

How to Change the Future of Your Business, Plant and Equipment

Abstract

How to Change the Future of Your Business, Plant and Equipment. In industrial companies the true future operational performance is unknowable, but you can influence it to a very great extent. To get the operating result you want for your business you need to control the effect of chance on operational performance. How to manage your chances of operational success is explained using a simple spreadsheet that lets you play ‘what-if’ with your business, plant and equipment future.

Keywords: modelling probability of success, probability of chance, event probability

Every manager tries to make their department more productive and efficient—most fail. They cause their own downfall because they do not know how to guarantee their success. If you want to take the risk out of your choices you first need to see how chance effects your outcome. When you find that chance is against you you’ll want to stop its influence on your success. To identify the odds of success start with a full description of the process you will use to get the outcome you want. The easiest thing to do is to draw a flowchart showing and describing each step you will take. The flowchart is a representation of your plan. For the plan to come true the flowchart steps must happen as you need them to happen. Put the flowchart into a spreadsheet and follow this article to model and change the chance of your success.

You probably know the risk equation: Risk = Consequence x Likelihood. In this form it is of little use to us because it does not reveal all our options to control chance. A better form of the risk equation for understanding your odds and options is:

Risk = Consequence x Opportunity x Certainty of Success that your opportunity becomes real.

It can be used for either good or bad events—the equation works for all risk scenarios. The consequence is the risk outcome you will get if your opportunity is a certainty.

Typically the consequence is a given; it is the result you get when the event you are concerned about happens. A bad consequence leads to a bad risk, like a loss you do not want, while a good consequence produces good outcomes, like if your team wins the game it gets them into the finals. This version of the risk equation makes it clear that we have two ways to influence risk: create the right opportunity, and insure the event will surely happen as desired.

Put your flowchart into a spreadsheet like in Figure 1. Briefly describe each step so you understand what it does. Note that it is a series process and each step must go correctly or the final outcome you want will not happen—it is a ‘one poor all poor, one fails all fails’ situation. Identify how important each step is to the final outcome. A step may be unimportant, important or vital. It is unimportant if its failure has no impact on the process outcome. A step is important if when it is done wrongly it causes a loss of time or money but all can be quickly corrected to perform properly. A step is vital if the first time it is done wrong the process outcome can never again be achieved.

Under each step clearly explain its desired outcome (known as the Target). Next note what each step’s consequence will be when done successfully. List under each step all your opportunities to influence its result. Beside each opportunity indicate the worst (Low) and best (High) odds that you can expect for each opportunity to become real. For the whole process multiply all the worst chances together and all best chances together to see your range of odds for total process success.



The way you work on increasing your chance of success is to do a risk analysis of each step to identify and add useful risk controls that increase your chance of success. In Table 2 the causes of all risks to the success of each opportunity in each step are identified. It is important to identify all risks that will prevent the opportunity occurring right-first-time. If you do not spot a risk you cannot protect against it.

After the risk identification you select the risk controls. In Table 3 the controls for each risk to each opportunity are listed, along with the revised Low and High estimates of the new chances **once the risk controls are in place and in use**. Your new risk mitigations must be correctly in use before you can accept a risk is better managed than it was.

Human nature is naturally positive, so you will look at the odds of the best outcome and expect that is what you will get. The truth is you should plan to prevent the worst outcome and not presume anything better. Until your 'low' value for the process outcome gets up to reasonable odds you need to keep refining your plan with better and tighter controls for uncertain situations.

The spreadsheet used in Tables 1, 2 and 3 is available for sale at our online store. Go to it by clicking this web-link: [Business Process Design Modelling Tool](#). In the Business Process Design Pack you get a lot of additional information on how to do business process reengineering using the method explained in this article.

The selection of probability or chance values to use in your spreadsheet depends on how much information you have available about the effect of a cause on an opportunity. A person knowledgeable in the situation being analysed can use their experience to estimate the Low and High values of chance. If you are not knowledgeable about the risks in a situation you will need to get help from people who are, or you need to collect data on the factor you want to control and model its event frequency distribution curve. There is a white paper on how to do event distribution curve modelling in the Business Process Design Pack.

The future of your business, plant and equipment can be as good as you want it to be once you spot and remove the troubles that will prevent it from happening.

The very best to you,

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Plant Wellness Way: world class industrial equipment reliability that lasts

Process 3T Risk Analysis Example - Excel

AA59

Process Purpose: To find Clients who will use PWW for improving equipment reliability

Process Step Outcomes	Chance of it Being an Exec		Chance of Gaining Interest		Chance of wanting to Know More		Chance of a Meeting		Chance of Getting a Request		Chance of Getting Work		Chance to this Point		Chance of Using PWW		Chance to this Point								
Desired Outcome (the Target)	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High							
Find Industrial operation CEOs	%	%	Industrial operation CEOs know of PWW		%	%	CEOs reads about PWW to learn details		%	%	Want to trial PWW or apply methods		%	%	Company puts resources into trial		%	%	Company adopts PWW methodology as its own		%	%	%	%	
Consequence of Achievement	A awareness of PWW by senior managers		Develop list of prospective Executives		Develop list of interested Executives		Develop list of involved Executives		Develop list of interested companies		Develop list of likely Clients		Become a Client												
Opportunity to Achieve Desired Outcome	1.1) Global web search	0	0.1	1.2) Finds LRS Global website	1	10	1.3a) LRS Global Website content addresses important need 1.3b) CEO is a website subscriber	30	50	1.4b) CEO makes email inquiry 1.4c) CEO makes telephone inquiry	10	30	1.5) CEO requests a meeting	5	20	1.6) CEO requests a trial	70	90	0.00	0.00	1.7a) You are the preferred Supplier 1.7b) Client wants PWW benefits	50	80	0.00	0.00
	2.1) CEO Targeted mail-out	50	80	2.2) Responds to targeted mail-out	5	20	2.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.08	7.37	As 1.7 above	50	80	0.04	5.90
	3.1) Blanket industry mail out	10	30	3.2) Responds to blanket mail out	1	10	3.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.00	1.38	As 1.7 above	50	80	0.00	1.11
	4.1) Sales call on CEO/Exec	50	90	4.2) Requests more information	30	50	4.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.47	20.74	As 1.7 above	50	80	0.24	16.59
	5.1) Industry magazine subscriber list	1	10	5.2) Responds to magazine ad	2	20	5.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.00	0.92	As 1.7 above	50	80	0.00	0.74
	6.1) Industry targeted email blast	10	30	6.2) Responds to industry email blast	2	20	6.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.01	2.76	As 1.7 above	50	80	0.00	2.21
	7.1) Professional organisation member list	5	20	7.2) Responds to professional organisation member ad	2	20	7.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.00	1.84	As 1.7 above	50	80	0.00	1.47
	8.1) Industry organisation member list	1	5	8.2) Responds to industry organisation member list ad	2	20	8.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.00	0.46	As 1.7 above	50	80	0.00	0.37
	9.1) Senior managers you know in industry	20	50	9.2) Requests more information	30	50	9.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.19	11.52	As 1.7 above	50	80	0.09	9.22
	10.1) Booth at targeted industry conferences	30	60	10.2a) Explain PWW face-to-face 10.2b) Answer CEOs questions 10.2c) Solve CEOs reliability problems	50	80	10.3) Reply addresses important need	30	50	As 1.4 above	30	50	As 1.5 above	50	50	As 1.6 above	70	90	0.47	5.40	As 1.7 above	50	80	0.24	4.32
	11.1) Run seminars by mailed invitation	50	80	11.2) Attends seminar	10	30	11.3) Seminar addresses important need	30	80	11.4a) Makes email inquiry 11.4b) Makes telephone inquiry 11.4c) Asks questions at seminar 11.4d) Gives you a business card	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.16	11.06	As 1.7 above	50	80	0.08	8.85
	12.1) Market via other businesses Manager uses	20	80	12.2) Requests more information	5	30	12.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.03	11.06	As 1.7 above	50	80	0.02	8.85
	13.1) Chamber of Commerce member list	80	90	13.2) Requests more information	5	30	13.3) Reply addresses important need	30	80	As 1.4 above	30	80	As 1.5 above	50	80	As 1.6 above	70	90	0.13	12.44	As 1.7 above	50	80	0.06	9.95
	14.1) Local LRS Consultant web search	30	50	14.2) Finds local LRS Consultant website	30	70	14.3) Website content addresses important need	70	80	14.4.1) Makes email inquiry 14.4.2) Makes telephone inquiry	30	70	As 1.5 above	30	80	As 1.6 above	30	50	0.17	7.84	As 1.7 above	70	80	0.57	6.27

3T Approach Risk Matrix

Table 1 Spreadsheet to Identify Process Chance of Success



Process 3T Risk Analysis Example - Excel

Risk Causes in Current Process		Chance of it Being an Exec		Chance of Gaining Interest		Chance of wanting to Know More		Chance of a Meeting		Chance of Getting a Request		Chance of Getting Work		Chance to this Point		Chance of Using PWW		Chance to this Point										
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High									
Desired Outcome	CEOs and Senior Managers wanting information	%	%	Interest the Prospect		%	%	Familiarise the Prospect		%	%	Educate the Prospect		%	%	Prospect wants to do a trial		%	%	%	%	Prospect uses PWW		%	%	%	%	
1) Global web search	1.1.1) Does not search Web for information 1.1.2) Website lists too low 1.1.3) Wrong keywords in search 1.1.4) Goes straight to preferred sites 1.1.5) Gets others to do research 1.1.6) Search engine alters algorithm 1.1.7) Not a senior manager			1.2.1) Not a senior manager 1.2.2) Website description does not interest 1.2.3) Cannot find information 1.2.4) Uninteresting sales copy 1.2.5) Reliability is not an issue			1.3.1) Cannot find information 1.3.2) Information not useful 1.3.3) Information does not convince 1.3.4) Cannot understand content			1.4.1) Reply does not interest 1.4.2) Cannot see how reply solves their problems 1.4.3) Cannot see how to gain from reply content 1.4.4) Distance and cost prohibits meeting 1.4.5) Does not want to be contacted			1.5.1) Does not like you 1.5.2) You are not prepared for questions 1.5.3) Your content does not interest 1.5.4) The circumstances have changed 1.5.5) Evidence of capability is not strong 1.5.6) Client has their mind on other things															
2) CEO Targeted mail-out	2.1.1) Wrong industries 2.1.2) Sent to the wrong manager 2.1.3) Mail list is out-of-date			2.2.1) Bins mail-out without opening 2.2.2) Mail does not get to manager 2.2.3) Uninteresting copy 2.2.4) Wrong sales pitch 2.2.5) Reliability is not an issue			2.3.1) Need is not addressed 2.3.2) Information is unconvincing 2.3.3) Business priorities have changed			As 1.4.X above			As 1.5.X above															
3) Blanket industry mail out	3.1.1) Wrong industries 3.1.2) Sent to the wrong people 3.1.3) Mail list is out-of-date			3.2.1) Bins mail-out without opening 3.2.2) Mail does not get to manager 3.2.3) Uninteresting copy 3.2.4) Wrong sales pitch 3.2.5) Reliability is not an issue			As 2.3.X above			As 1.4.X above			As 1.5.X above															
4) Sales call on Exec	4.1.1) Wrong industry 4.1.2) Wrong manager 4.1.3) Not a decision maker			4.2.1) Wrong industry 4.2.2) Manager does not want sales visit 4.2.3) Reliability is not an issue 4.2.4) Wrong sales pitch			As 2.3.X above			As 1.4.X above			As 1.5.X above															
5) Industry magazine subscriber list	5.1.1) Wrong industry 5.1.2) List has few senior managers 5.1.3) List is out-of-date			5.2.1) Wrong manager 5.2.2) Reliability is not an issue 5.2.3) Wrong sales pitch 5.2.4) Does not see ad			As 2.3.X above			As 1.4.X above			As 1.5.X above															
6) Industry targeted email blast	6.1.1) Wrong industry 6.1.2) List has few senior managers 6.1.3) List is out-of-date			6.2.1) Wrong manager 6.2.2) Reliability is not an issue 6.2.3) Wrong sales pitch 6.2.4) Does not read email			As 2.3.X above			As 1.4.X above			As 1.5.X above															
7) Professional organisation member list	7.1.1) Wrong industry 7.1.2) List has few senior managers 7.1.3) List is out-of-date			7.2.1) Wrong manager 7.2.2) Letter does not get to manager 7.2.3) Reliability is not an issue 7.2.4) Wrong sales pitch 7.2.5) Does not read letter			As 2.3.X above			As 1.4.X above			As 1.5.X above															
8) Industry organisation member list	8.1.1) Wrong industry 8.1.2) List has few senior managers 8.1.3) List is out-of-date			8.2.1) Wrong manager 8.2.2) Letter does not get to manager 8.2.3) Reliability is not an issue 8.2.4) Wrong sales pitch 8.2.5) Does not read letter			As 2.3.X above			As 1.4.X above			As 1.5.X above															
9) Senior managers you know in industry	9.1.1) Wrong industry 9.1.2) Not a senior manager			9.2.1) Reliability is not an issue 9.2.2) Wrong sales pitch			As 2.3.X above			As 1.4.X above			As 1.5.X above															
10) Booth at targeted industry conferences	10.1.1) Wrong industry 10.1.2) Few senior managers 10.1.3) Wrong type of conference			10.2.1) Wrong manager 10.2.2) Reliability is not an issue 10.2.3) Wrong sales pitch 10.2.4) Does not visit booth			As 2.3.X above			As 1.4.X above			As 1.5.X above															
11) Run seminars	11.1.1) Invite wrong manager 11.1.2) Manager does not get invite			11.2.1) Bins invite without opening 11.2.2) Invite does not get to manager			As 2.3.X above			As 1.4.X above			As 1.5.X above															

Table 2 Identifying Risks for Each Process Step

Process 3T Risk Analysis Example - Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
	Risk Controls		Chance of it Being an Exec		Chance of Gaining Interest		Chance of wanting to Know More		Chance of a Meeting		Chance of Getting a Request		Chance of Getting Work		Chance to this Point		Chance of Using PWW		Chance to this Point								
			Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	
55																											
56		CEOs and Senior Managers wanting information	%	%	Interest the Prospect	%	%	Familiarise the Prospect	%	%	Educate the Prospect	%	%	Prospect wants to do a trial	%	%	Prospect puts resources into a trial	%	%	%	%	Prospect uses PWW	%	%	%	%	
57																											
58																											
59		Desired Outcome			Industrial operation CEOs know of PWW			CEOs reads about PWW to learn the details			You are asked to meet and explain PWW to senior management			You are asked to trial PWW or apply methods			Company puts sufficient time, money, people and training into the trial					Company adopts PWW methodology as its own across the business					
60		2.1) CEO Targeted mail-out	RC 2.1.1) Confirm mail goes to an industrial operation RC 2.1.2) Confirm recipient is a CEO RC 2.1.3) Confirm company can afford your services RC 2.1.4) Confirm company has reliability problems	90	100	RC 2.2.1) Send two letters to each company: CEO and Operations Exec - a general brochure is not enough - include capability statement with great examples RC 2.2.2) Provide full and complete PWW answers to reliability problems RC 2.2.3) Show how LRS definitely solves reliability problems	50	80	RC 2.3.1) Explain how PWW solves their particular reliability problem - ring and ask Operations their worst reliability problems and apply PWW tools	80	90	RC 2.4.1) Provide example PWW solution to their reliability problems RC 2.4.2) Answer their unasked questions RC 2.4.3) Ask to meet to explain details of how PWW solves their problem	50	80	RC 2.5.1) Predict the likely benefits PWW will bring RC 2.5.2) Develop preliminary scope of work, schedule and costing for a trial RC 2.5.3) Explain believable process for the trial RC 2.5.4) Be professionally dressed-wear a tie, smart business cloths and shoes	50	80	50	70	9	46.08						
61		4.1) Sales call on Exec	RC 4.1.1) Confirm it is an industrial operation RC 4.1.2) Confirm recipient is appropriate Exec RC 4.1.3) Confirm company can afford your services RC 4.1.4) Confirm company has reliability problems	90	100	RC 4.2.1) Ring ahead and introduce yourself and PWW RC 4.2.2) Ask what are the two main reliability problems and can you apply PWW on them and show CEO at the meeting	70	90	RC 4.3.1) Explain how PWW solves their particular reliability problem - solve their reliability problems	70	90	FEEDS INTO THE MEETING AND SUBSEQUENT STEPS	50	80	50	80	50	70	11	51.84							
62		9.1) Senior managers you know in industry	RC 9.1.1) Confirm company has reliability problems RC 9.1.2) Confirm company can afford your services	90	100	RC 9.2.1) Ring ahead and introduce yourself and PWW	50	80	RC 9.3.1) Explain how PWW solves their particular reliability problem - solve their reliability problems	50	80	FEEDS INTO THE MEETING AND SUBSEQUENT STEPS	50	80	50	80	50	70	5.63	40.96							
63		11.1) Run seminars by mailed invitation	RC 11.1.1) Confirm it is an industrial operation RC 11.1.2) Confirm recipient is a CEO RC 11.1.3) Confirm company can afford your services RC 11.1.4) Confirm company has reliability problems	90	100	RC 11.2.1) Send two invitations to each company: CEO and Operations Exec - a general invite is not enough - include capability statement with great examples RC 11.2.2) Provide full and complete PWW answers to reliability problems RC 11.2.3) Show how LRS definitely solves reliability problems RC 11.2.4) Follow up invitations to confirm attendance and answer questions	50	80	RC 11.3.1) Follow up after seminar RC 11.3.2) Prepare to ask them questions of their plans to address their reliability problems RC 11.3.3) Have solid answers ready for their questions of how PWW will work better	50	80	FEEDS INTO THE MEETING AND SUBSEQUENT STEPS	50	80	50	80	50	70	5.63	40.96							
64		12.1) Market via other businesses Execs use	RC 12.1.1) Select partner firm frequented by CEOs RC 12.1.2) Confirm industrial CEOs on Client List RC 12.1.3) Confirm company can afford your services RC 12.1.4) Confirm company has reliability problems	50	80	FEEDS INTO ONE OF THE OTHER MARKETING PROCESSES i.e. seminar invite, sales call, targeted mail-out	50	80	FEEDS INTO ONE OF THE OTHER MARKETING PROCESSES	50	80	FEEDS INTO THE MEETING AND SUBSEQUENT STEPS	50	80	50	80	50	70	3.13	32.77							
65		13.1) Chamber of Commerce member list	Same as 2.1 above			FEEDS INTO ONE OF THE OTHER MARKETING PROCESSES i.e. seminar invite, sales call, targeted mail-out	50	80	FEEDS INTO ONE OF THE OTHER MARKETING PROCESSES	50	80	FEEDS INTO THE MEETING AND SUBSEQUENT STEPS	50	80	50	80	50	70	0	0							
66		14.1) Local LRS Consultant web search	RC 14.1.1) Focus website geographically RC 14.1.2) Focus website content			RC 14.2.1) Website content addresses Execs needs			RC 14.3.1) A problem that the Exec has is solved with certainty RC 14.3.2) Exec sees value in making			FEEDS INTO THE MEETING AND SUBSEQUENT STEPS															

Table 3 Adding Risk Controls to Each Process Step