Making an Impact with Soft OR

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THERE IS A CONTINUAL NEED WITHIN INDUSTRY AND COMMERCE to 'follow a market'. A simple example of this would be presenting a department in a good light so that strong candidates would apply for jobs and further strengthen the department's staff. Within government departments there are similar challenges in adapting to the changing needs of society or changes due to strategic events like Brexit and Covid. On a daily basis, alignment activities are done informally though conversations and actions that lead to adaptation. But some adaptations need more consideration. For these adaptations the 'executive troubleshooter' has been a familiar icon. A trouble-shooter will attempt to re-align a company that has drifted away from its market, its core strength or its ability to meet the demands placed on it. One of the keys to success in any alignment is balancing an organisation so that it is receiving the right information to control its operational system. The role of management is critical in interpreting information from, and interacting with, an external environment. The management system provides appropriate direction and advice to the operations system, listening to how well activities are progressing.

Figure 1 shows a very simple model of a company and its environment, built from the most fundamental elements of a Viable Systems Model (VSM).

A vast wealth of resources is available from Soft OR when adaptation is needed. Soft methods provide a 'bag of tools', that can be applied to problems that are "resistant to
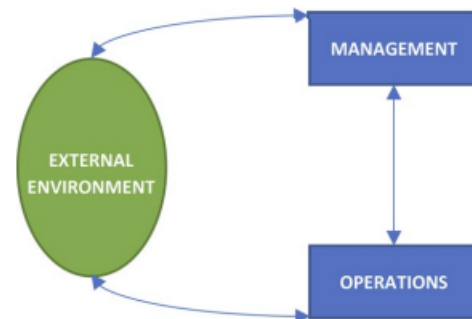

FIGURE 1 THE MOST FUNDAMENTAL ELEMENTS OF A VIABLE BUSINESS MODEL

outright solution". The more frequently used tools in the kit-bag include Soft Systems Methodology (SSM), VSM and Strategic Options Development and Analysis (SODA). The tools focus on why a new activity (or change in activity), item or system is needed. The tools then consider all the ways that the new entity could be instantiated. The effect of each option on each of the different stakeholder groups is then assessed before a final option is selected that will best meet the needs of the entity. Complex adaptions are often 'cross cutting' (meaning it is beyond the control or 'information horizon' of staff that are best placed to improve the system). Sometimes a change is needed because the landscape of the business has changed, as happened to many businesses during the pandemic. Sometimes a new strategic direction has been set by an owner or a senior manager. An example of changing a complex system following a strategic change by the owner follows, in which a well-known military system has been enhanced by soft methods.

Soft methods provide a 'bag of tools', that can be applied to problems that are "resistant to outright solution"

THE UK RESERVE RECRUITMENT SYSTEM

The reservists within the UK armed forces are highly trained staff, some of whom are specialists, chosen to enhance key military skills and knowledge. Following the publication of the Future Reserves 2020 paper in 2011 it was concluded that the UK's reserve forces needed significant revitalisation and re-orientation. It was assumed that the existing system could make the correction that was needed but by 2014, the trained strength of the reserves was 13,000 short of the target of 35,000. There were problems in increasing the reserve force levels by any significant amount, despite applying considerable resource to this activity. A number of initiatives were tried but these did not increase the trained strength levels greatly and by 2014 the situation was urgent. Soft OR was used considerably within a number of government organisations to review the reserve recruitment system holistically so that the real problems with the system were highlighted. This ensured that the system could be improved, rather than risk moving the problem around. The review was delivered in the following way:

1. A rapid review was performed to structure and plan the activity

2. An enterprise level review was developed to represent the system being formed using VSM. This highlighted which organisations were performing the governance, management, audit and coherence activities. The work also showed the links between each system and the information flows that were available to decision makers.

3. Some elements of SSM were used to consider the purpose and role of some of the key system elements.

4. Stock and flow modelling then considered how the candidate reservists move through the operations system that consists of: (1) Advertising, (2) Application, (3) Eligibility Testing, (4) Selection, (5) Training and (6) Maintaining Force Strength. Analysis determined that less than 3% of candidates that completed an application form (end of stage 2) joined the trained strength (stage 6).

5. The marketing campaign was reviewed and re-targeted

Some of the key recommendations from the systems review included:

- Widen the target audience based on 'word of mouth' for the marketing campaign so that the campaign would appeal to a much larger population group and would ameliorate, at least some of, the high loss rate seen within the Testing, Selection and Training elements of the system.

- At the same time reduce the losses in the recruitment pipeline through more streamlining and monitoring of the recruitment system.

- Monitor and control the system using more targeted management information and use this information to make key decisions about the system: e.g. how decisions such as the tattoo policy affect losses in the recruitment system. In 2014 any visible tattoo would disqualify a candidate reservist, and yet no data was available as to how many potential reservists this affected.

THE OUTCOME

The recommendations were made, through the military staff who were improving the reserve recruitment system, to the Secretary of State for Defence. Following the systems review significant changes were made. Within six months the trained strength figures began to increase. While there were other activities within Ministry of Defence (MoD)

that were looking into the reserves, this systems review certainly contributed to the improvements. By April 2015 a clear upward trend had been established and had this continued, on a linear trajectory, would have been expected to deliver close to the original target figure of 35,000 as shown in Figure 2, even with the substantial outflow figures from the reserves.

A BROARDER PERSPECTIVE

Soft OR can be applied to many different activities when some form of realignment is needed. There are many case studies, but each application is almost unique so it is difficult to demonstrate exactly how an approach will be of benefit to a new client. It does take time to apply Soft OR well.

Often senior staff prefer to take the best available solution early in a project lifecycle and only consider Soft OR once it has proved to be difficult to implement this early solution. The journey of implementation for Soft OR begins with a diagnosis of the system.
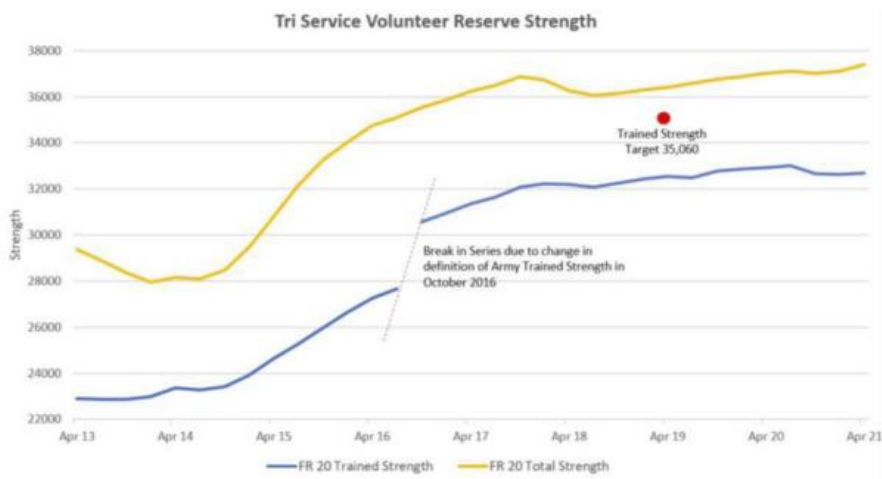

FIGURE 2 TRI SERVICE VOLUNTEER RESERVE STRENGTH (FROM THE 2021 PUBLISHED QUARTERLY SERVICE PERSONNEL STATISTICS)

This step is essential if the real, underlying problem is going to be solved. The senior staff need to be involved throughout the lifecycle of the activity. In many cases there is a pre-determined view of what the final outcome should be. This view often changes. In one high profile case a board had a 'default' course of action in mind.

The politics of the situation prevented them taking this action, and so the original remit of the system diagnosis was 'find a way to get past the politics'. The diagnosis activity reviewed the evidence that supported the default course of action and found little more than hearsay. An evidence base was then developed, and this suggested a subtly different course of action. Initially the board did not welcome this outcome. It was tested independently, and a change of direction came when the board accepted that the evidence base was correct. This represented a key turning point for the activity.

There are often sources of tension in implementing Soft OR. The first is in the amount of time that is needed from senior staff. It is essential that any approach to a complex problem is taken with the client and the senior managers. Any pathway towards a solution that has not been developed and agreed with the client will be doomed to failure. A second source of tension is in the evidence base that is needed to support a change. Often the investment of days or weeks to prepare this is questioned. Bringing reality to a situation can lead to tensions with 'long held' views of some senior managers. The purpose of the evidence base is to test these views, ensuring that the way forward is based on solid evidence, not just beliefs.

A turning point is always reached in any activity when the evidence base and the systems approach begin to yield value for the client. Sometimes the turning point happens very rapidly – the acceptance of the 'ground truth' data being correct. The only occasion when Soft OR is highly unlikely to yield value is when the system owners and senior managers are not able to participate actively in the work, and it is always best to stop an activity that is lacking key stakeholder engagement.

Within government, soft OR could be applied to support many key decisions. It can improve systems and highlight risks long before they surface. Often Soft OR will improve the likelihood of a project delivering a successful outcome, but it is not a panacea. Soft OR won't provide a "magic wand" solution to immediately fix a bad project. It will highlight where problems are. It enables decisions about continuing with a project to be taken ideally when only very small amounts of money have been committed. Soft OR can also help enhance established systems. Soft OR is having a considerable impact and can have much more if it is well integrated with other OR methods, with a thorough knowledge of the client's business environment.

CONCLUSIONS

Soft OR is immensely powerful as a technique and one implementation of this has been described in detail. It takes time to implement Soft OR. A very small investment at the beginning of a complex project will usually return considerable value.

Soft OR is having a considerable impact and can have much more if it is well integrated with other OR methods, with a thorough knowledge of the client's business environment

While there are many case studies to draw on, the individual nature of a client's situation means that it is not possible to demonstrate value simply by finding an almost identical case. If we are to grow Soft OR there is a need to integrate it with other methods, demonstrate why a client should invest time and resource in these approaches and why it is best to invest so that a more strategic outcome can be found, in comparison with the current 'best available solution'.

ACKNOWLEDGEMENTS