IMPLEMENTATION OF STRATEGIC FORESIGHT AS Viable SYSTEMS MODEL IN A HIGH-TECH ORGANISATION: CASE STUDY

E-monitor* Pty Ltd is a privately-owned Australian company which manufactures and distributes pollution monitoring equipment for air and water globally. There were no formal or informal foresight practice in the company, but introduction of the foresight function into the organisation was considered important for the long term viability of the company. This case study discusses the implementation of the strategic foresight function within an organisation using the Viable Systems Model (VSM), demonstrating the barriers which require addressing, the adjustments needed to the current company model to develop a viable system, how it was implemented and, importantly, the benefits which this brings.

Incorporation of Foresight into E-monitor’s System

In mid 2009, LongDog was asked by E-monitor to consider how to ensure the long term future of the company. The aim was to ensure the ongoing viability of the organisation through continual environmental scanning and informing of conditions and potential futures to the systems of the organisation. It was agreed that the most effective method of ensuring E-monitor’s growth was to review and adjust its existing operational system, which had become more and more ineffective, by introducing a formal foresight function within the framework of a VSM.

Background

E-monitor Pty Ltd was started in 1979 by Rinaldo Del Martino*, an engineer. The company manufacturers and distributes pollution monitoring equipment for air and water, and has an international client base serviced by agents and in some countries by E-monitor international offices. The company’s two directors are Rinaldo and his wife Flora Del Martino*, the youngest son Luigi* is General Manager (GM), and older son Aldo* currently runs Servicing (Andersen* 2009).

In 2002 a new GM Strategy, Anders Andersen*, joined the company. His brief was to take the organisation ‘into the 21st century’ and ensure the company’s viability before the retirement of the MD (Andersen 2009). Hence the implementation of VSM.

*All names in this case have been changed for privacy reasons
The market for pollution control and monitoring equipment (PCME) has grown substantially over the past 40 years. In 2002 the global market size for environmental monitoring equipment was estimated at more than USD550 billion at which time the growth rate was anticipated to be between 2% and 10% until the end of 2010, approaching a market value of USD1,000 billion (E-monitor Strategic Plan). At the same time, E-monitor sales have increased but at a much slower rate than the market, so in effect the company is ‘going backwards’ relative to industry growth.

Founder and Managing Director (MD) Rinaldo Del Martinohas always operated in the blind spot leadership style of ‘downloading’: all his listening confirms everything he knows and thus as a leader he cannot learn anything new (Schwarmer 2008). Whenever challenged to make changes his manner would become highly aggressive and defensive (Andersen 2009). Rinaldo’s method of persuasion has typically been that of ‘coercion’ (Benoit & Benoit 2008). His use of ‘fear control’ is well entrenched in his management style, and the resulting perceived threat (of being fired) has meant that in all staff, including his GM and son Luigi, have learned to limit their risk by not challenging his authority.

Mintzberg hypothesised that ‘The power needs of the [controlling] members tend to general structures that are excessively centralised’ (Mintzberg 1979, p 290). The present organisation structure reflects the control and power needs of Rinaldo. The company maintained its reactive approach to changes in the external environment, hiring and firing staff as though they are easily replaceable commodities. Son Luigi realised that without the implementation of foresight practice or a viable systems model (VSM), based on the existing entrenched culture once the MD retires, predictions are that E-monitor will either be sold to a competitor or simply close its doors.

**The Foresight Function: What is it? What does it mean?**

The purpose of the foresight function is to ensure the on-going viability of the organisation through continual environmental scanning and informing of conditions and potential futures to the strategic systems of the organisation. Implementation required considerable change to the company’s current structure and style of operation, and be aligned with the strategic decision making process of E-monitor. This required the following activities, not necessarily to be undertaken one after another.
1. INTRODUCTION OF THE FORESIGHT CONCEPT
   Company-wide introduction and understanding of the concept of foresight, and its
   importance to the long term future of the company.

2. STRATEGIC REVIEW
   A review of the company and its market position, and scenario planning to build ‘what if’
   concepts into the new corporate approach.

3. CORPORATE STRUCTURE AND VSM
   A review of the current structure, and how this informs the existing strategy; then the
   development of a new structure to build a VSM.

4. IMPLEMENTATION PROGRAM
   A program to implement the new concepts and structures, incorporating methods to
   ensure the organisation does not fall back into its old habits.

1. Introduction of foresight concept
Foresight as a concept is not easy to grasp. For E-monitor it is vital so it can develop the
ability to adjust to changes in the environment, be ready for new skills and qualifications,
and anticipate changing market needs

When Salkkonenen and Harkonen introduced foresight in the Lahti University of Applied
Sciences, they realised ‘… there was a lot of instructing and encouraging to do…’ because
of the widespread misunderstanding and disbelief about the benefits of long-range
planning (Salkkonen & Harkonen 2009). Voros took a two-phase staged approach to its
introduction at Swinburne University, where the concept of foresight itself preceded the
implementation (Voros 2003a). A similar approach was needed at E-monitor. Given the
circumstances of the company’s growth, despite its founder’s management style, we
avoided the word ‘foresight’ altogether, and instead used words such as strategy.
However, we were aware of Mintzberg’s cautionary use of the concept of planning versus
thinking when it comes to strategy, because the issue of planning does not imply
commitment; what we would hope to achieve in this case is a ‘committing style …
[which]… engages people on a journey’ (Mintzberg 1994).
2. Strategic review
Since the beginning, the company had operated as a small family business, with control centralised in the two directors, with limited ability by the GM to make decisions. Throughout the company’s history, it has operated on the basis of a ‘reactive’ approach, with the inputs (events) moving directly into the strategy, virtually by-passing any type of analysis.

When Anders Andersen joined he introduced a ‘shallow’ foresight process. The next step required the organisation to develop a foresight framework so that the ‘inputs’ became scanning for strategic intelligence, and were thus moved into the ‘foresight’ function. This required three important phases:
1. Analysis: what seemed to be happening?
2. Interpretation: what was really happening?

The outputs of this kind of work would inform the strategy. However, in the case of E-monitor, the concept of strategy needed to become something very different from their current understanding: Andersen was aware that the organisation, if it had an idea of strategy at all, tended to view it as analysis and programming, rather than a way of thinking (Andersen 2009). The crucial difference is that strategic thinking is about synthesis (Mintzberg 1994a). This would be a fundamental shift for E-monitor, which required a foresight practice informing strategic thinking, so that ‘… they can be free to appear at any time and at any place in the organization…’ and thus require a change in attitude and a flexible approach to business (Mintzberg 1994a).

Viable systems model
The VSM is an organisational theory developed by Stafford Beer, ‘the father of Management Cybernetics’ (Beer 1989). The theory’s basis is that social system is viable if, and only if, its structure fulfils five managerial subsystems and their interrelationships:
System 1. Management of a basic subsystem.
System 2. Coordination of subsystems, attenuation of oscillations between them.
System 3. Operative management of a collective of subsystems.
System 3a. Auditing and monitoring channel.
System 4. Management for the long term, relationships with the overall environment.

In a VSM, all systems function and interrelate fully, however, the present model of the E-monitor system indicated the Operating system was barely functioning, represented by the red lines. The control function (3) was taking on virtually all aspects of the operation. The co-ordination between each system was virtually non-existent, represented by dotted and broken lines. Some communication between operations and co-ordination functions was occurring, but it was weak and the information often ‘adjusted’ to ensure the MD heard what he wanted to hear (Andersen 2009).

Figure 1: The viable system (Hayward 2004)
3. CORPORATE STRUCTURE AND VSM

The company’s current structure was based around product production and management of agency products (i.e. products it distributes for other manufacturers). The Identity system (5) and Control system (3) were maintained and authored by Rinaldo. The Intelligence system (4) was virtually non-existent although some minor communication had been initiated since Andersen’s appointment. Thus the meta-system was quite dysfunctional, and any new intelligence from the external environment all but ignored.

The system has limited efficiency however, because the market itself has grown substantially since E-monitor began, the company had been profitable almost despite its shortcomings. It was not surprising that market share was declining relative to the total market and it was clear the current organisational structure was based on production controlling the company, rather than external influences, particularly customer needs.

Transforming the organisation

To transform the organisation into a viable system, the company needed a significant change of attitude, which needed to be at the top, with Rinaldo. The company desperately needed to revise its model, in particular incorporation of a forecasting interface (4) to ensure its long term future and viability. Andersen knew this would all come down to Rinaldo’s motivation to hand the legacy of his self-made to his sons as a viable and growing organisation.

4. IMPLEMENTATION

Step 1: Engagement of consultants

The introduction of foresight as a formal role in an organisation is not to be taken lightly. It requires specific skills, expertise and experience to develop the foresight facility and place it within appropriate position within an organisation. When Voros was tasked with establishing a foresight unit at Swinburne University of Technology and then integrating it into the existing university planning processes, he employed the services of consultants to facilitate the project and to add to its credibility (Conway & Voros 2002a). Thus Andersen invited LongDog & Associates to assist.
Due to the entrenched management style, a formal agreement between Rinaldo, the staff and LongDog was drawn up. It was clear the success of implementation would rest with Rinaldo, and his influence on the project was substantial. Andersen and Rinaldo’s son Luigi were able to convince Rinaldo to participate fully with many of changes through the influence of specialist LongDog leadership change consultants.

**Step 2: Communication and education**

E-monitor was to undergo a total transformation from its present form, where old methods, culture and reporting lines would be completely overhauled. The effect on the people, as well as their willingness to accept the changes was dependent on both the individuals and the communication of the ‘how, what and why’.

The audience requiring persuasion also included customers, suppliers and agents who all needed to understand the value and benefit of the changes. Attitude change needs to be persistent over time, and be resistant to counter-persuasion. It was thus important to ensure the audience was, and remained, motivated and involved.

**Step 3: Project teams and workshops**

In this top-level controlled structure analysing the real problems was extremely challenging. The main issue involved the redesign of the meta-system (Systems 3, 4 and 5 of the VSM) which means a tremendous amount of interviewing, data gathering, documentation etc. Importantly, the analysis of the current system, without input from a cross-section of the company together with LongDog, may have prejudiced both the analysis and the subsequent actions.

When Schwaninger was asked to redesign the meta-system of a media organisation in Brazil, three teams undertook the VSM analysis. He found that these teams were able to present a ‘…set of everything that a meta-system has to provide…’ and also that this analysis provided logical classifications of a VSM: operative, strategic and normative (Schwaninger 2006,p4).
This process yielded similar useful results which were then incorporated into the final VSM. An added benefit was that by involving staff from all parts of the company, communication and understanding of the project was improved.

**Step 4: Strategy development**

So that E-monitor understood and developed a process of strategic decision-making, LongDog facilitated a series of scenario workshops to identify the critical drivers of change and undertook an environmental scan to support the emerging scenarios. An important consideration factor in overall success was the eventual willingness of Rinaldo, together with the other directors, to gradually reduce his control and open up communication.

The objectives in this stage were to:

- Identify key issues in the internal and external environments,
- Develop a strategy to fit the ‘new’ E-monitor,
- Consider what reporting systems would be required as a result, and
- Learn the scenario process, so that once this step was completed it could be replicated as the environment changed.

As a result of this step, E-Monitor is developing a dynamic and flexible strategy which can be easily adjusted as circumstances change. Figure 2 is an illustration of Mintzberg’s ‘black box’ idea of strategy formulation under ideal conditions. This is where E-Monitor anticipates its organisational transformation will eventually lead.

![Figure 2: Planning, plans and planners around the ‘black box’ of strategy formation (Mintzberg 1994, p 331)](image-url)
Step 5: Translation of this knowledge into a VSM

The findings of all the preceding work was then incorporated into a new organisational structure. This task was far from simple, and is today still underway. However, because steps 1 through 4 were carried out collaboratively, cross-discipline communication allowed for an easier transformation.

The critical systems 3, 4 and 5 are being incorporated into the model so that analysis of trends, forecasts, scenarios and ‘visioning’ is becoming normal throughout the company. This means that E-monitor will be capable of sustaining itself regardless of the eternal environment, so there is a continual process of scanning for new information, inputting into the intelligence system of the company and allowing for the ‘outside and then’ perspective to be channelled into all the other organisational systems.

These three systems inform the strategic decision-making of E-monitor; the result is that E-monitor’s controlled view of strategy as a one-a-year planning process has moved to a flexible and emerging strategy.

During the early stages of this process, a senior member of E-monitor’s team was appointed to fulfill the role of foresight manager to ‘institutionalise futures thinking without being institutionalised’ (Hines 2003, p 20). E-monitor calls this role Foresight Broker and Translator, and it has proven to be a critical aspect to the success of implementation and its maintenance.

Conclusion

It is anticipated the project will be completed by end 2012, however it was clear that even as early as February 2011, only 12 months into the transformation, E-monitor’s strategic operation had shifted substantially; today it is well on the path to a fully matured, viable strategy with a deep foresight framework capable. With a VSM in place, E-monitor has begun to operate with a more open and transparent perspective, which in turn has changed the culture to one of openness and transparency. Rinaldo will retire at the end of 2011, leaving behind a future-focussed company with an open, consultative culture able to withstand the vagaries of the future.
References


Conway, M & Voros, J 2002, 'Probing the future: developing organisational foresight in the knowledge economy', An International Conference at the University of Strathclyde Graduate School of Business, Glasgow UK, pp. 1-4.

E-monitor Strategic Plan 2006/7-2010/11


