Pro-Active Decision Making

As we look at the process of decision-making, it is probably best to look at many different approaches. We have just completed a reasonably complex process as we looked at Decision Theory as reflected in the Thompson case.

Let’s look at some other examples:

Potomac Manors is an 1,100 acre track of gradually sloping land located near Washington, DC. As a land developer we want to determine if we should purchase the track and develop it, or if the risks are too great to make it a profitable possibility. Some of the facts of the case are:

- Zoning is correct at R3 that permits low-density residential housing.
- Zoning requires a minimum of 3-acre lot sizes.
- Other city requirements include lot dimensions, roads, septic systems, and designation of public spaces.
- Preliminary design shows 300 sites of three acres each have been identified.
- This covers 900 acres of the 1,100.
- Balance of 200 acres is to be used for roads and public space.
- Lots should sell for $150,000 (Total of $ 45,000,000 in revenues which is $150,000 times 300 lots).
- Development and Selling Cost are $8,000 per acre. (Total of 1,100 acres times $8,000 = $8,800,000)
- Miscellaneous Expenses are $400,000 (permits and fees).
- Price tag is $23,000 per acre with $250,000 earnest money. (1,100 times $23,000 = 25,300,000 in land cost)

A simple proforma of the expected profits based on the above numbers follows:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>$45,000,000</td>
</tr>
<tr>
<td>Cost of Land</td>
<td>$25,300,000</td>
</tr>
<tr>
<td></td>
<td>$19,700,000</td>
</tr>
<tr>
<td>Gross Profits</td>
<td></td>
</tr>
<tr>
<td>Less: Development / Selling Costs</td>
<td>$ 8,800,000</td>
</tr>
<tr>
<td>Less: Miscellaneous Expense</td>
<td>$ 400,000</td>
</tr>
<tr>
<td>Net Profit</td>
<td>$10,500,000</td>
</tr>
</tbody>
</table>

What are the two propositions facing the development company?

**Decision Node:** Do we buy the 1,100 acres?

**Measurement or Performance Node:** Is there a profit in the development?
Based on this proforma, it looks like a deal.

Let’s buy it.

But wait, you say.

Are there other considerations? Is this as far as we need to go?

Remember we are interested in being Pro-active in our decision making process.

**Process of Being Pro-Active:**

Before we make the decision, perhaps we should look for more detailed, richer sets of *alternatives* than those initially presented.

Perhaps we should begin questioning our *assumptions regarding the structure* of the relationships between alternatives and performance (usually profit maximization or cost minimization).

Perhaps we should assess other important parameters.

Should we consider diverse measures of *performance* that incorporate the perspectives of the various stakeholders?

**Alternatives:**

First remember that the alternatives presented so far are very preliminary. One of the assumptions is to maximize the number of lots. Is this reasonable?

Should the property be divided into larger lots with a larger price per lot?

The reason we chose 3 acre lots is because that is the minimum per the zoning, but perhaps our thinking should be outside of the box. Should we consider 4 acres per lot? Should there be a mixture of 3 or 4 acre lots? Should there be a mixture of 4 and 5 acre lots?

This would create an upscale neighborhood, so lot prices might be raised accordingly.

Could part be split off for commercial development?

Exploring more alternatives presents more complexity, but may mean better performance results.
Assumptions – Structure:

Remember that part of the initial information was that the sewer system would be septic. Septic systems require percolation tests to make sure the earth will properly disperse the water from the system. Some earth does not lend itself to proper percolation; therefore, the developer needs to know for sure if the site passes the percolation testing. The initial assumption, though unstated, was that all lots would meet the percolation test. Before you do the deal, you really need to know the answer to that question.

We must stop and test our assumption about percolation. We need to check out the linkages between the assumption and the performance. Assumption: All lots will meet the percolation test. Performance: Can all of the lots as designed pass the percolation test?

If we find that some will not meet the requirement, then this changes the structure of our proforma.

Another question: Although R3 zoning prevents connection to the City Sewer, would the city supervisors allow connection to the sewer system? This too would result in a structural change in the calculation of our proforma.

There might be an infinite number of possibilities, but consider three options (alternatives) for the purpose of continuing our analysis.

<table>
<thead>
<tr>
<th>Item</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Number of Lots Passing Test</td>
<td>300</td>
</tr>
<tr>
<td>Approval of Sewer Connect</td>
<td>N/A</td>
</tr>
<tr>
<td>Number of Lots Developed</td>
<td>300</td>
</tr>
<tr>
<td>Revenues (millions)</td>
<td>$45</td>
</tr>
<tr>
<td>Land Costs</td>
<td>$25.3</td>
</tr>
<tr>
<td>Development &amp; Selling Costs</td>
<td>$8.8</td>
</tr>
<tr>
<td>Miscellaneous Expense</td>
<td>$0.4</td>
</tr>
<tr>
<td>Sewer Connection Costs</td>
<td></td>
</tr>
<tr>
<td>Profits Before Tax</td>
<td>$10.5</td>
</tr>
</tbody>
</table>

While there is a possibility some of the development costs might change and the sale price of the lots could go up considerably under Option II. To re-price lots would depend on the location of those lots passing the
percolation test and this exercise would not initially be feasible. To test
the percolation of the soil, more study would be necessary including soil
samples at various intervals creating a percolation map of the entire 1,100
acres. This is too time consuming, thus adjustments in pricing will not be
part of the Option II study.

As we look at the possibility of sewer connection for some of the lots, we
are well aware that involving the City in any decision will lead to time
delays. Should we take out an option for 90 or 120 days while we do the
due diligence with the city and perhaps with some mapping of the
acreage? Perhaps this option would make more sense rather than
proceed with the deal and end up losing $4.5 million (Option II).

Assumptions – Assessments:

The sales price of the lots is estimated at $150,000 per lot. But what
happens if the economy slows down enough to affect the sales prices?
Lot prices might also drop if the project has a low acceptance. However,
the other side of the coin is that the sales prices may go up on the last
one-half of the lots if the project takes off and becomes trendy.

To have a reasonable set of assumptions, the company needs to consider
these possibilities. Rather than address these issues for all three options,
we will use Option III as our base. To that base, we will make pricing
adjustments to see what happens if we re-price the lots up or down.

Using Option III, we should assume the average sales price is $120,000
per lot to see the impact on profit assuming the project is poorly accepted.
If, however, we make a second assumption that we have excellent
acceptance of our lots, we might find that the average lot price rises to as
much as $160,000 per lot.

Using Option III, we need to determine what will happen to revenues if our
lot prices drop to $120,000 each and what will happen to revenues if the
lot prices increase to $160,000 each.

Let’s begin with the profit change when we change the price to $120,000
per lot. Remember the base price for Option III is being used and that
price is $150,000 per lot.
Scenario One: **Decrease** Average Lot Sales Price by $30,000 (price declines from $150,000 to $120,000). The **incremental approach** is used.

Profit at $150,000 per lot. $8,800,000

Decrease in Profits at $120,000
$30,000 times 300 lots = $9,000,000

Adjusted Profit or (Loss) ($9,000,000)

Scenario Two: **Increase** Average Lot Sales Price by $10,000. (price increases from $150,000 to $160,000). The incremental approach is used.

Profit at $150,000 per lot $8,800,000

Increase in Profits at $160,000
$10,000 times 300 lots = $3,000,000

Adjusted Profit or (Loss) $11,800,000

This brings up another important value – breakeven. Given the costs in option III are accurate, the breakeven is $120,667 per lot. ($200,000 loss divided by 300 lots is $666.67 or rounded to $667. Next add this to the $120,000 sales price of the lots to get $120,667.). This can also be developed by adding the total cost from the proforma (25.3 + 8.8 + 0.4 + 1.7 = 36.2 which is then divided by 300 lots for $120,667).

One word of warning: No set of profit performance outcomes should depend on a single estimate of the revenues. This is especially true when forces outside your control can materially affect your profit performance.

Performance:

In the Potomac Manor Case, **profitability** is the current measure of performance, but is it the only one available? For the Potomac Manor Case, profitability is the best, but there may be times when long-term benefits outweigh profits.

Long-term benefits might be an over-riding benefit as in the development of a drug to cure a deadly but rare disease. You might lose money or
breakeven, but to Pfizer or Merck, there might be humanitarian benefits that reach far beyond profit. Of course you would expect the drug company to capitalize on the positive publicity, which would in the long-run work to the benefit of the drug company.

Perhaps Potomac Manor should undertake a study of cash required and the timing of sales of the 300 lots. How long will their cash be tied up? Will it require foregoing others projects while this one is in the development and sales phases? When can you consider other deals?

What is the forecast of the interest rates? What is the forecast of the economy in general 12 to 18 months from now?

Other alternatives: Have you evaluated the need for the seller of the 1,100 acres to sell the property? Could you affect a tax-free exchange, so the seller could defer his taxes? This might allow you to purchase the property for less money. Could you leave the seller in an ownership position by forming a limited partnership with him? This might reduce the cash required, thus reducing the interest that must be paid on the loan.

Proactive decision-making should look at and evaluate more than just the initial proforma decision.

Summary:

Routine or no-brainer decisions can be made without much effort or by seeking a range of alternatives.

Complex decisions, however, require one to evaluate a full range of alternatives. One should address these complex decisions on a pro-active basis by exploring the many alternatives, evaluating the assumptions underlying the alternatives, and looking at the structure of the relationships between alternatives and performance. Performance may be more than profit issues.

Let's look at some other case examples:

Problem:

Making a logical decision may be wrong if you start from the wrong decision problem. Stating a problem decision in the most obvious way may be wrong. Stating the problem the same way it has been stated before may be wrong. The definition of lunacy is to keep doing something the same way, yet expect different results.
Example #1:

There was a major West Coast Union who negotiated a new contract every three years with the management of a West Coast Port. The work rules had become progressively more restrictive during each negotiation.

The hands of management were absolutely tied, which prevented them from adopting newer technology for loading and unloading ships. This had become an important issue because the business of the Port was falling off and competitors with better advancements and newer equipment were taking business from the Port.

The management bargaining committee saw the problem as getting the union to relax some of the more restrictive rules in exchange for more wages and benefits to the workers. For purposes of illustrating outside the box thinking, we will ignore OSHA imposed rules and assume they would be in place for all competitive ports in a similar manner.

But is this the correct problem?

What was their box? Think about it before reading on in the case example on the next page.

The Box:

They were framing everything inside the box of existing work rules.

One member of the committee began by asking a question completely outside the box.

The question: “What could management afford to pay the union workers in a one-time settlement to have ALL work rules dropped?”

Of course the answer depended on how the port could operate if the port was free from ALL work rules. To determine this, a study was commissioned to determine the benefits and cost of such a move. The conclusion was that the changes would be revolutionary and the savings would be enormous. Business projections of revenues increased markedly.

Management proposed it to the Union and offered a one-time buyout prices that was very generous, but in reality was only a fraction of the forecasted savings in the years to follow.

Union negotiators and members bought into the new strategy since they too could see the loss of business to competitors. The Port completely
overhauled operations and was able to effectively handle containerized cargo. The results were benefits to all:

**Ship Owners Benefit**
- Turn around time of the ship was cut from days to hours.
- Ships became more productive to Owners.
- Costs for the Ship Owners dropped drastically.

**Consumers Benefit**
- Perishable fruit from Hawaii was cheaper and more plentiful.

**Port Benefit**
- Traffic to the Port grew.

**Workers Benefit**
- The one time settlement was generous.
- Instead of losing jobs because of the decline in business, job security increased.
- More skilled workers were required thus higher paying jobs were created.

This was a win-win situation. It developed because someone had the *creativity of thinking outside the box.* (Smart Choices)

**Example #2:**

In WWII there was a think-tank group who were responsible for developing solutions to tough combat situations. One such situation they were asked to evaluate was the following: You are on a ship. The ship is dead in the water with no engines working. Floating directly toward the ship in the current was a mine. The ship cannot move out of the way. After much discussion, one member of the group came up with an oversimplified suggestion. “Why don’t we all go to one side of the boat and inhale at the same time then exhale together to create an air-flow that will blow the mine away from the boat?”

Was this a silly suggestion? Yes, but this led to the actual solution. Someone else suggested that the crew take the fire hoses, turn them on full blast and create a water stream to gently push the mine around the boat. Positive brainstorming leads to many alternative suggestions where all participating gain from the experience. Problems do not mean failures. Problems lead us to learn to directly deal with the difficult and complicated issues. Problems lead to opportunities.

Albert Einstein: “In the middle of difficulty lies opportunity.”
The question is what can you gain from these difficulties or this situation? We should all learn to ask that in our daily life. What are the opportunities? What are the alternatives? What can be done differently?

**Example #3:**

Congress passed a new law through the EPA. The law told manufacturing companies what steps to follow in getting rid of toxic materials and by-products. What do you think the initial reaction from the companies was?

Oh, no another unfunded Federal mandate. Good grief, more paperwork. This will mean further loss of production. This will lead to more cost. This is doomed to more disruptions and more government interference.

These are all negatives.

What was the box?

Think about the box before reading more on the case.

*The Box:*

How will we get rid of toxic waste and by-products?

Some of the manufactures who were creative began re-thinking. How can we get rid of the toxic materials **BEFORE** they go into the product. This created a new way of thinking outside of the box. They were going to explore ways to make the product without some of the toxic materials in the first place.

*Results:* There were several real break-through processes that positively affected the production process and actually lowered the production costs. The company gained a real competitive advantage over their less savvy competitors. *(Smart Choices)*

**Trigger Points:**

One of the keys to thinking is to think about the trigger points that cause you to begin thinking outside the box.

In this last example, the new law acted as the trigger point.

Most triggers come from others. This is due in part to the phenomena of comfort zones.
Comfort Zone: We all get comfortable in certain zones. Those zones will be different for different people. Some examples are money, popularity or our desire to be the boss. The key to all good supervision is to challenge the worker to move beyond their comfort zone.

A personal experience about the Jimmy Carter Presidency years and my opportunities:

I was in the construction business when the interest rates were about 9% during the early years of the Jimmy Carter presidency. The interest rates began rising over a period of about a year to a prime of about 22%. At 9% I had about $1.3 million of construction on the ground in various stages of construction. By the time I got the projects (houses) completed, I could not sell the houses at 22% interest. I also could not make the interest payments to the bank on the houses.

The trigger point for me was the 22% interest rate.

The box: Selling the houses at 22% interest rates.

Outside the Box Thinking: I made a deal with the bank to take the properties back. I convinced them that they could sell the properties at a profit while offering a 12% interest rate. The profits I would give up would be gained by the bank at the front end, thus offsetting the losses they would experience by reducing the interest rates. I got out of $1.3 million in debt with no liability. I avoided bankruptcy and the stigma in the business world that goes with it. The bank made the money they desired to satisfy the owners of the bank. This was a win-win situation for both of us. I do not have fond memories of the Jimmy Carter presidency, needless to say.

You can wait on the triggers or you can be pro-active in seeking out the opportunities. You may seek the opportunities before the trigger occurs.

You must learn to re-frame the problem decisions statement.

Defining the Decision Problem:

Start: Simply write the decision problem down. Convert your initial impression into words.

Next: Re-define the decision problem.

Re-think it from a different perspective.

State the trigger.
The trigger is your essential link to the real problem.

**Example #4:**

The boss says to you “We need new mailing label software”.

What is she really saying? Implicit in her statement is what unstated comment. “What is the best software mailing label package to purchase?”

What kind of thinking is this? Inside the box thinking is prevalent, if not predominate.

*What was the box?* We need some new software that is faster so our mailing system will improve. Implicit is the thought that something is wrong with our current mailing label software, because we aren’t getting the best results we want.

What is outside the box thinking?

Think about it before reading on in the example.

*Outside the box thinking:*

What if the real question had been phrased this way: “What’s the best way to manage our company’s direct-mail program?”

Or it could have been: “What criteria do I use in making direct mail inquiries?”

Or it could have been: “Should I look at an outside company to take over the mailing program?”

As you re-frame the question from a different perspective, you begin seeing that there may be a trigger that will catch your attention.

**Constraints in Your Decision Process:**

Your manager asks a group of mid-level, cross-functional managers a question that becomes a problem decision statement.

“When should we conduct the 3-month test of our new credit card offering in the Mid-West?”

Are there any assumptions implicit in the question? Of course there are.
1) There will be a market test.
2) It will last 3-months.
3) It will be in the Mid-West.
4) The offering has been developed and aimed toward the Mid-West consumer.

Constraints are sometimes good. They keep us from wasting time on irrelevant options. Sometimes they put blinders on us.

Example #5:

A West Coast snowboard manufacturer was getting ready to make a big push into the northeastern U.S. market. To craft its strategy, it appointed a team of three people, one from Berkeley (home office) and one from Vancouver, BC (manufacturing) and one from Denver (sales office). The head of the team was the VP of Marketing in the home office in Berkeley. He suggested a face-to-face meeting of the three team members to finalize their strategy.

The trigger: After many emails and telephone calls the VP’s assistant could find no good dates for the meeting anytime in the next three months. This would result in an unacceptable delay given the season was fast approaching.

The constraint: A face-to-face meeting.

The re-definition of the problem: Was a three-day meeting necessary or could two-days do? Were all three individuals needed for the full time or just part of the time? Why are we considering meeting face-to-face at all?

The re-statement of the problem: How else can we finalize our market entry strategy?

He was in effect recasting the decision problem from “When do we meet?” to “How can we finish the strategy?”

The solution: The VP decided to outline the steps needed to complete the strategy and would then assign tasks to himself and his two associates. Using email or a chat room the team members would update one another on the outcomes of the tasks. Then they would hold three two-hour conference calls over the next two weeks to bring it all together.

The result: The plan worked and the strategy was in place and ready for release in a three-week period of time. (Smart Choices)
Re-examine Your Decision Problem Often:

Initially do the best job you can in identifying the decision node. Your perception may change as you uncover more facts about the decision you need to make. Most often the first impression is not the best decision, but does provide a starting point for the determining the best decision. Select several possible decisions and as you gather more information be continually alert to pause and re-examine your decision problem.

Example #6:

You own a company that provides video conferencing technology. A competitor has made a 29% improvement in the clarity of the video conferencing picture.

First Response: How do we match that clarity as quickly as possible?

Does this create a box?

What is it?

Think about it before reading on in the example.

The Box: Matching the improvement is the box.

After you look more into the opportunity, you find you may want to recast your decision problem to “What technological innovation would allow us to leapfrog the competition by achieving a 100% improvement in clarity?”

Is this ambitious? Yes.

Is this possible? Perhaps it is.

Reality Check: There might be stages of the developments if the 100% can’t be reached quickly. First, get the 29%, then retrofit all units sold at 29% as you develop the technology to 100%.

Is there danger? Yes. The longer we take to develop the technology the longer we languish under the improvement made by the competitor. This will lead to market share erosion, which could lead to falling profits.

From these examples, it is easy to see that from time to time we should be asking “Are we working on the right problem decision?”

Be alert to rapidly changing conditions and new information and check your problem decision often to see if it should be updated.
Let's take a look at a couple of discussion cases.

**Bob Lost His Job Case**

**Darlene and Drew: House Remodeling Case**

**Bob Lost His Job Case**

Bob lost his job in Portland, Oregon--well, sort of. His company was acquired by a larger one and his position as a financial analyst was eliminated. The new owners were eager to keep Bob, so they offered him his choice of financial analyst positions at other subsidiary companies they owned – all in states other than Oregon.

Relocating was problematic because Bob was just concluding a divorce. The divorce agreement, an amicable one, would give him custody of the couple’s two young children, while his wife, a lawyer, would pitch in with emergency child care and take the kids on the weekends.

Bob could have defined his decision problem in various ways, but he never stopped to think about it. Instead, even though his skills were highly marketable, he proceeded as if his problem were *“How do I stay with my current employer?”* As a result he chose one of the open analyst positions with a subsidiary in Seattle, Washington, the closest option to Portland.

Now, however, Bob’s life is a nightmare whenever a child is sick, because his ex-wife is too far away to baby-sit. And the five-hour round-trip drives to Portland every weekend aren’t much fun either. To add insult to injury, the job itself isn’t as good as his old one.

What was Bob’s box?

What were the critical issues?

What was the decision problem?

Was there a trigger to begin the questioning process?

What were some of his alternatives?
Darlene and Drew: House Remodeling Case

Darlene and Drew have run out of space in their two bedroom, one and a half bath, finished basement home, and they must decided what to do because Darlene is pregnant with their second child.

Eight years ago the couple bought a modest house on School Street in an urban residential neighborhood. At that time, Darlene was pregnant with their first child, John. They moved from their tiny, typical new bride and groom, apartment.

At first Darlene and Drew tried to figure out how they might accommodate the new baby in the existing house. Could John share his room with the baby? They knew he would quickly grow tired of this arrangement. Could they divide their own bedroom? This seemed to be a temporary solution, but they wanted a permanent one. Anyway their bedroom was already over crowded. They quickly came to see that they would not be able to do with the space they had.

They decided to add on to the house. For the past two months, they had been reviewing and pricing their renovation options. A bedroom off the end of their one story house would cost $25,000 and would take away a huge chunk of the back yard. Adding a second story would save the yard but cost $40,000.

Having bought the house when they did, the have reaped the benefits of a doubling in prices in the local real estate market over the past years. A close friend and realtor told them that their house would sell now for $155,000, which was a pretty good deal since they only paid $77,750 for the house when they purchased it. They had a remaining mortgage of $57,000 which resulted in an equity of $98,000. Their job situations were stable. Darlene worked full time as a nurse in a local hospital, though she plans to work only part time for a couple of years after the baby is born. Drew works as a salesman and has a secure, solid joy. Their joint income before taxes is about $75,000 per year. They feel confident they can afford the renovation. They could, in fact, use the equity in their house to finance it and they feel confident they can meet the monthly payments.

One evening after dinner as they are putting away the dishes, Darlene recounts a conversation that she and John, their eight-year old son, had earlier in the day. “Drew” she began, “John really got me thinking today. You know Jimmy, his friend down the block? Well, Jimmy’s family is going to move, so John asked me why people move and when were we going to move? At first I thought he was apprehensive that we might move. But he was actually excited about the possibility. We had a long conversation about why people move, and the more we talked, the more I thought. Why don’t we consider moving?”

Drew’s response was predictable. “Are you serious? Move in today’s market?”

Darlene responded, “This is a new idea for me, too. But when I rattled off to John the reasons why people move, and he offered reasons too, like more room to play, being able to ride his bike in the street, being closer to school, I half convinced myself that this might not be such a wild idea. Sure, prices are high, but we’ve built up a lot of equity in our house and if we sold it we would be able to afford a down payment on a bigger one. We would also avoid $25,000 or more in renovation costs.”