Paper 3: SYSTEMS THINKING AND THE 4 STATES OF THE SYSTEM

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In the previous article we highlighted the critical need for organisations to get to grips with their ‘wicked problems’. We gave some insight into the visual impact that a systems map can provide, and this was all put into the context of Mess Formulation. As we build on the process of getting to a stage where one can use some simple, yet elegant tools to find a way forward, we need to position the notion of the Mess Formulation in the context of the 4 states of a System. At the outset we wish to reiterate that without an appreciation of the Mess you are faced with, any attempt to craft a way forward would be a futile exercise.

For many years, Da Vinci adopted a ‘3-states’ of the system approach as proposed by Zandi (2000). This approach involves an investigation into the "as is" the "as it will be" and the "as it should be" state. By exploring these issues, the organisation is able to gain a fundamental appreciation of its current positioning and gain useful insights into its future.

![The 3 States Of A System](image)

**Figure 1: The 3 States of the System as described by Zandi**

The “as is” state defines the current situation. It is an understanding of what is taking place within the organisation’s system. In the conventional school of strategic planning it is what would emanate from a SWOT analysis.

We go one stage further by exploring what if the current managerial leadership style is not adapted to take into account the realities that are taking place? In this case, the organisation has a great propensity to destroy itself. We define this state as the “as it will be” state - this defines the system in a point of time in the future if nothing but natural influences are imposed on the system. We refer to this state as the “Early Warning” – state. In terms of the previous article, the concept of the Mess Formulation embodies both the “as is” state and the “as it will be” state. There is a well-defined process to get to a full picture of the Mess.

The “as it should be” state - this defines a desired future state of the system. It is that state that will ensure sustainable growth for the organisation.

The investigation of the “as-is” and the “as-it-should-be” states is carried out by groups of people from different levels of the organisation who interact and carry out dialogues to map where the organisation is and where it should be.
It can be seen that in order to move from the “Mess” a process of “design” is introduced taking the organisation to the "as it should be" state. The design process will be described in the final article and its objective is to ensure that the new state of the system would be harmonious with its environment and would take cognisance of changes in the containing system.

Over the years, The Da Vinci Institute has worked with a wide spectrum of business and public sector organisations. In all these cases these organisations were in search of a process, which would move away from a linear approach to strategic planning. In reflecting the outcome from these interventions The Da Vinci Institute has questioned whether the notion of a 3-state description of an organisation’s system adequately/holistically describes the realities, which organisations face from a systemic viewpoint?

In reviewing the impact the approach had on these organisations, it was found that in many cases, the outcome resulted in a totally new dispensation that had a profound impact on the organisation being able to meet the expectations of its stakeholders. However, in some instances the process had less of an impact and in time the organisation lapsed back into a state of disarray.

The realities of this 3 states model is that it is based on the assumption that there is a managerial leadership style in place that is capable of ensuring that the organisation has the ability to move to a desirable, more beneficial end-state. The model makes a tacit assumption that the conditions precedent to move the organisation from the "as-is" state to the "as it should be state" is conducive to a transformational leadership style (Transformational Leadership Report, 2007) in which those responsible for the "redesign" of the system are fundamentally systemic in their thinking and managerial leadership styles.

In truth such an assumption does not reflect the reality of what is found in organisations throughout the world. In many cases, contrary to the notion of transformational leadership characteristics (Transformational Leadership Report, 2007; Bass 1990) there is evidence of transactional leadership characteristics which mitigate the ability to design a new system, which has the desirable end results.

Da Vinci has identified the concept of a counterpointing situation in which the organisation, depending upon the prevailing managerial leadership styles, can move either in a positive direction which implies a transformational leadership style (the “as it should be” state) or a negative direction resulting from a leadership style which is transactional. In recognition of this pivotal issue the concept of a 4th state namely the "as it could be" state has been identified.
Counterpointing™

Figure 2: Introducing the Da Vinci concept of counterpointing

Figure 3: The Da Vinci 4 States of a System

In the diagram above the 4th state of the system is indicated as that state that will occur if the organisation attempts to move to a new end-state with a transactional managerial leadership system in place. It will be noted from the diagram that this state will result in the occurrence of unintended consequences (Merton R. K, 1976)(Norton R. 2008) in which many of the supposedly desired characteristics of the new end-state failed to materialise and serious adverse and unintended consequences were encountered.

The diagram also introduces the concept of the Tipping Point (Gladwell M, 2000) in which the organisation has the ability to move to either the "as it should be" or the "as it could be" state. It is a critical point in an evolving situation that leads to a new and irreversible development. An appreciation of the conditions, which will determine to which direction the organisation will "tip" is fundamental to the understanding of the reality facing organisations and appears to be largely dependent upon the managerial leadership styles that are in place.
The diagram also attempts to provide further clarity of the end state resulting from either a transactional or transformational managerial leadership style. It will be noted that we define the "as it should be" end state as a consequence of the system's willingness and ability to transform. Here, we recognise that achieving this end state is conditional on a leadership cadre that is able to understand the system. The leaders are thus systemic thinkers. In the "as it could be" end state we identify this condition resulting from complacency which sets into the organisation as a result of a failure to appreciate the system. This results in a collapse of the system with the occurrence of unintended consequences.

Implicit in the 4-states model as depicted above is a series of questions, which need to be further investigated:

- Are all social epidemics beyond the predictive capabilities of leaders?
- In order to effect positive change; Is it possible for transformational leaders to “engineer” a social epidemic?
- Once a situation has moved to the Tipping Point is it possible to control the fall-out?

Systems Thinking and the emergence of the 4th state can in many respects provide the leaders with some very useful tools, which will answer some of these key questions!

The 4 State System model as described above provides some interesting opportunities for managerial leaders to “engineer” the system and in so doing to invoke new patterns of behaviour. There is sufficient evidence of how leaders through their leadership style, either transactional or transformational are able to radically change the behaviour profile of the organisation.

On the political front it is interesting to note how the outcomes resulting from a “Mandela” transactional leadership style, catapulted the country into a new co-operative environment where the notion of reconciliation and nation building were largely responsible for the “bloodless” transition from a “transactional” style as experienced under the Apartheid regime. Juxtaposed to this is what has happened in Zimbabwe under a transactional leadership style!

The more recent trends in South Africa indicate a concerning move from a transformational state to a transactional state and demonstrates the influence that a leadership style can have on a country. Of more concern is how quickly such a style can manifest itself and how quickly the system adapts to a new order.

In reflecting on the current status in South Africa where, almost on a daily basis we are exposed to the most inconceivable situations, we need to re-think our preconceived views that South Africa "could never be" another Zimbabwe. At the time of writing this article we note with amazement how PRASA can place orders for locomotives which cannot fit into our existing rail system, how we have been taken on a circuitous journey around a R1 trillion nuclear deal, the alleged establishment of a government TV channel to promote state propaganda, and some interesting developments in the labour department around the Chemical, Energy, Paper, Printing, Wood and Allied Workers Union where there are clear lines of division between the minister and the officials. All of these point to a system that is under severe strain and where in every respect there is evidence of a transactional leadership style in place!

The reality is that if large systems like whole countries can, in a relatively short period of time, be “tipped” from one style to another, what are the opportunities available to leaders of smaller systems such as businesses to positively or negatively influence the future direction of the organisation?

The argument above gives some insight into the power of the 4 State Systems model, and provides some insight into the observations of the successes and failures of organisations that undertook the Da Vinci Design Thinking approach.
The 4 States diagram also brings to the fore the realisation that engineering a “social epidemic” is well within the predictive capabilities of leaders. As such, the adoption of a transformational leadership style can result in the system adapting to a totally new characteristic and that transformational leaders can manipulate the change.

The last article will give an insight into the Da Vinci Systems and Design Thinking process and how to use such a process to dissolve those 'wicked' problems.

References:

Bass B. M (1990) From Transactional to Transformational Leadership: Learning to share the vision in Organisational Dynamics vol 18 issue no 3 (pages 19-31)