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Scenario Planning

Scenario Planning is a tool that helps an organization evaluate various project outcomes based on possible future circumstances and make the decisions most appropriate to them. Rather than predict the future, scenario planning assists the organization consider many different futures and quantify how they might impact the organization's key drivers. Although sceptics could argue that this is a very subjective process, the fact is that most organizations do not handle uncertainty well and scenario planning is a tool to help management begin discussing, considering, and quantifying the impact that possible future events could have on their business. This should be considered a dynamic process that is continually re-evaluated rather than being too focused on choosing the "right" scenario or fall prey to the idea that scenario planning "predicts" the future.

As a first step in the process, management should brainstorm possible future states and the impact they would have on their key drivers. A classic PEST analysis is a good start (Political, Environmental, Social and Technological). Some of the areas to think about are: Existing competitors, costs, price, economic outlook, new demands, changing demands, new products, changes in demographics, political and

In a September 1st, 2008 article, [The Economist](#) writes, "The appeal of scenario planning increased further in the wake of the September 11th 2001 terrorist attacks in the United States and the greater perceived uncertainty of the 21st century. According to Bain & Company's annual survey of management tools, fewer than 40% of companies used scenario planning in 1999. But by 2006 its usage had risen to 70%. As a result of its scenario planning, the New York Board of Trade decided in the 1990s to build a second trading floor outside the World Trade Centre, a decision that kept it going after September 11th 2001."

regulatory landscape, new technologies enabling new entrants or lower cost production, availability of a skilled labour pool. This is not an exhaustive list but a place to start and each organization will be more or less affected by each of these arenas

Examples of future scenarios an oil sands company might consider are: What if the world is flooded with light oil and oil prices drop; how will we make money? What impact would a delay in additional pipeline infrastructure have? Is rail car a viable alternative to pipeline transportation? If the US becomes self-sufficient in oil, what markets could replace current US demand and how will we sell to them? What effect could environmental lobbyists have on our industry? What effect would changes in government have, either Canadian or US? How likely is a new or expanded carbon tax and what would that mean to us? What new technology could change the game? Take shale gas as an example. Prior to George Mitchell of Mitchell Energy figuring out how to drill for gas horizontally, rather than by the conventional vertical drilling, known shale deposits were largely inaccessible. Combined with hydraulic fracturing, horizontal drilling freed natural gas from source rock. Mark Papa of EOG Resources did not accept common wisdom that this technique would not work for larger oil molecules. In 2005, he began drilling in the Eagle Ford shale play which he thought might hold 500,000 barrels of oil. “The Department of Energy now predicts it holds 3.4 billion. Some even expect 10 billion, which would make it the biggest oil field in US history”, according to a May 4th, 2013 Associated Press article by Jonathan Fahey entitled “New Technology Propels Old Energy Boom”.

As a rule of thumb, choosing four scenarios is a good start. Two is too few, three looks like a best/worst/in the middle approach and it is easier to add scenarios than remove them later.

Using the organization’s most important drivers, map the four scenarios on a classic 2x2 diagram to visualize their impact. In the oil sands example above, perhaps the two most important drivers are keeping costs down and continuing with development.

A simple excel spreadsheet can be created to quantify the impact of each scenario on competing projects. Down the left hand side of the spreadsheet, the organization will want to list its strategic objectives in the categories of Financial, Customer, Internal and Enablers. The example in Figure 1 below shows common objectives, and an organization will want to customize the list to include the ones most relevant to it. For example, an oil company might include Optimization of Assets under the Financial grouping and Regulatory Compliance under Internal. The next step is to assign them a weighting. It is important to include the organization’s budgeting and planning targets for each category.

Figure 1
(Values will be input for Project Beta and Project Gamma etc.)

	Weighting	Target		Scenario Performance Impact			Scenario Weighting			Project Alpha								
		Target Value	Unit of Measure	Pessimistic Impact	Stagnation Impact	Optimistic Impact	Pessimistic Weighting	Stagnation Weighting	Optimistic Weighting	\$	Cost Reduction	# Customers	# Units	Revenue/ Unit	Cost/Unit	# New products	# Customer Contacts	
FINANCIAL																		
DRIVE REVENUE	3%	\$ 1,000	\$,000	\$ 500	\$ 1,000	\$ 1,500	3%	3%	5%	\$ 250								
REDUCE COST	17%	\$ 500	Cost	\$ 400	\$ 500	\$ 700	15%	12%	13%	\$ 100								
CUSTOMER																		
SUPPLIER OF CHOICE	10%	1,234	# Customers	800	1,234	1,500	7%	10%	15%			345						
DELIVER GREAT VALUE	5%	10,000	# Units	7,500	10,000	14,000	15%	5%	5%			34						
EFFECTIVE PRICING	5%	\$ 150	Revenue/Unit	\$ 100	\$ 150	\$ 180	5%	5%	10%				\$ 111					
INTERNAL																		
OPERATIONAL EXCELLENCE	10%	\$ 75	Cost/Unit	\$ 80	\$ 75	\$ 70	10%	10%	10%					\$ 70				
INNOVATION	20%	100	# New Products	40	100	120	5%	20%	10%							100		
CUSTOMER INTIMACY	10%	1,000	# Customer Contacts	555	1,000	1,300	15%	15%	15%								888	
ENABLERS																		
INVEST IN OUR PEOPLE	10%						10%	10%	7%			45	\$	\$	\$	1	10	2
BUILD A WINNING CULTURE	5%						10%	5%	5%			55	\$	\$	\$	1	10	2
LEVERAGE TECHNOLOGY	5%						5%	5%	5%									
	100%						100%	100%	100%	\$	250	\$ 100	445	34	\$ 121	\$ 72	120	892

A separate spreadsheet will be created for each scenario, which is why more than four can be unwieldy. More can always be added later. The next step is to estimate what impact this scenario would have on each of the strategic objectives. In order to provide some sensitivity analysis around the impact of a particular scenario (and to acknowledge that the future is an unknown), it is important to quantify the impact in relation to the organization’s target both in a unit of measure amount as well as a weighting value under a pessimistic, stagnant and optimistic outcome. Stagnant meaning that the scenario would have little impact over the next two years.

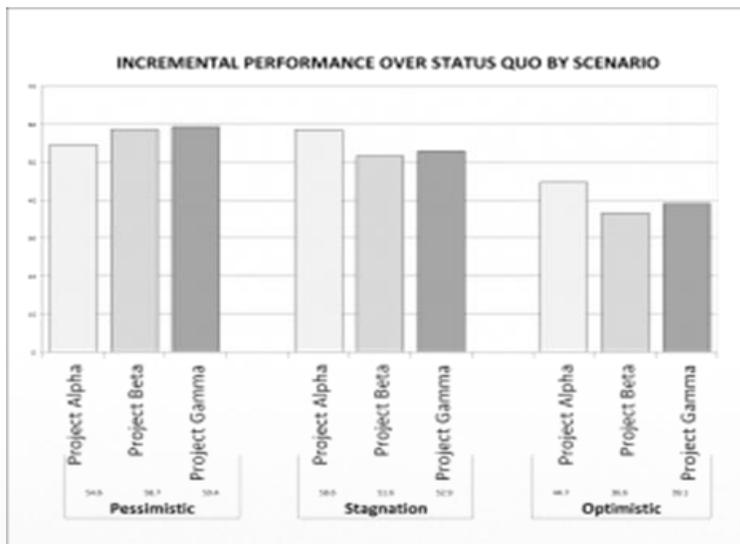
Next, for each project being considered, quantify the impact on a unit of measure basis that the organization expects it to have on each of the strategic objectives. Based on the input values, each project will be assigned strategy points (Figure 2). Changing the assumptions will easily change the effect of a project and assist decision makers in seeing the impact on the organization’s planning and budgeting targets.

Figure 2

STRATEGIC OBJECTIVES		PROJECT IMPACT																	
		Project Alpha						Project Beta						Project Gamma					
		Pessimistic		Stagnation		Optimistic		Pessimistic		Stagnation		Optimistic		Pessimistic		Stagnation		Optimistic	
		Performance	Strategy Pts	Performance	Strategy Pts	Performance	Strategy Pts	Performance	Strategy Pts	Performance	Strategy Pts	Performance	Strategy Pts	Performance	Strategy Pts	Performance	Strategy Pts	Performance	Strategy Pts
FINANCIAL	DRIVE REVENUE	50.0%	1.5	25.0%	0.8	16.7%	0.8	63.0%	1.9	31.5%	0.9	21.0%	1.1	58.0%	1.7	29.0%	0.9	19.3%	1.0
	REDUCE COST	25.0%	3.8	20.0%	2.4	14.3%	1.9	27.5%	4.1	22.0%	2.6	15.7%	2.0	26.3%	3.9	21.0%	2.5	15.0%	2.0
CUSTOMER	SUPPLIER OF CHOICE	55.6%	3.9	36.1%	3.6	29.7%	4.5	51.6%	3.6	33.5%	3.3	27.5%	4.1	51.3%	3.6	33.2%	3.3	27.3%	4.1
	DELIVER GREAT VALUE	0.5%	0.1	0.3%	0.0	0.2%	0.0	1.5%	0.2	1.2%	0.1	0.8%	0.0	1.2%	0.2	0.9%	0.0	0.6%	0.0
	EFFECTIVE PRICING	121.0%	6.1	80.7%	4.0	75.6%	7.6	86.0%	4.3	57.3%	2.9	53.8%	5.4	86.5%	4.3	71.9%	3.6	73.1%	7.3
INTERNAL	OPERATIONAL EXCELLENCE	110.0%	11.0	104.0%	10.4	97.1%	9.7	59.8%	6.0	50.4%	5.0	39.7%	4.0	65.3%	6.5	56.3%	5.6	46.0%	4.6
	INNOVATION	300.0%	15.0	120.0%	24.0	100.0%	10.0	292.5%	14.6	117.0%	23.4	97.5%	9.8	292.5%	14.6	117.0%	23.4	97.5%	9.8
	CUSTOMER INTIMACY	89.2%	13.4	89.2%	13.4	68.6%	10.3	159.3%	23.9	88.4%	13.3	68.0%	10.2	162.9%	24.4	90.4%	13.6	69.5%	10.4
		54.6		58.6		44.7		58.7		51.6		36.6		59.4		52.9		39.1	

The results can be graphed to show which project has the most incremental impact on performance depending on a pessimistic, stagnant or optimistic outcome of the particular scenario being evaluated. See Figure 3.

Figure 3



CONCLUSION:

In summary, scenario planning supports the development of contingency plans, helps the organization maintain awareness of external drivers of performance and provides a foundation to explain variations in performance. Finally, scenario planning needs to be integrated into an organization's planning and budgeting process.