



Perspectives on Performance

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An Introduction from Mike Bourne

Following the last PMA conference in Denmark, I am now in the process of taking over the running of the PMA and just starting to get to grips with the mechanisms we use to communicate with members, such as this news letter. There is a lot going on behind the scenes and I just wanted to introduce myself and update you on what is happening.

I have been involved with the PMA since its inception and first conferences in Cambridge back in the nineteen nineties and was the co-conference chair with Andy Neely in Cambridge in 2012. Alongside the conferences, I have also been running PMA symposiums, the last two being in Scotland at Loch Lomond. My day job is Professor of Business Performance at Cranfield University where I am Director of the Centre for Business Performance.

So, on to things that are happen. The PMAA in Auckland is progressing and if you haven't submitted your paper, the submission date has been extended to 15th December. I attended the PMAA in

Queenstown last year and that was a great success so if you are in Auckland in February, I look forward to catching up with you.

Conferences are a major activity for the PMA as we have to continually strive to keep together the disparate set of academic disciplines that make up, or contribute to the field of, performance measurement and management. Being a field that relies on practice, engaging with leading practitioners in the field is important too. The next full PMA conference will be held in Edinburgh in 2016, hosted by Herriot Watt University. Professor Umit Bititci and I will be co-chairing the conference and we have a special issue of the International Journal of Management Reviews in the final stages of planning. Our interest in doing this is to give us a platform for moving forward theory in this field, something that is often lacking in PM research. We will be looking for other opportunities to promote practice, but I hope that you will put the 26th to the 29th June 2016 in your diary. As we progress we will keep you up to date with developments.



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“2013 was a year of accelerated evolution for Performance Management as a discipline, as the support technology and perception of the field continued to mature.”

Performance Management in 2013 Report

INTRODUCTION

Performance Management in 2013 is the second from a series of annual publications in which The KPI Institute provides an overview on the state of the discipline. The report is the result of a qualitative study in which both primary and secondary resources were used. It covers a broad range of topics, from expert perspectives to education, from keyword trends to governmental efforts in implementing Performance Management tools and systems.

The rationale followed in the development of the content is that a discipline can only evolve through the combined efforts of practitioners, academics and consultants. Thus, the report presents interviews with specialists from 18 countries, who offered rich insights into the state of the discipline in 2013. To provide a complete and comprehensive image, opinions from both private and public sector, from all the corners of the world are included in the report.

CONTEXT OF STUDY

2013 was a year of accelerated evolution for Performance Management as a discipline, as the support technology and perception of the field continued to mature. On the technology side, beyond software, new advances in hardware meant easier data gathering and streamlined reporting. At perception level, Performance Management is perceived by many these days as cutting across levels, from organizational to national, from operational to measuring personal performance. The popularity of activity trackers as wristbands to monitor exercise, sleep and even stress illustrates perfectly this trend – hardware supported by software to easily track data otherwise unmonitored, albeit with questionable accuracy. Monitoring such changes is the aim of this report.

METHODOLOGY

A multitude of methods were employed for compiling the report, in order to assess the state of the discipline.

Interviews

A total of 20 semi-structured interviews with practitioners, academics and consultants from all the continents were conducted throughout October and November 2013.

Around the World

Google Search was the source used to research legislation related to Performance Management in different countries. The keywords included the country's name, “performance management” and “legislation”. Also, the countries' governmental websites were used for more insights. The report Performance Management in 2013 analyzes performance related legislations in more than 200 countries and territories all around the world.

Trends in Search

Thirty keywords belonging to all Performance Management levels (strategic, operational and individual) were examined using Google AdWords and Google Trends. Average Monthly Searches from Google AdWords were used to create an overview of the average number of monthly searches for each keyword in the last 12 months. The graphics provided by Google Trends were used to illustrate the ascendant or descendant tendencies of each keyword's popularity.

Media exposure

Ten keywords related to Performance Management were used to search for levels of media exposure between 2000 and 2013. The search was restricted to these years as most of the data was only available after 2000. Google News was also used to obtain the “performance

management” keyword's popularity in article headlines.

Education

Google Search was used to research for universities which offer performance related degrees and subjects. Data was collected using relevant keywords to Performance Management. Insights related to performance degrees and subjects were also obtained from the interviewed academics.

Events

To create a list of the main Performance Management events in 2013, the activity of renowned organizations, associations and institutes was analyzed and the events they organized in 2013 were recorded.

Books

Search was conducted on “Bestselling Books” and “Latest Published Books”. Ten relevant keywords were searched using Amazon, a relatively objective and reliable book rankings and sales database.

Articles

Google Scholar, sciencedirect.com and services.oxfordjournals.org were used to find the most recently published Performance Management articles.

Portals

The initial selection of portals was based on recommendations from Performance Management experts. The platforms Alexa.com and Ranking.com were used to obtain traffic rankings for the selected websites.

Communities

For the 2012 research, keywords such as “Performance Management”, “KPI” or “Balanced Scorecards” were searched within LinkedIn Groups in order to find the most popular communities that focus on this domain and were divided into five categories, excluding software-bases groups. This year's research focused on



identifying the most popular groups among each of the five categories.

Job trends

To determine the number of available positions in the field of Performance Management in six continents and two major markets (China and the Middle East), we've screened for positions like "Performance Manager", "Strategy Manager" and "Performance Management". The proportions of available jobs from each category were calculated for all regions.

Salaries

The Glassdoor portal was used to research information about salary ranges within the field of Performance Management for both Performance Managers and Strategy Managers.

Software

Three recent Gartner reports (published in February, March and June 2013) were used for information pertaining to the 2013 trends in Performance Management software solutions.

FINDINGS

Performance Management, in all its forms, is growing in popularity every year. Both private companies and public organizations from all around the world are embracing its concepts and strategies

in order to assess and improve their work and their overall results. The study benefited from a detailed image on the state of Performance Management as a discipline, provided by professionals in the field.

One of the main highlights of this report is the "Around the World" section, which provides updates on government efforts from 201 countries in building a performance management culture. The governments of major countries, with large populations and high GDPs have been the first ones to implement different Performance Management strategies. However, the tendency of implementing Performance Management systems has also been noticed among more and more small or developing countries.

The KPI Institute is the global authority on Key Performance Indicators (KPIs) research and education, providing through its publications and training courses insights on how to measure and learn with KPIs.

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Aurel Brudan,
CEO The KPI Institute

The report is available in two formats:

- **Electronic (free):**

<http://issuu.com/thekpiinstitute/docs/performance-management-in-2013>

- **Paper copy (\$13):**

<http://www.amazon.com/Performance-Management-2013-discipline-magazine/dp/149496905X>

Feedback regarding this edition and inputs for future editions are highly appreciated and should be directed at editor@kpiinstitute.org.



A Proposed Methodology for Analyzing Failure in Performance of Organisations Using an Integral Approach of the Fish Bone and the Fault Tree Techniques

INTRODUCTION

Failure of many project management systems (local and foreign organisations) to achieve planned goals and to meet clients' expectations in finishing projects on time has been a common occurrence in the past years. This problem, which can appear clearly in international organisations working in foreign markets outside their homeland, is due to some factors impinging on the organisation. These factors, if not taken into considerations as early as possible, can dramatically affect the overall performance and reliability of the project management services offered by those organisations on the long run either with the same clients or with different ones. The major effect is that in most times those organisations fail to maintain or gain more workload in those markets, which are characterized by being relatively unstable or uncertain. In majority of the cases top executives managers of those organisations can be hold responsible for the downfall or failures of their projects and/or their organisations. This is due to lack of studying the causes of such failure in those unpredicted markets.

Based on personal experience with a famous international project management company working in the Middle East region, the author attempted to identify some major possible causes of such failures. These causes can be the result of external and/or internal factors. The external factors are outside the full control of the managers, however it is still their role to attempt to analyse, study and try to predict the probability of the occurrence of

such events and to try to calculate the risk associated with them as early as possible. The internal factors, on the other hand, are all factors controllable by the managers of the company or the project managers in sites and the ones that the probability of their occurrences can be predicted or defined easier than those caused by the external ones. Both types of factors will be highlighted, and addressed in detail later in this article.

POSSIBLE CAUSES OF PROJECT MANAGEMENT SYSTEMS FAILURE

There is no generally agreed account of the nature of failure of organisational and project systems. As Sauer (1993) put it: "All kinds of technological and organisational systems suffer failure." Answers are needed to the question of the causes to such failure: what situations/factors inside and outside the organisation and/or project affect their effectiveness and what outcomes characterize an organisational and/or project performance as failure? Failure can be caused by a vast number of external and /or internal factors, which can interactively contribute towards the failure of the organisation as a whole. These are detailed as follows:

I] External Factors

These external factors can arise from continuous change in **Political, Economical, Social, Technological and International Factors [PESTI]**. They are outside the control of the managers but need to be predicted as early as possible hence identifying them is major step in the approach to the solution. They can

be due to the existence of some areas of uncertainties in the construction industry as they are unavoidable and very high. Undoubtedly, these uncertainties could cause disastrous impacts on the performance of the organisation with its different projects. "The more uncertain and changing the environment, the more complex is the organisation structure likely to be." Pilcher (1992). In agreement to this statement, the role of top managers here has to account for the risks associated with these uncertainties while designing their management systems. Although it is very difficult to predict all types of problems still managers need to identify, diagnose and predict their chances of occurrence as early as possible. They should focus their way of thinking on the reality of those problems caused by external factors. These PESTI factors were addressed in literature by different writers and authors. For example, Harvey (1982) and Luffman et al. (1991) showed how strategic managers could conduct such study to answer important questions to help them in identifying the opportunities and threats in the environment. With respect to the construction industry Porter (1980) identified five major forces impinging from the environment on construction firms. These are potential entrants, suppliers, buyers, substitutes and industry competitors, which are more applicable to companies who construct and build but can also be considered by project management companies. Newcombe et al. (1991) also identified the parameters of the environmental analysis in the form of an Input-Conversion Process-Output [ICO] model showing its usefulness in studying



organisations from an open system perspective.

II] Internal Factors

These factors are supposed to be in full control of the managers. They need to be identified properly and with complete honesty as early as possible. Their causing events can be predicted earlier and easier than those of the external factors. Bad design of the management systems with all their requirements of physical and financial resources either on the macro level of the organisation or on the micro level of the projects is an example of these factors. Since, management in its general and practical definition is: “the efficient allocation and utilization of the organisation 5M’s: Manpower, Materials, Machines, Money and Methods, problems can be encountered regarding any mismanagement of these 5M’s, hence managers should properly allocate and utilize these resources for adequately managing their projects and/or organisations. Unfortunately, from practical experience, managers sometimes when faced by scarce resources try to put more loads and pressure on their employees. This causes a sense of dissatisfaction among employees that creates recklessness and careless attitude. The main origin of these factors, in the opinion and experience of the author, is in the lack of correct representation of knowledge and in the lack of communications among the different management levels and all participants of the projects, which is a serious sign of bad management. Obviously, considerable understanding of the organisational behavior, attitudes of employees and functional interactions between the different departments and subsystems can reduce this problem and would help in solving problems successfully.

OBJECTIVE AND FOCUS OF THIS WORK

In order to eliminate the causes of failure of project management organisations, managers of those organisations need a

formal failure analysis to identify potential failures in project management systems and apply a method of assessment that can ensure the robustness and flexibility of their systems to cope with any environmental fluctuations and uncertainties involved in the industry they work in. Reliability analysis offers the solution. Managers need to perform an overall reliability assessment to evaluate the performance of all the individual components of their system and to study the effect of their internal policies together with outside factors on the performance of the projects and their success in achieving their targets. Accordingly, this work focuses on the application of two reliability techniques. The first is using the Fish-Bone method and drawing its Fish-Bone Tree [FBT] as a qualitative approach for predicting and identifying sources of possible failures in the whole system refer to: Lambton J, Mahlmeister L (2009), Hughes B et al. (2010) and Galley M (2012). The Fault Tree Analysis [FTA] is then applied where it helps in transforming the qualitative FBT to a quantitative Fault Tree Diagram [FTD] where the values of the possible failure basic events in the system can be easily input using probability values, which give more insight to the problem and its severity.

The Fish Bone Method and Its Uses [Cause-and-Effect Diagram]

The Fish-Bone method or Ishikawa diagram is schematic technique used to discover possible locations of quality problems. It is a Cause-and-Effect diagram which starts with identifying causes to the problem and the effect to these causes appears at the end of the diagram. In its basic form it resembles the bone of a fish where managers identify all causes to the problem and then input them in the diagram on the branches which are considered as individual bones. They provide a good checklist for initial failure analysis. Individual causes associated with each category (branch) are tied in separate bones along that branch, often through a brainstorming process. Each bone represents a possible source of error

or problem. Generally, production and operations managers use this Fish-Bone method in analysing failure or problems in production and/or operations problems. For example if an airline company wants to analyze possible problems with dissatisfied customers (effect) from Airline operation, managers start drawing the individual bones or causes to this effect. They can start by defining the famous 5M’s: Manpower, Material, Machinery/equipment, Money and Methods that may contribute to the occurrence of this undesired effect These five M’s are the “causes” and the “effect” is the dissatisfied customers, as shown in Figure 1.

The Fault Tree Analysis [FTA] and Its Uses [Effect-and-Cause Diagram]

The Fault Tree Analysis [FTA] is a deductive method or a ‘top-down’ approach or Effect-to-Cause diagram as shown in Figure 2. It has received widespread attention in the risk and reliability analyses of complex systems. It is one of the most commonly used representations of system logic. It is considered as a qualitative and quantitative technique that is represented in the form of a top-down tree called the Fault Tree Diagram [FTD]. One of the major advantages is that the construction of the fault tree forces the analyst to understand the behaviour and performance of all parts of the system thoroughly and comprehensively: a step strongly needed for performing an effective risk and reliability assessment. Also, the promising detailed qualitative and quantitative analysis provided by FTA for assessing complex organisational performance justifies and compensates for the additional effort and expenses that can arise from its use. More detailed information and examples on using this powerful method can be found in literature like for example: Cox and Tait (1991), Rao (1992) and Andruw and Moss (1993). For more works on FTA and risk analysis and reliability assessment refer to Adamyan and David (2002), Aksu, Aksu, and Osman, (2006), Arunraj N.S. and Maiti J (2007), Rajiv and Pooja (2010) and Toshio and Wakabayashi (2009).

A PROPOSED INTEGRAL APPROACH OF THE FISH BONE AND FAULT TREE TECHNIQUES FOR SOLVING FAILURE PROBLEMS OF PROJECT MANAGEMENT SYSTEMS

[A Case Study from the Experience of working with an International Project Management Organisation Operating in the Middle East]

A.1] The Problem

During working with an international organisation operating in the Middle East region which was working in Cairo in the field of project management offering project management services to different clients. The Egyptian construction market is mainly very competitive and demanding however very fluctuating that made the organisation suffer a little bit in adjusting its normal procedure of project management systems in this fluctuating risky market. This caused a lot of problems in its operational procedures and in satisfying all clients with their requirement and demands. This added pressures on its managers who have to secure all associated costs incurred against the service they have to offer which accordingly affected their performance and long term operations and existence in the country.

A.2] The Methodology

Within the context of researching this operational problem, the author had realized the emergence of some major problems that affected the smooth operations of the organisation and caused failure in gaining more work. A methodology of analyzing this failure is suggested and proposed in this article. To analyse and assess the reasons behind such failure, potential areas of risks have to be identified and the causes of this failure have to be defined. The first investigation shows that those problems are caused either by the PESTI external factors which are outside the control of the management and/or internal factors which are under their own control. However, the 5M's previously mentioned can categorize the internal factors that can drift the company to the limit.

A.3] The Relevance of the Methodology to Performance Measurement

In response to those factors that exert continuous forces on the strategic managers of the organisation they have to study two main and related issues: the stability of long-term performance of their organisational management systems, and the flexibility in running the organisation daily works in terms of its functions, processes and procedures. Both studies, if done properly using reliability methods, would positively reflect on providing better and reasonable services to clients in the local market with their different demands, hence ensuring long-term sustainability, and guaranteeing obtaining more workload to keep in business. Finally and most importantly this would lead to improve the organisation reputation. Accordingly and in an attempt to diagnose and create a reliable model to solve such problems with their different causes, the integration of both the Fish-Bone [FB] and the FTD is suggested as in the following flow chart.

B] Suggested Flow Chart Model and Steps for Fish-Bone [FB] and Fault Tree Diagram [FTD] Integration

The flow chart shown in Figure 1 explains in detail the proposed integrated approach. The steps are as follows:

Qualitative Steps:

1. Define the problem with its two causing factors: external [five types] and internal [five types] as mentioned earlier.
2. Build the Fish-Bone showing both factors on ten major branches as shown in Figure 2. The ten problems with their causing events were listed in the part dealing with defining external and internal factors mentioned earlier.
3. Transform the Fish-Bone tree to individual Fault Tree Diagrams FTD's. Each representing one of the major branches of the fish bone with its minor branches as basic events on the FTD as shown in Figure 3 (a) for external factors and Figure 3 (b) for internal factors. The problem name on the top of each major branch of the fish-bone is the Top Event on the individual FTD's.

4. Decompose each FTD to its basic events level as shown in Figures 3 and 4. In this case the author considered that in order to show how severe the problem could be, he considered the worst case to happen. That is in order that total failure happens to any major branch any one event on the minor branches should happen. This means (in terms of reliability analysis) a series type of connection of all basic events on the fish-bone branches and is represented by OR gates connection on all individual FTD's as shown in Figures 4 (a) and (b).
5. Construct the Main FTD either with an AND gate or with an OR Gate connecting the individual FTD top events to the main FTD top event as shown in Figure 4(a) and (b). This connection depends mainly on how management perceives the reliability connection and the relationship between both factors. They can imagine that both factors are two connected components in a system under reliability study. Two types of reliability connection or two scenarios can be thought of by management: either parallel connection [Best Case Scenario] as it gives better results or series connection [Worst Case Scenario] as it gives bad results. Both scenarios are shown in Figures 4 (a) & (b) and are explained as follows:
 - A. **Best Case Scenario [Not likely to happen]:** where management may think that external factors and the internal factors can be considered as two independent factors that can happen separately. This can be resembled by parallel reliability connection [i.e. represented by AND gate on the FTD] as shown in Figure 4(a). In this case both factors should happen simultaneously in order to cause effect on the whole organisation or cause its failure.
 - B. **Worst Case Scenario [More likely to happen]:** where management may think that the external factors influence the internal factors or if happened can at least affect the internal factors. This can be resembled by series reliability connection [i.e. represented by OR gate



on the FTD] as shown in Figure 4(b). In this case either factor should happen in order to cause effect on the whole organisation or cause its failure. In the opinion of the author, the second case is more likely to happen than the

first case in turbulent markets as those existing in the Middle East region due to uncertainties in the market, high local and international competitions, scarce resources and bad management by organisations.

6. Assign probability values to each basic event on the Individual FTDs. Refer to data preparation section next to see how probability values can be assigned.

Quantitative Steps:

7. Compute the total Probability value of each top event on every FTD constructed using either the addition rule if “OR” gate connection or multiplication rule if “AND” gate connection. For example, assuming, for simplicity, the independent relationships between events, then if we have two events A and B connected by an OR gate to the top event then the Addition Rule applies where: $P(\text{Top event}) = P(A) + P(B) - P(A) \times P(B)$. On the other hand if they are connected by an AND gate then the Multiplication Rule applies where: $P(\text{Top event}) = P(A) \times P(B)$.
8. Transform the qualitative main FTD to a quantitative one by computing the total probability value of the top event of the main FTD using the same additional or multiplication approach.

Evaluation Steps:

9. Compare the result to a desired benchmark criterion assigned before the study or to an acceptable criterion set by the management of the organisation, for e.g. a preset probability value not to be exceeded is assigned. If the calculated top event probability value is within acceptable range then go to step 15.
10. If not acceptable then inspect the main FTD and define which individual FTD(s) cause(s) this unacceptable value.
11. Highlight the basic cause(s) and take corrective actions to remedy or adjust them.
12. Reassign new probabilities values to the improved basic events and repeat calculating the top event of the main FTD.

Re-Evaluation Steps:

13. Repeat the computation and evaluation steps by going to step 7 above.
14. Keep repeating the process until

Flow Chart of the Proposed Integral Approach Model of the Qualitative Fish Bone and Quantitative FTD

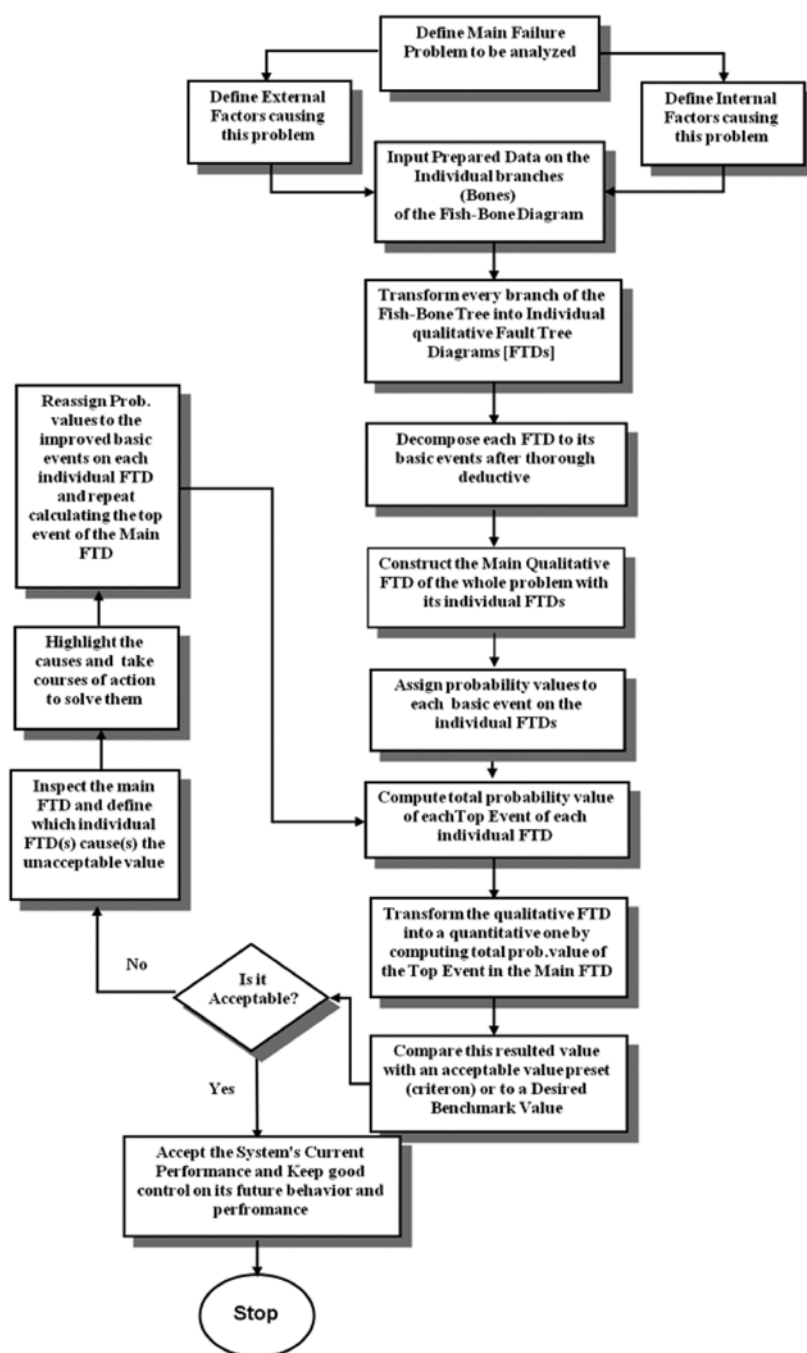


Figure 1: Flow Chart of Proposed Integral Approach of the Fish-Bone and Fault Tree Diagram for Analyzing Failure of Project Management Systems

A Proposed Methodology for Analyzing Failure in Performance of Organisations

Using an Integral Approach of the Fish Bone and the Fault Tree Techniques (Continued...)

reaching a satisfactory probability value.

15. Monitor real performance of the organisation and keep good control on the improved events. Repeat any of the above steps whenever the management add, change or need to assess any effect of the previous factors on the organisational future performance.

C] Data Preparation for Solving the Model

In order to solve any model, managers should collect data and gather information to feed the model with to get better results. In our model the main issue is how to assign the probability values of each basic event on each individual FTD.

Methods for Assigning Probability values as Inputs to the Basic Events

The methods that can be used for assigning probability values can be listed as follows:

- 1 Brainstorming session among all participants in the analysis.
- 2 Take expert opinion either from local staff or expatriate staff who live in the country for some time and know more about the country and its system.
- 3 Guessing if the events are new to the management staff.

- 4 Use subjectivity or intuition to predict values of probabilities.
- 5 Conduct a detailed market analysis to get feeling about the probability values likely to occur.
- 6 Perform good feasibility studies to prepare scenarios of expected occurring events.
- 7 Input very high values as the worst case that can happen, then using sensitivity analysis to modify and review your inputs.

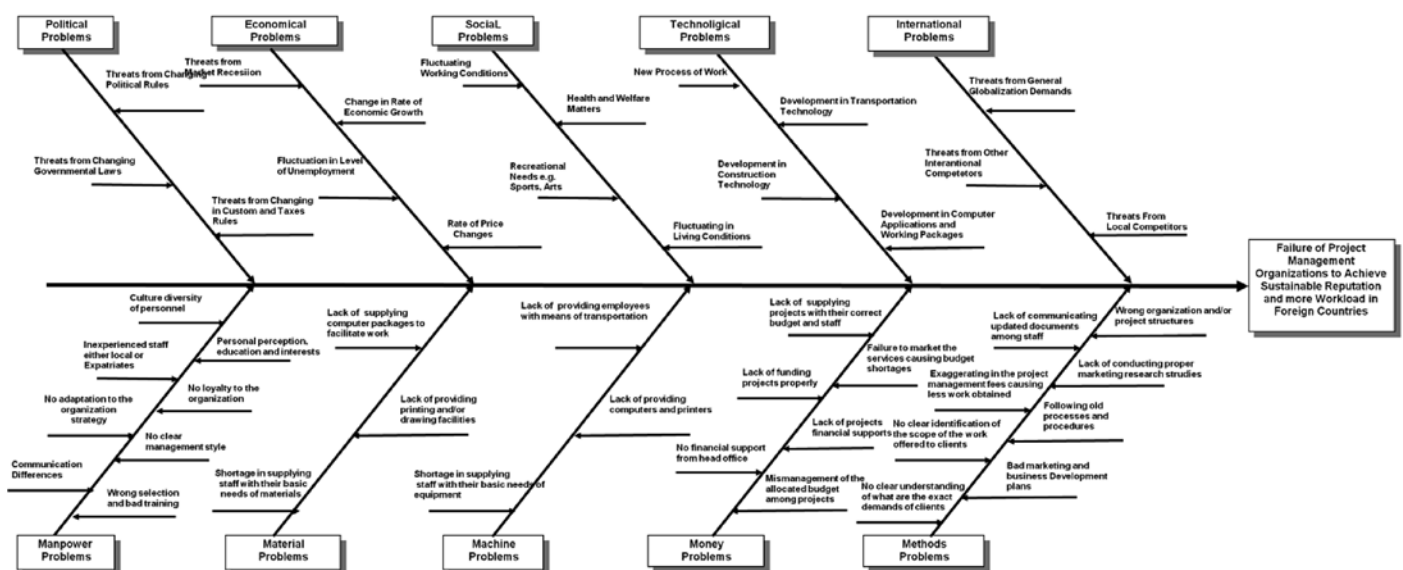
D] Detailed Numerical Model Solution

A detailed numerical analysis for calculating the top event values of all FTDs is performed as in Table 1. Hence by using an integral approach of the Fish-bone diagram as in Figure 2 and the Fault Tree Diagrams as in Figures 3 and 4 and by inspecting the values shown in Table 1, it can be deduced that solving the model numerically is very powerful and very effective. It helps in making a good comparison between the failure and success values of both scenarios: the best case and the worst case.

E] Findings of the Evaluation

As seen in Table 1, and checking for the worst case scenario the P(fail of top event), represented here by the Failure of Project Management Organisations to Sustain Reputability and to Obtain More Workload in Foreign Countries, is very high approaching a value of 1.0 i.e. P(success) equals 0.0. This means complete failure. This is obvious as both factors are connected in series. On the other hand the P(fail of top event) for the best case equal 0.45 while that for P(success) equals 0.44. The emphasis here can be seen in the thinking approach of the reliability connection type of both factors. The recommended one is to follow the best scenario connection model i.e. the parallel connection (if possible) as it gives better results in success and failure values. In order to eliminate or reduce such effect managers should try to improve the assigned probability values of all basic events on each individual FTD as they are very high as shown in Table 1 and as in Figures 3 (a) and (b). In addition to that they have to conduct effective market and internal analyses to eliminate the chances of occurrence of some of the external and internal factors. Performing tracking and sensitivity analysis approach as done next can help in achieving this aim.

Problems Caused by External Factors



Problems Caused by Internal Factors

Figure 2: A proposed Fish-Bone Diagram Presenting Possible Problems and their causing events as can be Encountered by Foreign Project Management Systems Working in Foreign Markets

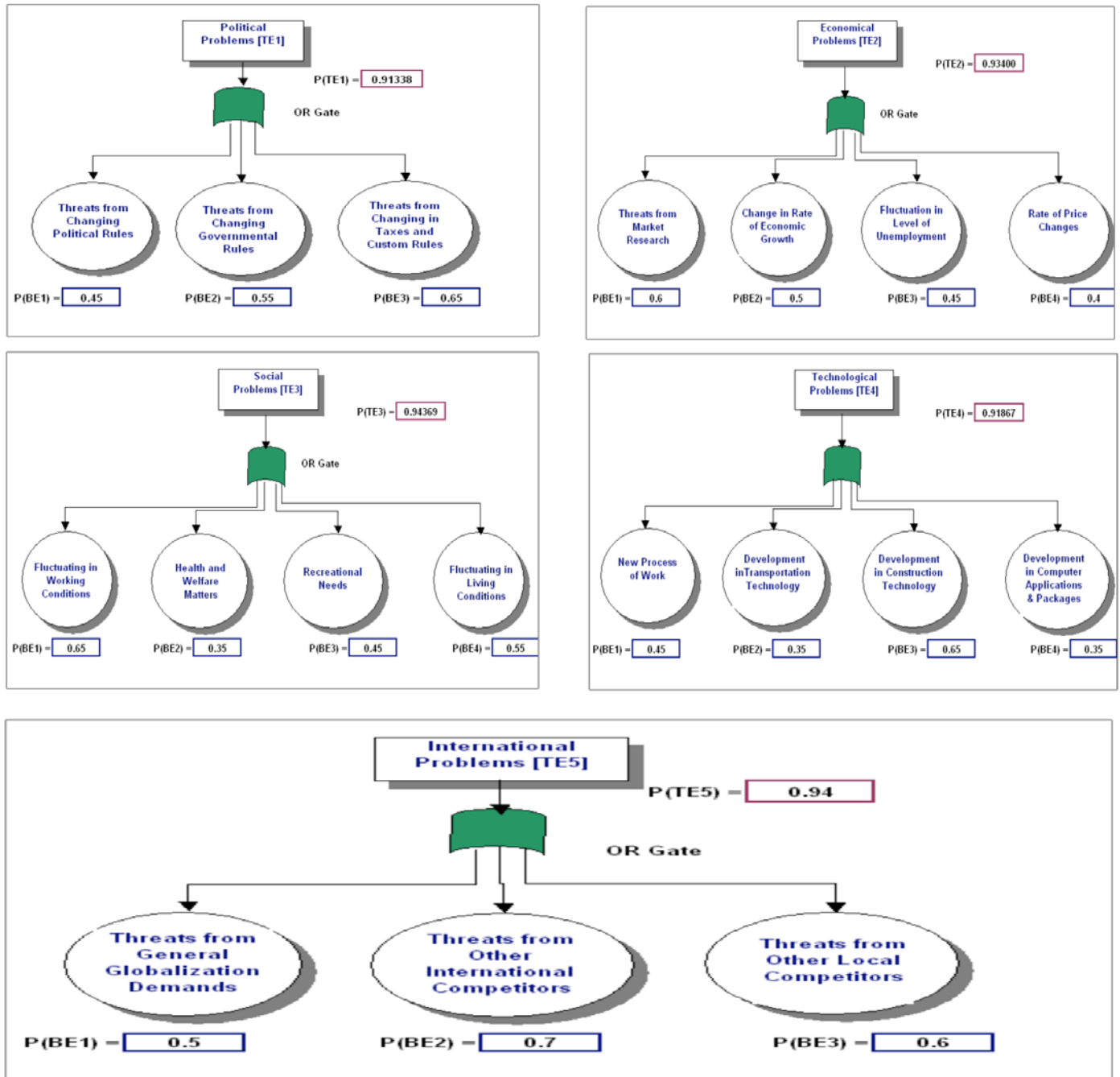


Figure 3a: Individual FTDs for PESTI External Factors

A Proposed Methodology for Analyzing Failure in Performance of Organisations

Using an Integral Approach of the Fish Bone and the Fault Tree Techniques (*Continued...*)

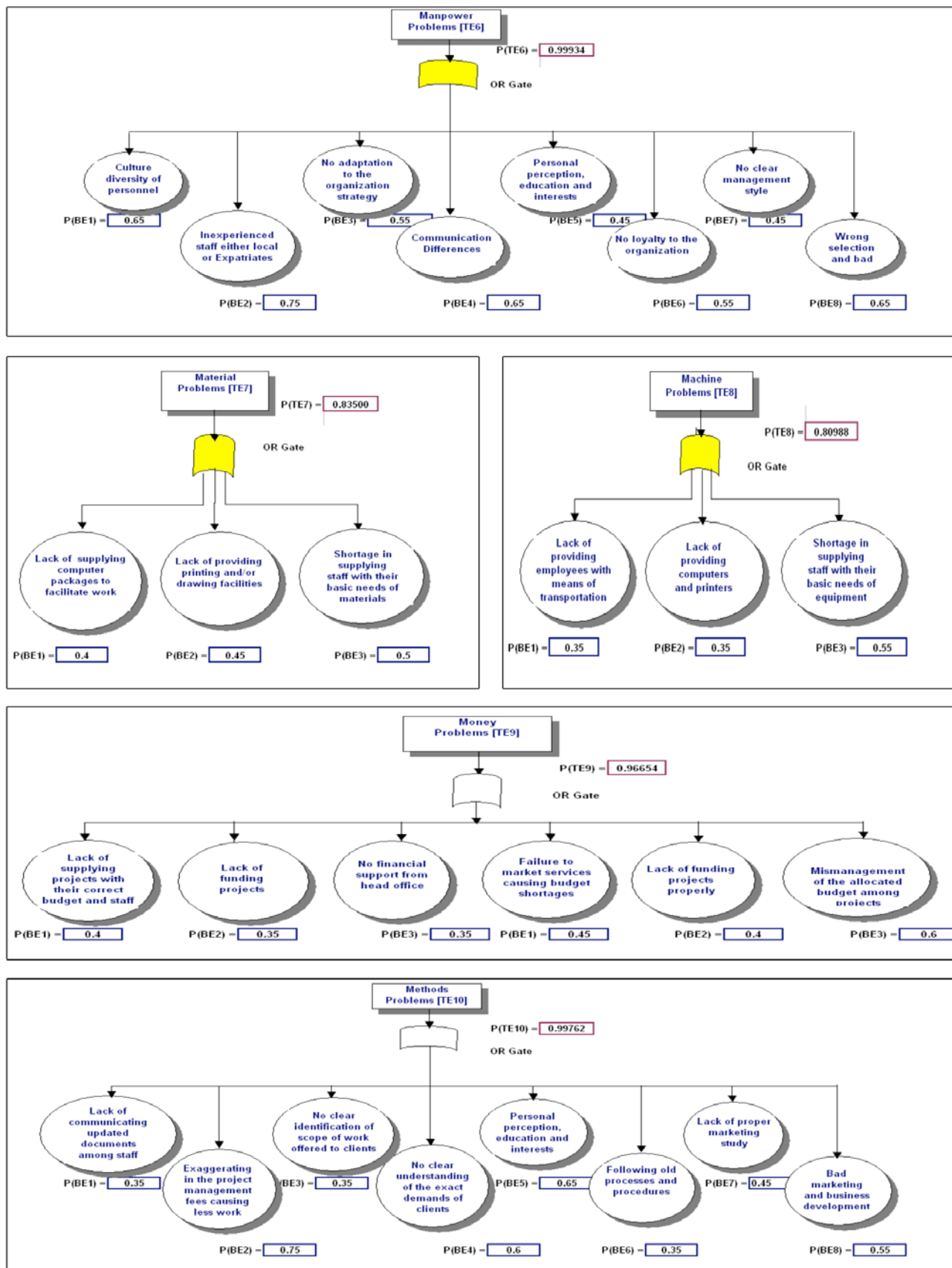


Figure 3b: Individual FTDs for SM's Internal Factors



				Probability of Basic Events										Top Event		
Factors	No.	Individual Top Event	Succ./Fail.Prob.Val	BE1	BE2	BE3	BE4	BE5	BE6	BE7	BE8	BE9	BE10	TE		
EXTERNAL FACTORS	1	Political Problems TE1	Success Value P(S) = Failure Value P(F) =	0.55 0.45	0.45 0.55	0.35 0.65								0.08663 0.91338		
	2	Economical Problem TE2	Success Value P(S) = Failure Value P(F) =	0.4 0.6	0.5 0.5	0.55 0.45	0.6 0.4							0.06600 0.93400		
	3	Social Problems TE3	Success Value P(S) = Failure Value P(F) =	0.35 0.65	0.65 0.35	0.55 0.45	0.45 0.55							0.05631 0.94369		
	4	Technol. Problems TE4	Success Value P(S) = Failure Value P(F) =	0.55 0.45	0.65 0.35	0.35 0.65	0.65 0.35							0.08133 0.91867		
	5	Intern. Problems TE5	Success Value P(S) = Failure Value P(F) =	0.5 0.5	0.3 0.7	0.4 0.6								0.06000 0.94000		
	6	Manpower Problems TE6	Success Value P(S) = Failure Value P(F) =	0.35 0.65	0.25 0.75	0.45 0.55	0.35 0.65	0.55 0.45	0.45 0.55	0.55 0.45	0.35 0.65			0.00066 0.99934		
	7	Material Problems TE7	Success Value P(S) = Failure Value P(F) =	0.6 0.4	0.55 0.45	0.5 0.5								0.16500 0.83500		
	8	Machine Problems TE8	Success Value P(S) = Failure Value P(F) =	0.65 0.35	0.65 0.35	0.45 0.55								0.19013 0.80988		
	9	Money Problems TE9	Success Value P(S) = Failure Value P(F) =	0.6 0.4	0.65 0.35	0.65 0.35	0.55 0.45	0.6 0.4	0.4 0.6					0.03346 0.96654		
	10	Methods Problems TE10	Success Value P(S) = Failure Value P(F) =	0.65 0.35	0.25 0.75	0.65 0.35	0.4 0.6	0.35 0.65	0.65 0.35	0.55 0.45	0.45 0.55			0.00238 0.99762		
Factors	No.	Main Top Event	Succ./Fail.Prob.Val	Probability of Individual Top Events										Top Event	Gate Type	Connection Type
				TE1	TE2	TE3	TE4	TE5	TE6	TE7	TE8	TE9	TE10	TE		
Both	1	Best Case	Success Value P(S) = Failure Value P(F) =	0.086625 0.913375	0.066 0.934	0.056306 0.943694	0.081331 0.918669	0.06 0.94	0.000657 0.999343	0.165 0.835	0.190125 0.809875	0.033462 0.966538	0.002379 0.997621	0.54698 0.45302	AND	Parallel
Both	2	Worst Case	Success Value P(S) = Failure Value P(F) =	0.086625 0.913375	0.066 0.934	0.056306 0.943694	0.081331 0.918669	0.06 0.94	0.000657 0.999343	0.165 0.835	0.190125 0.809875	0.033462 0.966538	0.002379 0.997621	0.00000 1.00000	OR	Series

Table 1: Computation of the Individual FTDs Top Events and the Main FTD Top Event for Both Cases

F] Re-Evaluating and Tracking Sensitivity Analysis

In an attempt to provide managers with possible remedy actions and better solution to this problem five improvements, (Improvement # 1 to 5) are considered by suggesting that managers can take qualitative actions by reducing the probability values of all basic events by only 0.05 (i.e. 5%). Additional column is introduced where managers have to set a criterion of the minimum acceptable value of failure to those basic events (i.e. a benchmark). Also an extra improvement is considered where managers can imagine that all basic events are set at a constant probability of 50 % i.e. P(basic events) = 0.5. If the accepted success is set at P(Success) over 90% i.e. they only accept 10% chances of failure i.e. P(failure) = 0.10 in this problem, then it is found that the basic events of all FTDs should be reduced (i.e. Improvement # 4) which is the closest value to the benchmarking values where P(Failure) = 0.06 i.e. P(success) = 0.94 for the best case scenario, while it is not of very much significance regarding the worst case

scenario. Accordingly managers have to go back the table and try to reduce those basic events to the values given in the column of Improvement # 4. Doing this managers can make a sensitivity tracking analysis to improve the whole process for better performance of this failure problem.

G] Findings of the Re-Evaluation

Ideally managers have to work their process to reach Improvement #5 which is considered to be the excellent solution to the whole problem as the calculated P(failure) = 0.02 and hence the P(success) = 0.98 which is very optimistic and ideal for any organisation. Also an interesting finding can be seen if 50% performance in all events is considered then the analysis produces a very bad result where P(Failure) = 0.53 and hence P(Success) = 0.47 for the best case scenario and P(Failure) = 1.00 and hence P(Success) = 0.00 for the worst case scenario. Therefore, managers should not accept any easy 50% inputs to the basic events as this gives unexpected high failure value; hence they have to avoid this easy approach. Additionally, as a quick

summary to this re-evaluation and tracking sensitivity analysis a chart showing relative linear relationship between success and failures values of each improvement trial is produced to compare the P(Failures and Successes) values of each trial in comparison to the original current model as shown in Figure 5. As can be seen Improvement model #5 is the best and Improvement model #4 is the closest to the minimum criterion set. Hence managers should try to adopt model # 4 and then attempt to continuously improve the performance by conducting more internal analysis and external market studies to achieve the results of Improvement model # 5. Going back and forth the table, managers can obtain reliable solutions to the problem and have more control on the basic events causing the undesired events to happen. This tracking analysis gives them the vision and power to eliminate, enhance and/or improve the whole structure connections, functions, processes and procedures of the whole organisation to withstand any internal or external pressures.

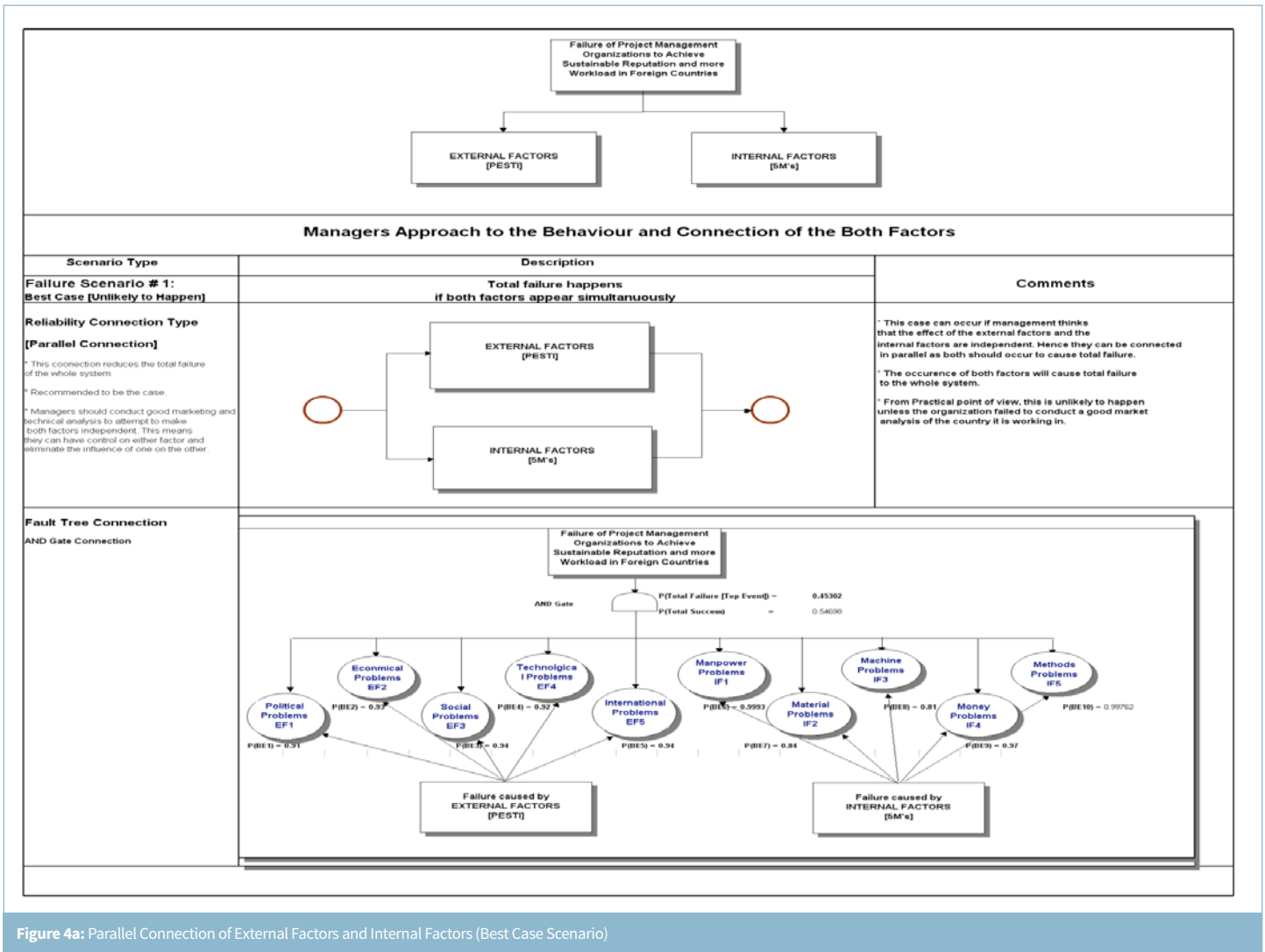


Figure 4a: Parallel Connection of External Factors and Internal Factors (Best Case Scenario)

Ultimately, from these outcomes, managers should strive to perform good internal, marketing and competitive analyses to prepare a thorough study and to have a complete picture about the situation before deciding to work in foreign countries with turbulent or uncertain markets as those existing in the Middle East region.

The above analysis shows improvement only in the Best case scenario (parallel connection) while in the Worst case scenario (series connection) the improvement is minimal and still total failure dominates the solution. This is obvious, as the values of probability assigned to the basic events of the individual FTDs are very high as shown in Figures 3 (a) and (b). In order to make real improvement management would consider eliminating chances of occurrence of some

of these basic events by making good marketing and competitive analysis of the country they are going to work in.

SIGNIFICANCE AND BENEFITS OF THE PROPOSED RELIABILITY INTEGRAL APPROACH and ITS CONTRIBUTION TO PERFORMANCE MEASUREMENT

In assessing the reliability of complex systems as those of project management organisations working in international fluctuating and turbulent markets organisational managers have to ensure that although a subsystem may fail its frequency of failure or probability of being in a failed state at any time is within a certain limit and its effect on the total system is acceptable. Following the famous say that precaution is better than curing,

it is easier to predict possible chances of failing events than trying to solve deteriorating events after their occurrence especially when other parties are involved or extensive investments are involved as in the project management practice. The Fish-Bone [FB] technique together with the Fault Tree Diagram [FTD] can serve effectively to assess the reliability of any system. They can help put precaution measures to the system under study before problems happen.

CONTRIBUTION OF THE PROPOSED RELIABILITY INTEGRAL APPROACH TO PERFORMANCE MEASUREMENT
From the case study explained in this article it can be seen that the integral approach of both reliability techniques (FB

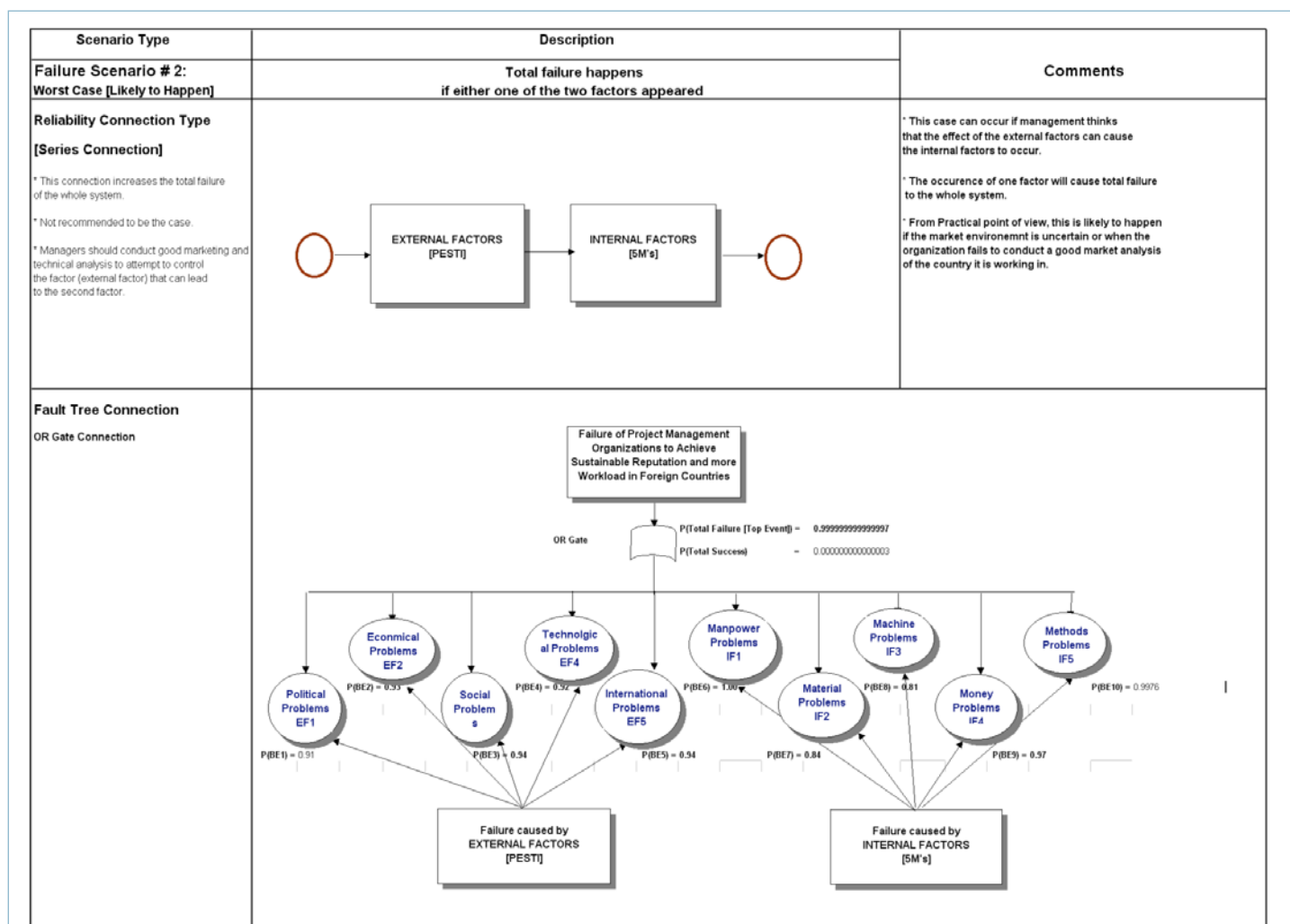


Figure 4b: Series Connection of External Factors and Internal Factors (Worst Case Scenario)

and FTD) had proved to be very effective in defining problems affecting project management organisations working in foreign markets and helped in providing a full quantitative analysis to the problem. Furthermore, this integral approach can be used as a general reliable technique for solving complex problems. It is a very useful technique in diagnosing and defining areas of weaknesses and possible chances of failures in any system and can help managers to early predict the probability of occurrence of some major events that can hinder the success of the organisation in its mission. Following the suggested flowchart steps is the road to achieve good results when analyzing complex problems in any field of application. The improvement in the system failure value can be reached by following a tracking and sensitivity analysis methodology to reduce

the probability values assigned, hence helping managers to take reliable course of actions to reduce, eliminate, modify and/or improve the whole performance of the organisation management systems. The findings show that the proposed methodology can be extended to other fields of application rather than project management organisations. Accordingly, this approach if correctly followed can improve performance of any organisation working in different industries and can ensure the continuous long-term success of its business either locally or internationally.

A Proposed Methodology for Analyzing Failure in Performance of Organisations

Using an Integral Approach of the Fish Bone and the Fault Tree Techniques (Continued...)

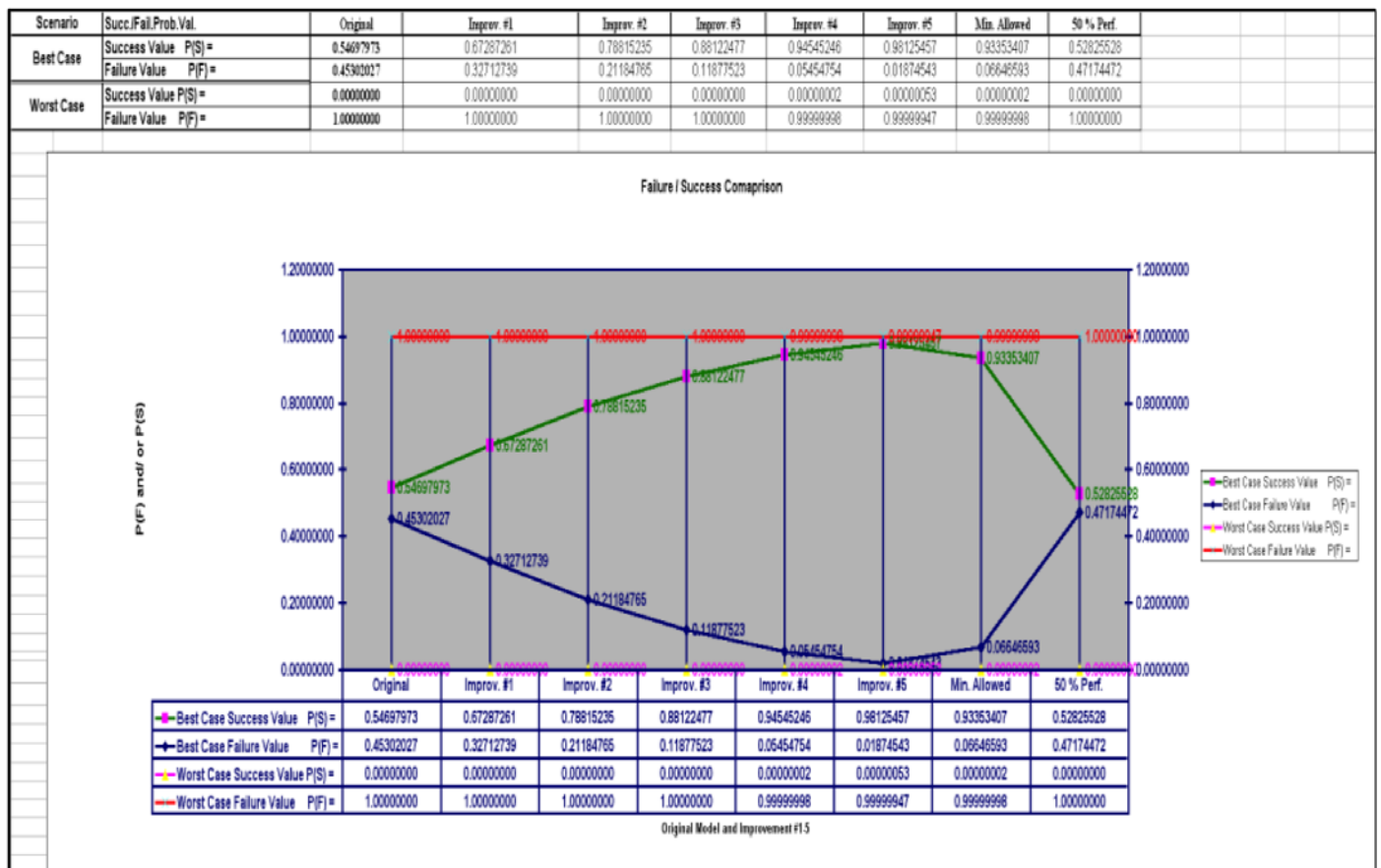


Figure 5: Tracking & Sensitivity Analysis for Both Cases Scenarios (Best Case & Worst Case)

SUMMARY OF FINDINGS AND COMAPRISON BETWEEN TYPES OF MODELS AND THEIR IMPROVEMENTS

The following table 2 summarizes the findings of the whole process for both case scenarios; the Best and Worst. It shows a detailed comparison between the probability values of success and failure obtained from original input models of the basic events of the main FTD with and without making marketing and internal analyses and their best improvement model #4:



Connection	Scenario	Success / Failure Prob. Val.	If different basic events values are used		If very low basic events values are used	
			Original Model	Improv. #4	Original Model	Improv. #4
Parallel	Best Case	Success Value P(S) =	0.54697973	0.94545246	1.00000000	1.00000000
		Failure Value P(F) =	0.45302027	0.05454754	0.00000000	0.00000000
Series	Worst Case	Success Value P(S) =	0.00000000	0.00000002	0.48735949	0.67172808
		Failure Value P(F) =	1.00000000	0.99999998	0.51264051	0.32827192
		Comments on Improving original models:	Original inputs to basic events of main FTD before making preliminary good marketing and internal analyses.	Improved Best Case Scenario but no significant improvement to Worst Case Scenario.	Original inputs to basic events of main FTD after making preliminary good marketing and internal analyses.	No change to Best Case Scenario but improved Worst Case Scenario.

Table 2: Summary of Findings and Comparison Between Different Original Input Models

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PMA Australasia 2015 Conference

Beyond best practice: tools for tomorrow's organisation

Conference Dates:

2 February to 4 February 2015

Venue:

The University of Auckland, Auckland,
New Zealand

Submission date for Abstracts:

31 October 2014

Keynote Speakers:

Professor Michael Bromwich,
Senior Managers from Fonterra
discuss their balanced scorecard
implementation.

Special Speaker:

Professor Robert Kaplan has prepared
a video especially for this conference
which we will show as a plenary.
This outlines his latest thinking on
performance measurement and
strategy execution.

In order to encourage participation
from practitioners, Tuesday February
3rd will focus on practitioner
presentations.

Single day registration
(conference dinner not included):
\$450

Early Bird Registration

(until 30 November 2014)

- Presenter \$600
- Non-presenter \$750
- Student \$450

Regular Registration

(from 1 December 2014)

- Presenter \$750
- Non-presenter \$950
- Student \$550

Registration includes three days of
lunches and morning and afternoon
tea, welcome reception and
conference dinner.

Conference dinner *(included in
early bird and regular registration):*
\$100 per guest



Innovative organisations are rapidly redefining what is meant by best practice in performance management. Emerging topics such as analytics, risk management, and the environment offer organisations enticing new tools and imperatives to evaluate their operations. No longer is it just about improving current practice, but also extending the toolkit of techniques. It's not just about doing things right – it's about doing the right things right with the right methods and technology.

The Performance Measurement Association of Australasia (PMAA) 2015 Conference will be held in Auckland and hosted by the University of Auckland, New Zealand. The conference is designed to appeal to all practitioners and scholars who have an interest in the theory and application of performance management. The conference theme is challenging and focuses on new technologies and thinking that go beyond current best practice.

PMAA's aim is to engage practitioners, academics and consultants in a joint dialogue on inter-disciplinary performance management issues evident in private, public, and not-for-profit sectors, and therefore possible topics could include:

- Analytics – data mining, Data Envelopment Analysis and other productivity models, simulations, Viable Systems Models
- Behavioural – reward and compensation, target setting, disciplinary/functional perspectives on performance, alignment, strategy maps, organizational structure/responsibility centre design and accountability

- Measures and frameworks – different dimensions of performance, sustainability, KPIs, designing and implementing performance measurement and management systems, intellectual capital and intangible assets
- Processes – lean manufacturing / service, budgeting, beyond budgeting, performance management and change, supply chain management, new product development and innovation
- Reporting - operating and financial review, environmental reporting, corporate social responsibility
- Technology – data capture and information technology, real-time performance measurement and management,

The conference will also provide the following:

Panel sessions on:

- **Beyond Budgeting** – hear about latest developments and thinking by organisations that have done this;
- **Environmental and sustainability issues** – practice and theory.
- **Managing Media and Analyst perceptions** – media representatives and business analysts will provide their thoughts on how organisations can best present themselves.
- **Performance incentives** - how organisations can align performance reporting with incentivising staff.

Technical workshops: these will provide introductory descriptions of new and some not-so-new techniques including Data Envelopment Analysis, Simulation, Data Mining, Viable Systems Models.

Papers from academics, practitioners and emerging researchers are invited. The submission deadline is 31 October 2014.

Paper submissions will be in the form of extended abstracts, with the option of submitting a full paper on acceptance for presentation.

While conference attendees will come from all around the world, the largest contingents are expected to be from Australia, New Zealand and Southeast Asia. We expect a good turnout of participants from both industry and academia.

“The conference is designed to appeal to all practitioners and scholars who have an interest in the theory and application of performance management.”

Please see the website below for further information on paper submissions and conference fees:

<http://www.business.auckland.ac.nz/en/about/od-our-departments/od-accounting-finance/bs-af-seminars-and-events/beyond-best-practice-tools-for-tomorrows-organisation.html>

A “Data-Savvy Culture” for Performance Management

Measuring and managing organizational performance is an enterprise-wide effort. Every measure has specific technical requirements that must be followed when collecting and processing data. For example, the reliability of some measures may depend on honest and accurate reporting by employees. Other measures may depend on how uniformly all operating units comply with defined measurement procedures when collecting and reporting their data. Deviations from a measure's technical requirements by any part of the enterprise will harm the measure's contribution to monitoring, and managing performance.

But managing with measures is an enterprise-wide effort in a more important sense—the organization's performance, that which is being measured, can only be achieved through the collective efforts of its personnel. Effectiveness and efficiency in achieving performance goals and meeting performance standards depends in large part on how well employees work together, on shared work values, and on accepted norms for behavior in the workplace, in short, on the organization's culture. An organization's culture—“the way we do things around here”—can promote or stifle cooperation, teamwork, and, ultimately, the performance of the enterprise.

Building a culture of performance in an organization is completely in the hands of leadership. It begins by managers setting performance goals, and communicating clearly that they expect these goals to be achieved. Management's expectations are then reinforced by the measures they use to monitor performance. The organization's culture includes the attitudes that employees have about performance measures and how they behave in the presence of performance data. To fully

deliver its benefits, measuring performance needs to be a normal and accepted part of the way things are done. Measuring performance needs the support of a “data-savvy culture.”

The notion of a data-savvy culture as described below has precursors in two literatures, one on “open-book management” and the other on the “visual workplace.” Both developed in the late TQM era of the mid-nineteen-nineties as interest in lean manufacturing and ISO standards was on the rise. Both share as a central principle the idea that if employees are given information about how their organization is performing, and are trained in how to analyze and use that information, they can be empowered to make independent decisions and work collaboratively to achieve or exceed performance goals.

In open-book management employees are taught to understand the financial reports about their business and to participate in meetings with management to review and discuss them. Schuster, Carpenter, and Kane (1996) explain that open-book management is done in the context of an organization-wide communication system that shares financial information with employees on an ongoing basis. Staff meetings are held between managers and employees to review this information and keep everyone “in the know.” Everyone knows which numbers they affect because they have been part of reporting those numbers. They also know the numbers of others. They know what the numbers mean.

As discussed by Grief (1991), the visual workplace uses a variety of methods to present information to workers about the status of production processes. Here are a few examples in a factory. Schedules for

delivering components from inventory are posted on a large board where the components are received and the board is updated daily by the workers to notify the warehouse when more components are needed. The status of machine maintenance is charted and displayed on the machine. Problems with suppliers are posted and color coded on a large chart in the office where meetings are held with suppliers; suppliers can see their performance as well as the performance of other suppliers. Groups of workers are involved in defining key performance indicators for their work process. Galsworthy (1997) describes a visual workplace as self-ordering, self-explaining, and self-improving, because visual methods are used to embed information on work quality in the fabric of the workplace at all levels.

A case study on the application of visual workplace principles that focuses on measuring organizational performance in a large food distribution company was reported by Clark and Sink (1989). In each functional area of a warehouse, a visible measurement system using aerasable white board was set up. Employees began each shift at their area's board to plan the work for the shift. Based on customer orders for that shift, employees decided how to assign duties with minimum supervision. They updated the board as work progressed, and met at the board at the end of the shift to review the day's performance. Each week, data from the boards was converted to control charts and posted in the warehouse. At weekly shift meetings, all employees analyzed the previous week's performance. After piloting the visible measurement system in one warehouse, the system was implemented in a total of 11 warehouses. Performance increased on key indicators by 20-30% in 18 months.



Open-book management and the visual workplace are particular instances of the more general notion of a “data-savvy culture” discussed next. A data-savvy culture is one in which all employees at every level are comfortable in the presence of performance measures. They understand the benefits of measurement. They pay attention to data and are committed to “moving the needle” as evidence of performance progress. They trust management’s use of data.

To build trust, managers need to make the use of performance measures visible so that employees can see what is done with the data. A performance data system can be closed (only managers see the data), semi-open (managers see the data and provide selective reports to employees), or fully-open (employees and managers see the data).

In a fully-open, visible data system, employees have access to data files for review. This access allows employees to evaluate organizational performance along with their managers. It allows employee teams to take the initiative to review data relevant to their work and propose corrective actions when needed. It allows managers to involve their employees in performance reviews and to cultivate a data-savvy culture.

What does a data-savvy culture look like in the context of an open, visible performance data system? Here are characteristics you might observe if you took a tour:

- Employees and managers are able to discuss the performance measures related to their jobs.
- Employee teams can explain how their department level data are related to organization-wide measures and how they use the data in performing their work.
- Managers are meeting with their employees to review data reports, evaluate how their unit is doing, and plan short-term work priorities.
- Employees are collaborating to maximize measured performance and “move the needle.”
- When data suggest that performance

is unsatisfactory in some area, the responsible employee team is given the first opportunity to determine how to respond.

- Employees are reviewing trends in team performance data and recommending changes in how their work is done backed up by data.
- Employees and managers are setting quantitative performance targets together.
- Specially-chartered performance improvement teams are undertaking studies of data trends to identify ways to boost future performance.
- Managers recognize and applaud the efforts of employee teams that meet or exceed management’s expectations.
- Everyone shares pride of ownership in a high-performing organization.

Access to data in a fully-open, visible system of measures has several benefits. Allowing access to performance data can encourage all personnel to pay attention to the “big picture” of organizational performance and understand how their particular responsibilities fit in. Asking employees to review measurement data relevant to their own work can reinforce their sense of responsibility as “partners” rather than “hired hands” in achieving high performance. Access to an open data system invites and permits a wider range of involvement by all personnel in achieving performance goals.

How can leadership foster a data-savvy culture? There is a large body of literature on the topics of organizational culture and organizational change, and so answering this question rightfully deserves its own thoughtful article. However, the following would seem to be important starting considerations for the leadership that chooses to transition to a data-savvy culture:

1. Identify, and prepare to implement, a system of performance goals and measures for managing organizational performance.
2. Make the transition to a data-savvy culture a strategic priority, possibly putting it in the strategic plan with buy-in from all senior leaders.

3. Conduct a survey of personnel to determine the “as is” state of the organization’s culture with regard to measuring organizational performance.
4. Prepare a description of the “to be” state of the organization’s culture with regard to measuring organizational performance, possibly using the characteristics of a data-savvy culture listed above.
5. Develop a program to implement the performance measures and foster the “to be” data-savvy culture, including a multi-media, multi-message communication plan.
6. Equip managers to support the implementation of the measures and the “to be” culture within their work units.
7. Train employees in the system of performance measures, emphasizing the uses and benefits of measurement, how they can access and analyze data, how they can use of data in their work, and how they can use data to improve performance.
8. As the measures are being implemented, provide opportunities for managers and employees to access the data and apply their measurement training.
9. Handle resistance to change with patience, active listening, being open to accommodating concerns where reasonable, while maintaining a steadfast focus on the performance goals and measures, and the “to be” culture.
10. As managers and employees begin to have positive experiences in using data in managing their work, recognize and applaud their successes.

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When Knowledge Takes the Helm

Management in a dynamic environment

The Global Peter Drucker Forum 2013 in Vienna (www.DruckerForum.org) has clearly concluded that current managerial practices in many organizations are ill suited to cope with an increasingly complex world. Moreover, they make insufficient use of the knowledge of highly qualified talent in their organizations. The many experts and leaders from all over the world agreed that traditional management requires a fundamental rethink to address these issues. Simultaneously participants asked themselves, why current reality in organizations is so far away from these insights and perceived consensus at the conference. Why can't leaders translate that knowledge into action? The intuitive response: managerial principles, invented 100 years ago for the industrial age, are of limited use to support organizations and people in the knowledge era. So, what does this mean for the management practice in organizations?

The results from 10 years of research leading to The Performance Triangle (Michel, 2013) and the work with many organizations from around the world on these questions show that: 1. detailed insights of the workings of organizations are often missing. This means that organizations often initiate change without the required clarity on the right levers and intervention points. 2. Many organizations have made bad experiences with ineffective change programs, and 3. Leadership development has not delivered on its expectations. These are signs of missed implementation opportunities.

Managerial ability to act

This article highlights what entrepreneurs, managers, and leaders need to compete

in a turbulent environment – where knowledge leads the way. In short, the response is the concept of the managerial ability to act.

The need for dynamic capabilities

Higher Volatility, more Uncertainty, increasing Complexity, and raising Ambiguities challenge traditional corporate management. Known solutions are often ineffective in dealing with the new environment or are totally out of place. Observations indicate, for example, that 'Management by Objectives' has been translated by many organizations into a tool that has difficulties in coping with fast change with unintended consequences as a bi-product. Often, goals are obsolete once they have been agreed upon. Moreover, it is unfair to ask people to abandon their goals and performance contract in order 'do what is right' for the business when things have changed. As a result, organizations lose time, they redo goals, increase costs, they realign objectives, and run risks to find out who knows what is the right goal to aim for?

When interferences take over

Over the years, such 'viruses' unknowingly and unwillingly creep into an organization's operating system and become part of an 'infected' corporate culture. We know from experience, by simply removing these interferences, the performance of people and the entire organization remarkably increases. Therefore, clarity on the precise intervention point of knowing where to install the 'antivirus program' has first priority on the 'clean-up' roadmap. Its purpose is to 'disinfect' an organization's culture.

The changed nature of work.

Simultaneously, the nature of work has fundamentally changed in the past

20 years. Knowledge work becomes the dominant way to work. Modern technologies provide access to information in ways that was unthinkable years ago. This has consequences for the way we lead our organizations, as Peter Drucker said, «In times when knowledge is the critical resource, all people are executives». (Drucker 1967) However, our diagnostic results show that the average organization effectively uses only 67% of the knowledge and talent. Other studies claim that the number is actually even lower. To achieve higher levels of performance, organizations need to find ways to better use the human capacity as a second 'clean-up' action item on their roadmap. The good news is that this anti-virus program and new ways of working require the same intervention and roadmap for both.

A new set of principles and capabilities

How do these capabilities fit the higher challenges of the new era? Modern management principles allow people to use their heads at work. This means for the 'inner game' to allow and cultivate awareness, focus attention, build trust, and make choices as the principles of leadership based on personal responsibility. However, these principles are in contrast with industrial principles of command, goals, control, and detailed instruction. Members of competitive sports teams and leisure sports people have known these mental principles for years. They are natural, ready to use capabilities that can be activated and used to perform at the peak. They also know that the old principles interfere with their knowledge work. As a result, they have learned to isolate these interferences.

The Inner Game

To better cope with the demands of the



‘outer game’, the challenges of the internal and external environment, organizations need to support the ‘inner game’. Or in line with Timothy W. Gallwey «The greater the external challenges accepted by a company, team or individual, the more important it is that there is minimum interference occurring from within». (Gallwey, 2000) As such, it becomes obvious that leaders need to create an environment in their organizations that is free of interfering viruses in order to enable peak performance.

A design for people

Organizations and management for the knowledge era need a design for effectively leading people. As a result, they are fast, agile, resilient and able to act. They enable good decision-making where the work is being done and support the appropriate implementation of decisions.

Figure 1: The Performance Triangle



The Performance Triangle

(Figure 1) serves as the model and bridge between the capabilities of people and the challenges that organizations face. It uncovers the managerial capabilities that organizations need to achieve peak performance levels.

The need to manage competencies

In times of self-organization, a preparatory step towards a higher ability to act of organizations is to gain a deep understanding of future organizational competencies in order identify the

required talent, teams, and networks (Anzengruber 2013). Professor Johanna Anzengruber shows in her pioneering work, how leaders can achieve this early in the process.

People in the center

These kind of talents are at the heart of the triangle. Peter Drucker advises leaders to «accept the fact that we have to treat almost anybody as a volunteer». (Drucker 1967) As we know from European Humanisms, self-responsibility is the foundation for knowledge work and motivation. The ‘inner game’ reinforces nonjudgmental awareness, trust in one self and others, and leaves the choice with people.

The building blocks of speed

In line with R. K. Sprenger «trust is the fastest management concept!» (Sprenger, 1995), the ‘inner game’ promotes speed in organizations through decisions at the client front, through applied knowledge, and leaders that do not interfere.

Culture, Leadership, and Systems

frame the corners of the triangle itself. Superior decision-making and effective actions require a culture that creates shared context. Leadership needs to interact and facilitate the conversation around purpose, direction, and performance. Systems that work diagnostically, direct the attention to those things that matter most and allow for self-directed action on deviations from the chosen path.

The building blocks of agility

Shared context, intense interactions, and diagnostic controls make organizations agile. They help people to detect weak signals early, allow for the interpretation of that information, and facilitate the timely action on it. These are the features of an agile organization and the foundation for innovation and growth.

Purpose, Relationships, and Collaboration are the bonding elements of the triangle. For superior decisions, knowledge work requires purpose. Purpose is another dominant source of motivation. Such employees use internal

and external relationships to share and expand their knowledge to create value for their clients. Only knowledge that is shared and applied has value for any organization. New technologies facilitate the transfer of knowledge in a way that generates new knowledge. Any knowledge related task in an organization requires more than one individual to complete. It is the combined knowledge and the shared experiences that stimulate creativity, innovation, and growth.

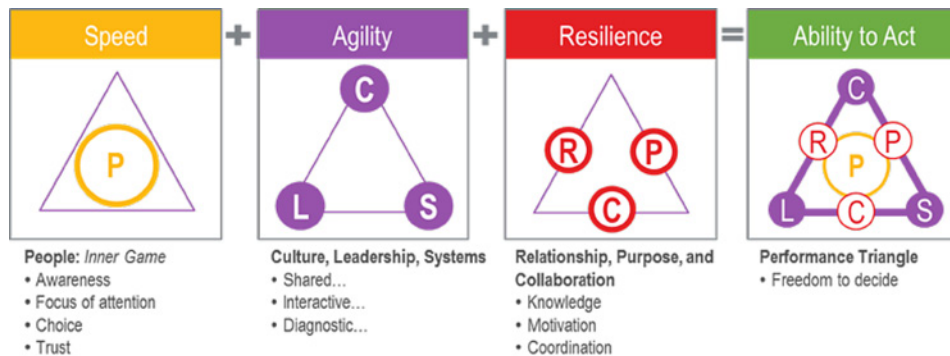
The building blocks of resilience

Collaboration across boundaries is essential to use the collective intelligence of people and better deal with a turbulent environment. Shared purpose, relationships across networks, and boundary less collaboration are the organizational capabilities to withstand external shocks and defend against unexpected outside influences. They are the building blocks for a resilient organization as the glue that keeps culture, leadership, systems, and people at the core together.

«Management is the art to getting things done». (Eccles und Nohira, 1992) The actions not visions, expectations, or solutions make the difference in organizations. As such, we now need to look at an organizations ability to act.

The Performance Triangle combines **speed, agility, and resilience** into the **Ability to Act** (Figure 2). Organizations with these management capabilities use the knowledge in networks through people that engage themselves for the organization and simultaneously create the required capabilities to cope with the challenges of a turbulent environment (Anzengruber 2013). It becomes obvious that the use of knowledge and the approach to cope with higher challenges require the same capabilities. Organizations that use the knowledge effectively have the potential required to address the challenges of the new era. A management team with a high ability to act designs its’ organization for people. As such, people are at the center of attention. The 2013 edition of the Global Drucker Forum makes the conclusion that there

Figure 2: Ability to Act



is a high awareness among participants that management and organizations needs change. It remains the question of why the transformation towards modern organizations is so slow or does not happen at all? The experience with the use of the Performance Triangle and the INsights Diagnostic Tools™ in many organizations has taught us three things:

1. Tips don't work. People learn primarily through their own experiences. There is (almost) nobody that would not agree with the insights that traditional management needs an upgrade. It are the observation points guided by Diagnostic Mentoring that are required to help leaders translate their insights into learning as a self-directed experience. Observation focuses attention and energy to leave the choice with the leadership team as a deliberate act of individual and collective willpower. For the right design and implementation of change, we recommend to experiment first on a smaller scale, go through the experience, and learn before embarking on the next major change project.

2. It is a transformation. The change towards a people-centric approach to management fundamentally changes behaviors and capabilities. Such projects are a deep intervention into the culture and leadership of any organization and therefore include risks. It transforms the decision-making throughout an organization and requires five distinct choices: (Adapted from Birkinshaw, 2010)

- How do we engage people?
- How do we coordinate work?

- How do we set goals?
- How do we change?
- How do we make decisions?

Every one of these questions requires a choice between more freedom or more control. It is not one or the other. It is the combination of a high degree of freedom for people and the ability to gain more control over decisions that will make the difference. The combined answers to the five questions guides the **design of management** and organizational structures.

3. It takes courage to ,work on the system' – rather than to continue with more 'leadership development'. It is not the leaders in the middle and lower management that keep the organization from doing things, interferes with work, and cements mediocrity. Most of these managers follow what they have been asked to do. They are dedicated to perform well by 'working within the system'. Modern knowledge work first requires 'work on the system' - the right design of organization and management in order to cope with a complex and uncertain environment. 'Work on the system' initially is the task of senior management. It starts with utmost clarity on the responses to the five questions: the choice of managerial principles that fit the nature of the organization and simultaneously reduce the risk of failure.

A think tool for management.

The Performance Triangle makes these competencies and experiences visible for a conversation on the right design of management structures. As such,

the corresponding measurement tool creates observation points for leaders to choose the right intervention. As a model, it facilitates the conversation with the leadership team on the question: how do we manage our organization? «Management is, above all, a practice where art, science, and craft meet.» - Henry Mintzberg. (Mintzberg 2009) In line with this, the craft of management for the knowledge age requires the right tools. The design of these tools depends on the specific context and needs of people. Hence, management turns into a 'client-oriented' service with employees as the 'client' and people at the center.

When knowledge takes the helm, leadership must find the right managerial design. As a positive side effect, this facilitates every executive's ability to act appropriately in a turbulent environment. Since every organization only employs the best talent, (most) organizations already have the required capabilities to compete in the new era. It remains the leadership team's act of willpower to lead the way by making changes, unlocking the hidden potential, and activating its talent for the benefit of its stakeholders.

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