

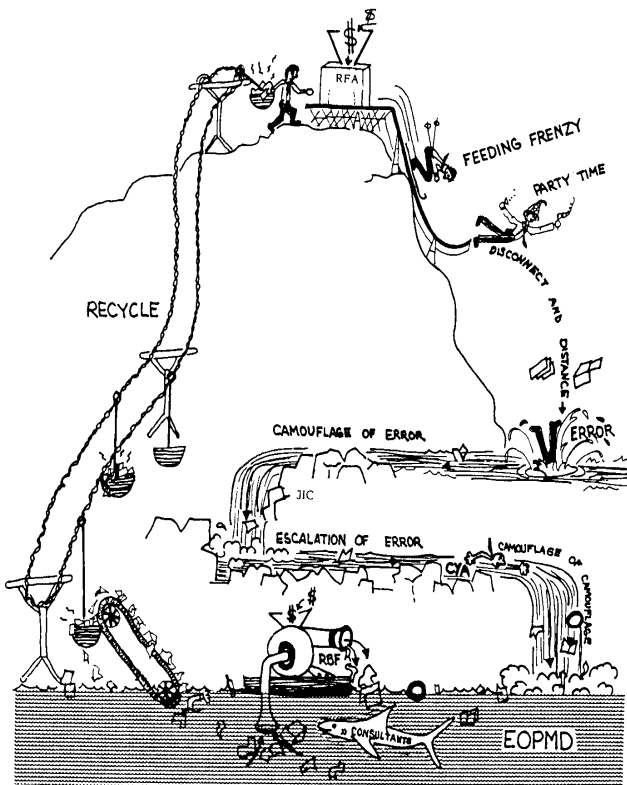
Mastering Complexity - The Front End Process

by Trevor Hilder

Our organisations, whether they be private or public sector, are fine-tuned for routine business. There is absolutely nothing wrong with this. In fact, it would be strange if it were not so.

However, this can present serious problems if we find ourselves confronted with challenges which do not fit into the categories we are accustomed to. There is a strong temptation to respond to the challenge as though it could be handled by “business as usual” methods. This often leads to the cycle shown in the following cartoon:

The Universal Scenario



In summary, starting from the top, this is what tends to happen:

1. Ready, Fire, Aim (RFA)

When a non-routine problem is encountered, nobody pays much attention, because “it’s not my job to deal with that”. It gets passed around, but no action is taken, until it gets so bad that something must be done. A project and a budget are then set up.

Ready, Fire, Aim is a jocular reference to the fact that, almost by reflex action, the urge to act (Fire) tends to take precedence over a clear understanding of the aim of the project. If the project’s purpose was clearly understood, it would have been easy to deal with by routine methods.

2. Feeding Frenzy

In this phase, departments within the organisation rush to get a slice of the action. They grab the parts of the problem which fall within their responsibility, and the budget to go with them, and rush off to start work. Unfortunately, this “dismantling” of the problem into routine parts fails to identify what the problem really was in the first place.

3. Party Time & Disconnect

Within each department, the commencement of work on the new project is greeted with euphoria. As work gets under way, people concentrate on their part of the project, and disconnect from what is happening elsewhere. Communication with other parts of the project breaks down, and the root of the problem is forgotten.

4. Error, Distance & Camouflage

Because work on the parts is no longer connected to the real problem, the workers become uncomfortable about the outcome. Unfortunately, there are no channels for expressing and correcting this, so the natural human tendency is to cover up the evidence, and hope for the best.

5. Compounding of Error

Without effective feedback, each error just makes things even worse. Because no-one wants to be blamed for the mess, things are so arranged that no-one can be found to be responsible for anything.

6. End-of-Project Mismatch Discovery (EOPMD)

When the budget is used up, and the deadline for delivery arrives, the parts built by each department are handed over, and it is discovered that none of them fit together. The problem has not been solved and it is also found that nobody is responsible for the mess.

7. Run, Break & Fix (RBF)

The whole effort may now be cancelled. If anything can be salvaged from the wreckage, it is put into operation, and Run, Break & Fix (RBF) commences. This is the process whereby the system is run until it breaks down, fixed, and run again. It limps along, hardly fulfilling the role it was supposed to achieve.

8. Recycle

Since the problem wasn’t solved, the whole cycle may be repeated, sometimes many times over.

This unfortunate pattern can be seen at work in most organisations, when faced with rapid and unanticipated change. Worldwide, the costs of this cycle of failure amount to billions of pounds every year. Nobody is immune to this difficulty.

Why does this happen?

The driving forces behind this failure to handle complexity lie in well-understood human tendencies. We all like to fit in with our work-mates, and we all like to gain the approval of the boss. This is fine, until a problem arises which defies our collective effort to understand it. Faced with that, our natural social tendencies lead inevitably to the Universal Scenario described above.

Blaming individual people for the mess which results makes about as much sense as blaming us for being subject to the law of gravity. However, the good news is that there is a proven body of knowledge which can be applied to ensure success, instead of gravitating to disaster.

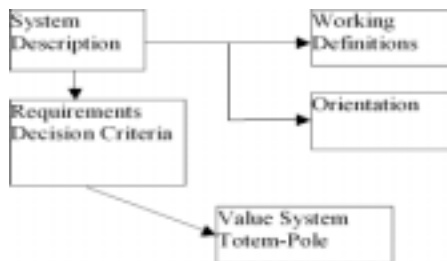
The Front End Process

The process I am about to describe is part of the StateWave methodology. This has been developed by Bill Livingston and his associates, as the outcome of thirty years' research into problem solving. All aspects of the methodology can be verified scientifically, and Bill has published three books on the subject.

Bill's credentials in problem solving are beyond dispute. He has over 100 patents registered in his name, having invented in fields as diverse as agriculture, power engineering, and fluid dynamics.

Bill's research has shown that the major hindrance to problem solving is the lack of a shared understanding of what the problem *actually is*. The Front End Process attacks this problem by uncovering the unspoken assumptions which block this shared understanding amongst the parties. The process requires an experienced, independent practitioner, and is therefore best conducted by an outsider, who has no axe to grind within the project under study. The process follows a strictly defined sequence of steps, which are explained to the participants at its commencement.

The results of the process are presented to the participants in the form of tree-structured diagrams, showing the breakdown of elements of the project into sub-elements which contribute towards it. Here is part of such a diagram, showing the first stage of the Front End Process itself:



The terminology may seem a little strange, but this part of the process shows that defining the System Requirements requires agreement on Working Definitions, and Orientation of the participants. There must be criteria for making decisions about requirements, and a hierarchy of values by which to decide their order of importance.

The diagrams enable all participants to see clearly the connections between the elements which make up the project. If their versions differ, this is revealed, so that agreements can be negotiated, rather than left undiscussed.

The Front End Process usually takes no more than a week of hard work. It may take up to two weeks, but the necessary length of time will be quantifiable within the first two days of the process.

At the end of the process, the practitioner will write up a summary of the results, which will be submitted along with the supporting diagrams developed during the process. The write-up concentrates on identifying areas of highest risk, and makes recommendations for how to conduct "experiments" to reduce those risks rapidly, and at low cost.

The participants will be surprised at how much was achieved in such a short time. Afterwards, everything will look so clear and simple that it will be hard to remember just how complex the task looked before the Front End Process took place.

Acknowledgements

Universal Scenario cartoon from Page 248 of *Friends in High Places* by William L Livingston, FES Ltd Publishing, New York 1990 ISBN 937063-06-1.



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