic Methodology

1. Study the problem and clearly define your objective.
2. Identify all relevant criteria and define the prerequisites.
3. Extract obligatory criteria; all criteria are not of the same significance.
4. Creatively identify all available candidates or options that meet all prerequisites.
5. Gather information on the candidates— especially as they relate to the criteria, and also add any new criteria.
6. Assign weights to the obligatory criteria.
7. Rank the candidates.

Consider this example. As the demand for beef increased – ranchers were looking for ways to increase the size of their herds. But there were competitive demands for land as the human population was also growing – grazing land had alternative uses with higher returns.

In the conventional sense cows graze all day, requiring enormous amounts of grazing land. Ranchers tried increasing the available acreage, planting rapid-grow grass, optimizing the grazing schedules, etc. Still the demand was outpacing the supply. Creative thinkers reversed the problem – *why not keep the cow in one place and feed them in-situ?*

A simple statement such as: “*Anything that can be built on land, can be built on water*” – would open up a whole new way of thinking!

What is a “good” decision?

The quality of the decision you make will depend on five factors (see box). However, the outcome will depend on a different set of factors.

Here we must pay close attention to *timing!* The timing of the implementation will have a huge impact on the outcome.

Consider the 1973 *Yom Kippur* war, when Syria and Egypt attacked Israel, on the holiest day in the Jewish calendar.

What is more significant is that they picked the exact time when they – when the Jewish people were in the Synagogues. These were days before the cell phone, and the Generals had to drive back to the Command centers to give specific orders. As much as one would deplore such an insensitive and cowardly act, this example demonstrates the incredible significance of timing.

The quality of the decision will depend on:

1. Data & Information (problem domain)
2. Context Information
3. Creative Options
4. Solution Technique
5. Expertise (of the decision-maker)

However, the final outcome will depend on:

1. Appropriate Timing
2. Adequate Resources
3. Commitment to Execution
4. Changing Circumstances

Objective Setting

The starting point to solving a problem and subsequently, making a decision is the “*objective*”. We often believe we have understood the problem at hand and identified the objective (and the decision that needs to be made); but understanding the problem is not the same as having an unambiguous the objective.

Here are a few real-life examples that clearly illustrate the need to have a well-defined objective – before you embark on the problem-solving exercise.

- *Minimizing high-school drop-out numbers is not the same as increasing the number going-on-to-college.*
- *To meet the high demand for low-cost, the Dept. of Agriculture rushed to develop a high-yielding corn plant. It was a disaster! The objective should have been to increase the yield per acre, rather than yield per plant. Subsequently, they modified the plant to be more tolerant to living close to each other – thereby allowing them to plant more trees per acre.*
- *The US Army was focused on training soldiers to be excellent marksmen. However, a survey conducted during the Vietnam War showed that only 25% of the soldiers had fired at the enemy. The Army then changed the training objective to “killing skills” – six months later they noted that 100% of the soldiers had fired at the enemy.*

Furthermore, *the objective* should meet three requirements:

1. *It must be reasonable & unambiguous.*
2. *Progress should be measurable in some way.*
3. *It must be time specific.*

You are not likely to have much success with an objective such as “*I want to be rich*”, because you have no earthly idea of what is “*rich*” or by “*when*” you would like to be rich.

The Surrogate Objective

Sometimes, measuring progress or the final outcome can be difficult.

Consider this scenario: It is well known that narrowing of the arteries leads to cardiac problems. So to address this – we should find ways of *reducing plaque buildup*. We also know that elevated levels of cholesterol correlates directly to cardiac problems. If we set our objective as “*reduce plaque build-up*” and then try to implement measures to do so – there is no way to measure the success or failure of our actions. Therefore we settle for a “*surrogate objective*” – a different end-point that we can measure; i.e. to measure the *cholesterol level* – before and after any action we take. If progress is not measurable in some way, you will not be able to determine the effectiveness of your actions.

The Strategic Plan

Almost always, your particular objective is part of a larger strategic objective. Therefore, it is imperative that you consider the impact of this *short-term* objective – on the *long-term* strategic objective, and associated *consequences*. Too often management simply forgets the big-picture!

- Widening a particular road to ease traffic should consider the upstream and downstream roads
- Building an electrical power plant should be tied to the available distribution network
- A switch to bio-fuels should consider the impact on food stocks, and the total energy used

These may seem obvious – but today we are paying a heavy price for ignoring the consequences. Global warming and Pollution are two sad examples.

In conclusion.....

We urge you to separate *decision-making*, from *problem-solving*. Leave the task of *problem-solving* to the subject-matter experts – to domain experts. When you see – “*we have problem*” – remember, you have to first find plausible solutions, before you can make an optimal decision.

If you follow the holistic approach you will reach an optimum decision always. Timing of the implementation of your decision will have significant role in the final outcome.

For more information on this subject visit www.XpertUS.com

About the author...

The author, Dr. Wirasinghe is the developer of the *XpertUS Decision Support System [XDSS]*, which consists of the following:

- Book - Art of Making Decisions
- The XpertUS Software, and
- The 7-hour Training Classroom Seminar and the Online Course

Dr. Wirasinghe has over 25 years of experience in Optimization, Creative Thinking, Opportunity Seeking, Decision-Making, and Strategic Planning for Shell Oil Co., Petroleos de Venezuela, Abu Dhabi National Oil Co., British Gas, Williams, and Enron.

As an Oil & Gas industry specialist and a University Professor, Wirasinghe has published papers on topics relating to Management, Engineering, and Economics. For more information visit www.XpertUS.com

Feel free to contact him via e-mail: errolw@XpertUS.com