

# Report of the Society Strategy Committee

Winter 2018: (Contact [Kim Warren](#))

## SUMMARY:

*Strategy reviews in 2013 and 2016 produced tactics that should help the SD field progress. However, implementation has proved difficult. This paper offers a more rigorous connection between those tactics and a model of the field, so that - in future - their impact can be assessed. This effort shows that many tactics need better definition, explicit connection to key factors in the model (notably the flow-rates that drive growth of the field), and assignment to specific VPs.*

*From this start point, it should be possible to devise a simple management control system, translating all tactics into quantified, time-based action plans. This would then enable revised or additional tactics to be implemented with confidence regarding their likely impact.*

*Past difficulties in implementing the strategy reflect the very limited time and resources available to VPs. We therefore recommend:*

- *establishment of assistant-VP teams to support each VP and assist in tactics implementation*
- *review with Capital Hill Management Services their capability to support each VP's tactics*
- *consider retaining additional specialist capability where necessary*
- *establish appropriate budgets to support implementation activity for each VP*
- *adoption of a regular quarterly review of tactical implementation between the President and VPs*

## DRAFT: Report of the Strategy Committee

This paper presents:

- the background and current status of the strategy and tactics previously identified by the Policy Council
- latest developments of a model for the SD field, specifying where those identified tactics are located in the system model
- proposals to link the tactics to a quarterly action-planning system, to guide and monitor implementation of the tactics

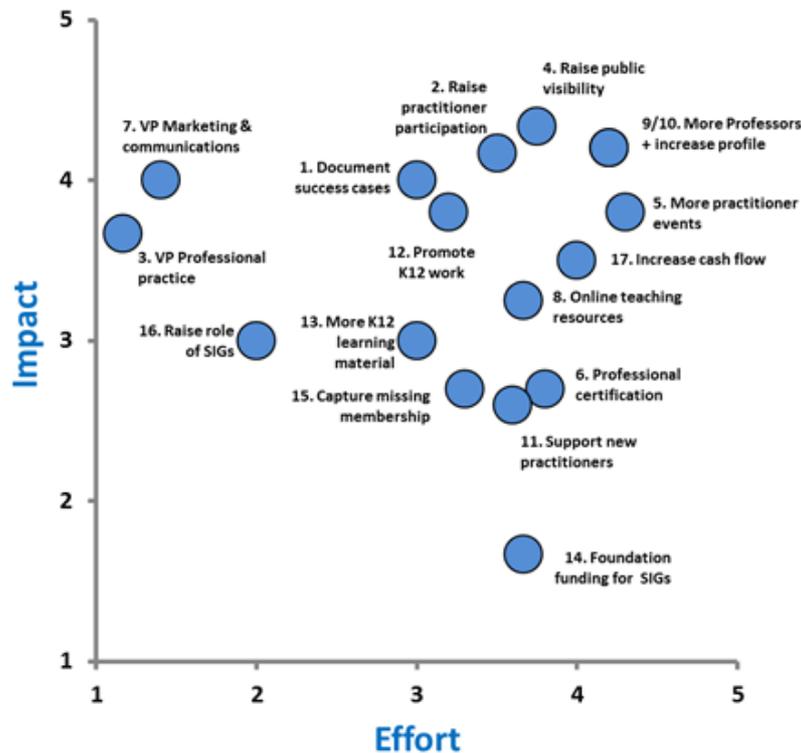
The model structure summarised in this document, should be read before visiting [the model itself](#).

### Background

The recent history and current status of the Society's strategy for the development of the field can be summarised as follows:

**The Winter 2013 Policy Council meeting** approved a strategy for raising the scale and impact of the field substantially by 2020 (see [report](#)). The strategy reflected input from over 30 experienced Society members regarding [a] the estimated development of the field from 2005 to 2012 and [b] aspirations for the feasible scale and impact of the field by 2020. The strategy identified a prioritised set of actions and initiatives that, it was hoped, could kick-start progress towards those aims (*figure 1*)

*Figure 1. The effort required and potential Impact of the 2013 recommended Initiatives to develop the field*



**The 2016 Summer Policy Council meeting** undertook a further brain-storming exercise to identify tactical actions and initiatives that might support the strategy. Table 1 shows the combined list of tactics from that meeting with those items from the 2013 review - split between tactics that would continue indefinitely, and one-time actions. Note that the free-form process by which these items were produced inevitably results in some ambiguity and overlap between list-items.

Table 1: All-tactics list from the 2013 and 2016 Strategy Reviews

Continuing tactics	One-time actions
1. Offer more events, including online [maybe via SIGs]	DONE Appoint VP Marketing
2. Encourage and support academics to participate in domain-specific conferences	DONE Appoint VP Practice
3. Encourage and support academics to publish in domain-specific journals	1.1 Assess credibility of SD professional jobs
4. Short success cases on web-site	1.2 Identify and offer potential products and services
5. Best-paper cases from conference	1.3 Charge for Web attendance at conference
6. Set up marketing budget ... needs defined tactics	1.4 Develop and implement a strategy to raise awareness of the value of system
7. Encourage course providers to support adult-trainees	1.5 Develop standard form for success cases
8. Offer practice-oriented conferences + events	1.6 Establish high quality standards for success cases
9. Advertise the existing practitioner award outside the SD community	1.7 Start a practice-journal
10. Encourage SIGs to run events	1.8 Engage publicist/PR professional
11. Increase in engaging pre-college (K-12) learning	1.9 Create an annual award for best highly-visible SD work. Endow the award
12. Pair up K-12 educators with practitioners to develop material exercises	1.10 Seek s/w providers assistance in estimating non-member numbers
13. Pair up K-12 educators with higher-ed academics to develop exercises	1.11 Seek s/w providers assistance in estimating corporate SD numbers
14. Identify and offer potential products and services	1.12 Develop member benefits likely to appeal to practitioners
15. Raise awareness of the value of SD	1.13 Develop and support one or more sub-communities of novice SD people
16. Social-media optimisation	1.14 Revise role-definitions of SIGs
	1.15 Identify missing SIG domains and encourage their formation
	1.16 Tie SIGs to conference threads more closely
	1.17 Make conference program attractive to practitioners
	1.18 Seek support from s/w providers for practice-oriented events
	1.19 Aggregate and evaluate information on existing resources
	1.20 Develop a strategy for expanding resources and their use
	1.21 Establish means for online conferences
	1.22 Set up online conference facilities for Society
	1.23 Start by surveying members
	1.22 List pros and cons for certification
	1.23 Set up strong focused K-12 stream at conference
	1.24 Seek Foundation funding for travel/attendance
	1.25 Support tenure track faculty
	1.26 Approach foundations to investigate potential and means
	1.27. Raise Foundation funding for SIGs.

## The present situation

Significant activity since 2013 includes:

- Creation and appointment of VPs for Marketing & Communications, Professional Practice and pre-College Education.
- Launch of Asia-Pacific conferences.
- Assessment of the potential for Certifying SD practitioners and Accrediting SD education programs (*deemed to be beyond the capacity of the Society at this time*).
- Transfer of the Society's administration to Capital Hill Management Services, potentially offering access to additional resources

Otherwise, ***reliance on the limited time of volunteer-members to lead field-development efforts has proved an obstacle to implementing most of the identified tactics***, so the Strategy remains essentially un-implemented. Consequently, there is little evidence that progress has been made towards any of the aims identified in 2013. Society membership, conference attendance, and scholarly publications - the only significant items on which hard data exists - remain essentially unchanged or slightly reduced since that time.

## Model of the Field

To assist in tying the strategy's tactics more closely to the progress of the field, a provisional model of the field has been developed. It will be noted [a] that most of "the field" resides in a series of application domains, and [b] that no information exists regarding those domains, so that portion of the model consists of *highly* provisional estimates.

*The following terms are used in this section:*

- **Practitioners** : *individuals who carry out practical SD work, either within organisations or as consultants, but have little or no academic role. (It is recognised that academics also undertake practical work). Practitioners are divided, for simplicity, between novices - capable of working with existing SD models or developing models under supervision - and experienced - capable of leading SD-based projects and solutions.*
- **Application-domains (or simply 'domains')** : *distinct fields to which SD modeling is applied, such as health-care, environment, business. (Some domains are in practice segmented, such as 'public policy' covering transport, education and so on - a complication not dealt with at this time).*
- **Clients** : *senior individuals within domain-organisations who are in a position to commission and pay for SD work, whether from internal staff or consultants.*
- **Projects** : *distinct pieces of SD work, whether one-off models or models for continuing use.*
- **Academics** are split between **faculty** and **PhD** students
- **SD events** : *any conference or workshop, in any domain, whether academic or practitioner-oriented, in which significant SD work features*

*For practical reasons, this terminology necessarily makes considerable simplifications of the richness and detail of the field.*

There have been repeated calls for a model of the field to support development and implementation of the Society's strategy. This aim is severely constrained by the lack of information concerning most aspects of the field - no data exists, for example, for the number of SD practitioners, for the clients of their work, or for the work itself.

Several efforts have been made to address this need for a model of the field, most recently ...

- A high-level model *structure*, including estimated values for the items above and others, to support the [Strategy Committee submission](#) to the 2013 Winter PC meeting.
- Jack Homer's [Beyond the Plateau: A Model to Investigate Past and Future Growth of the SD Society and Impact of the Field](#) presents a modified Bass-type diffusion model that reproduces trends in actual data for Society membership, and for production of scholarly works from 1984 to 2017, and explores changes that might lead to growth of these indicators.
- George Richardson's [Drawing Insights from a Small Model of the Growth of a Management Science Field](#) provides a formal model of the dynamics of growth, stagnation, or decline of an illustrative field, together with scenarios and strategies that might affect those dynamics.

These sources have been used to inform a draft model of the system dynamics field. The outline of the model is summarised in figure 2. The model itself can be inspected at [sdl.re/SDfield](http://sdl.re/SDfield).

*Note that this model is work-in-progress (notably due to the need for domain-related information to be estimated by practitioners and academics with experience in each domain). The model will therefore likely remain work-in-progress for some considerable time.*

This modeling effort clarified an important feature of the SD field that, while not unique among professional fields, is highly significant for the System Dynamics profession, and for any strategy aimed at its development:

**Most of the people (academics, practitioners and clients), modeling activity, and work output in the field are located in application-domains.**

The principal cross-domain factors are the Society itself, its annual conference, Chapter-organised events, the SD software packages, and pre-college (K-12) education. There are also some cross-domain degree programs, such as EMSD, and executive education courses.

This dominance of the domains implies that - since the Society's purpose is to raise the visibility and impact of SD - any tactics can only be effective if they significantly influence performance of the domains, notably:

- develop PhDs and Faculty, to grow the quantity of scholarly works and the strength of the SD academic field
- develop and retain clients who drive demand for SD work, and good-quality case examples
- develop, support and retain SD practitioners

Key mechanisms in the field are as follows:

**Academia** ... New PhD students are attracted by the academic visibility of scholarly works, and by available SD faculty. PhDs are lost from the field if they get neither faculty jobs nor jobs in practice. Faculty deliver - for other parts of the field ...

- SD-classes for other degree-program students (systems engineering, environmental science ...)
- Events (conference-streams, workshops ...) for other domain participants, both academic and practitioner
- Capacity to teach SD-Masters students
- SD-Review subscriptions (along with other Society members)
- Open courses (*domain-specific and general*) and contribute to pre-college teacher training
- Capacity to do practical SD work for clients in the domain
- Books and other instructional material for domain participants

**Practice** ... Experienced practitioners determine the capacity to deliver SD-related work for clients (with some faculty capacity also), and are lost through retirement or under-utilisation. They hire novices to support this work - a mix of SD-PhD's, SD-MSc's, and other graduates who may or may not have had any SD classes.

The quantity and quality of practical work reflects the number and experience of practitioners, their utilisation and the functionality of available software.

**Sponsors** form a critical group within the Practice community, contributing cash-flow to the Society, especially in connection with the annual conference.

**Clients** ... Potential clients become aware of SD, due to:

- domain events featuring SD
- relevant books
- attendance on open courses (including by colleagues)
- discovery of relevant documented cases in their domain

Potential clients become active (*commission their first SD work*) if practitioners + faculty have the capacity to sell and deliver that work, and demonstrate relevant cases. Clients are lost faster if practitioners+faculty are overloaded, or do poor quality work.

**The Society** ... Student members are drawn from the total population of SD-students, and full members from the total population of faculty, clients and practitioners - depending on the benefits offered by membership. Members drive:

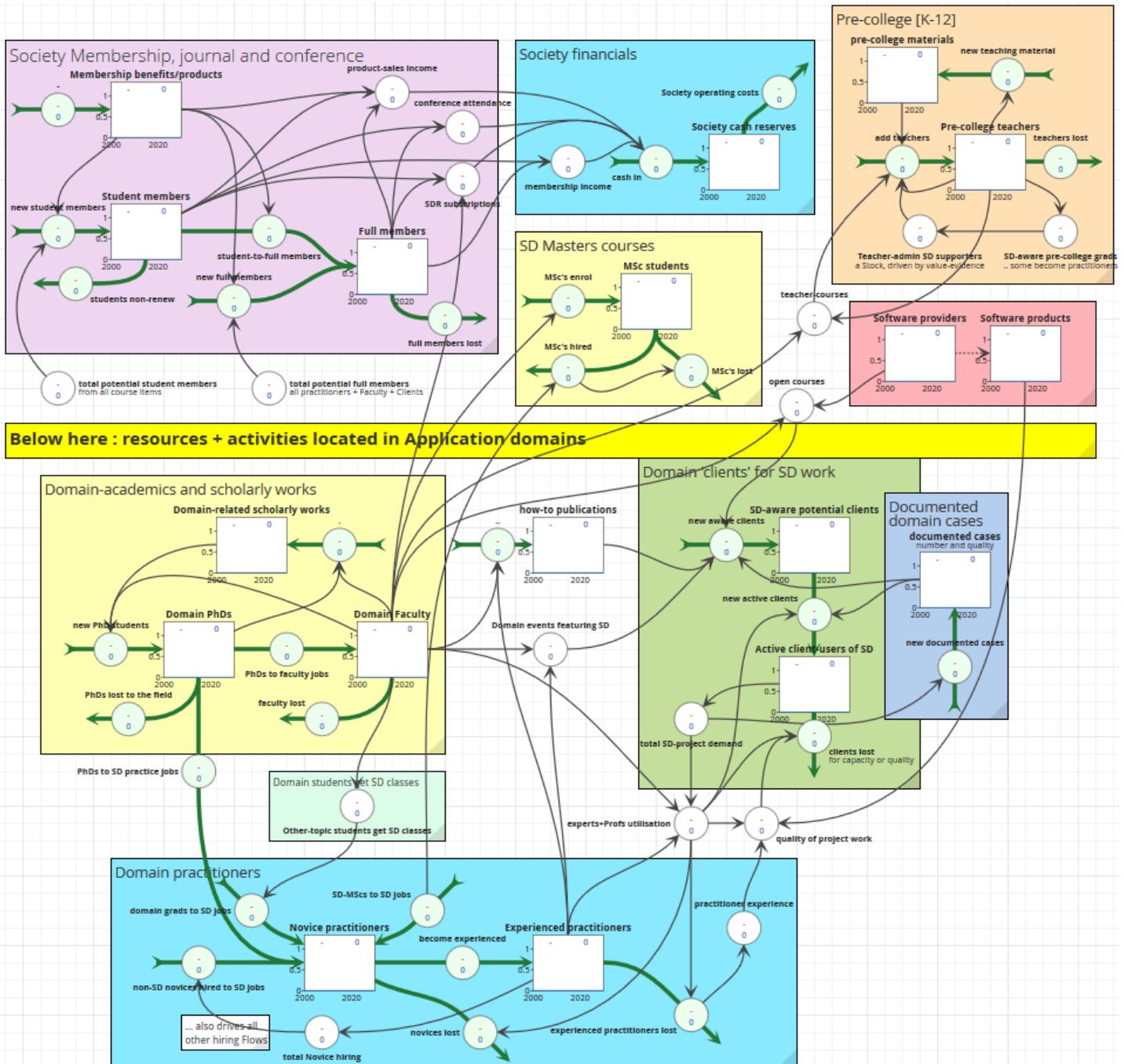
- conference attendance and revenue
- SD-Review subscriptions (along with Faculty)
- sales of products offered by the Society

These items, together with membership dues, drive the Society's financial income.

**Software providers** provide the software products, whose functionality enables practitioners to do high-quality work. They also contribute to client awareness through open courses.

**Pre-college (K-12) education** ... School-teachers are attracted to SD by good teaching material, and by contact with existing SD teachers. Those teachers determine the number of students taught SD. But teachers can only start teaching with the support of education administrators, who need to see the benefits of SD teaching before adding it to the curriculum.

Figure 2: Outline of the model of the field



## Tactics' location in the field-model

The purpose of connecting the strategy's tactics to the model is to enable decisions as to how the scale of each tactic should be changed over time, informed by the observed impact on the parts of the field that it influences.

- any chosen tactic must be located at some position on the field-model
- any such tactic must operate by influencing one or more of the model's Flows - whether directly or indirectly
- information on each Flow-rate is therefore the local 'key performance indicator'

The following Tables summarise where these elements are to be found on the model. Note:

- Some items in grey are not, as yet, explicit in the model
- Tactics in purple have no identified operating mechanism and/or responsible VP
- One-time tactics are numbered '1.XX' ... continuing tactics have no '1' prefix

### Domain-academics and scholarly works

Flow-rate	driven by ...	related Society tactics
new PhD students	Scholarly works ( <i>through appeal of SD-based research</i> ) available PhD places, reflecting Professor numbers	
PhDs to Professor positions	available Professor positions appeal of SD-based research	
PhDs to SD-practice jobs ... to practitioner sector	total novice hiring, reflecting current shortage	
PhDs lost from the field	PhDs graduating <i>minus</i> those going to Professor or SD-practice positions	
Professors retiring	aging and normal churn	
Professors lost	appeal of SD-based research	7 Support tenure-track faculty
new scholarly works	Professors + PhD students	

### Domain practitioners: novice and experienced

Flow-rate	driven by ...	related Society tactics
PhDs to SD-practice jobs ... from academics sector	current novice shortage, hiring preference for PhDs available PhD places, reflecting Professor numbers	
novices from open training events	current novice shortage, hiring preference for basic trainees	
SD-aware student hires	current novice shortage, students on domain courses with some SD classes, hiring preference for SD-aware domain students	
SD-MSc hires	current novice shortage, hiring preference for SD MSc's	
non-SD students hired (e.g. OR graduates)	current novice shortage, hiring preference for non-SD hires	

*Domain practitioners: novice and experienced (CONTINUED)*

<b>Flow-rate</b>	<b>driven by ...</b>	<b>related Society tactics</b>
novice practitioners lost	lack of SD-specific career prospects or valued work	7 Encourage course providers to support adult-trainees 8 Offer practice-oriented conferences + events 9 Advertise the practitioner award outside the SD community 1.1 Assess credibility of SD professional jobs
Novices become experienced	aging	
Experienced practitioners lost	utilisation of practitioners on client work (+ normal retirement)	

*Clients and SD-work*

<b>Flow-rate</b>	<b>driven by ...</b>	<b>related Society tactics</b>
new SD-aware potential clients	domain events with SD content	1 Offer more events, including online 8 Offer practice-oriented conferences + events 10 encourage SIGs to run events
	new SD-aware pot'l clients from online presence	6 Set up marketing budget 1.8 Engage publicist/PR professional 16 Search-engine optimisation and web-design impact
	new potential domain clients from open courses	
	books for domain SD practitioners	
	new leaders aware from success-case promotion	6 Set up marketing budget 15 Raise awareness of the value of SD 1.8 Engage publicist/PR professional
new active clients	% SD-aware pot'l clients find relevant, quality cases	
domain clients lost	current client number, quality of SD work	
actual domain projects <i>(not a Flow, but critical)</i>	clients, SD-work need, available experienced practitioners and Profs	
new practitioner books	Profs and experienced practitioners	

*SD Masters students*

<b>Flow-rate</b>	<b>driven by ...</b>	<b>related Society tactics</b>
new SD Master students	available places, SD-career appeal	
SD-MSc's to SD jobs	MSc graduates, SD-MSc hires	
SD-MSc's lost to SD	MSc graduates, SD-MSc hires	

### Society membership and conference

Flow-rate	driven by ...	related Society tactics
new student members	total potential student members, appeal of student membership	
student members non-renew	appeal of student or full membership	
student-to-full member renewals	appeal of full membership	
new full members	total potential clients and practitioners, appeal of full membership	
full members non-renew	appeal of full membership	
add member products+services		14 Identify and offer potential products and services
add conference web-attendees	total membership	1.3 Enable and charge for Web attendance at conference

### Pre-college (K-12) education

Flow-rate	driven by ...	related Society tactics
Add K-12 teachers	Informed K-12 decision-makers, Accessible K-12 SD teaching materials, contact with current K-12 teachers ... limited by education-administrator gatekeepers	
Add SD K-12 teaching packs	experienced K-12 teachers, Support from Profs and experienced practitioners	11 Increase engaging pre-college (K-12) learning 12/13 Pair up K-12 educators with practitioners + higher-ed Profs to develop material and exercises
K-12 teachers lost	normal attrition	
new K-12 experts	experience	
K-12 experts lost	aging	
new K-12 students	K-12 teachers	
new papers/qtr on pre-college SD	students emerging from SD teaching	1.23 Set up strong focused K-12 stream at conference
new education administrators adding SD to curricula	research papers on the benefits of pre-college SD education	

## The model-of-the-field as a management tool

*We are very grateful to Wim Rill (Marketing Professional and now in the final phase of his studies in Environmental Systems Research MSc. at the University of Osnabrück, Germany) for his assistance in converting the 2013/2016 strategy work into the structured set of strategies and tactics required for this step of the process.*

In order to analyze the 2013 Strategy Report Rill developed based upon Porter (1980)<sup>1</sup>, Mintzberg (1994)<sup>2</sup> and David (2015)<sup>3</sup> an Integrated Strategy Development Framework (see Figure 3) that uses a sound terminology by defining key terms and their relationships. Thus, the widely used terms vision, mission, goals and strategies are

<sup>1</sup> Porter, M. E. (1980). Competitive Strategy. Free Press.

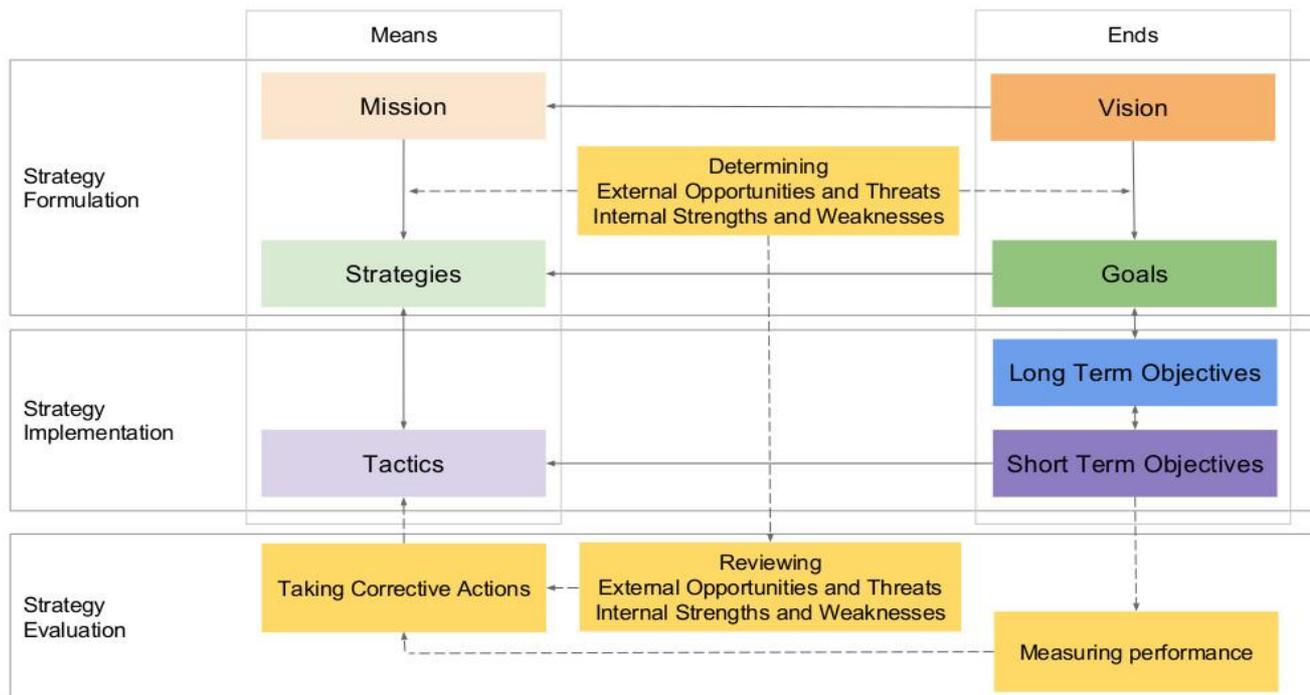
<sup>2</sup> Mintzberg, H. (1994). The Rise and Fall of Strategic Planning. Free Press and Prentice-Hall International.

<sup>3</sup> David, F. R. (2015). Strategic Management - Concepts and Cases. Pearson education Limited.

related to the Strategy Formulation phase. Short- and long term objectives and tactics belong to the Strategy Implementation phase. In the Strategy Evaluation phase, the external/internal factors are reviewed and performance is measured, which may lead to corrective actions.

The Strategy Formulation phase was executed during the Winter 2013 Policy Council meeting. The tactics of the Strategy Implementation phase were formulated during the Winter 2013 Policy Council and a further brainstorming exercise during the 2016 Summer Policy Council meeting.

Figure 3: Integrated Strategy Development Framework <sup>4</sup>



We propose to use the model-of-the-field as a quarterly action-planning system, to guide and monitor the Strategy Implementation phase. For that to occur, **all items** of the Strategy Implementation phase should be found in the model-of-the-field. The items of the Strategy Implementation phase are translated into system dynamics elements (see Figure 4). The tactics are translated into variables, the short term objectives into in- or outflows that are influenced directly or indirectly by the tactics (variables) and the long term objectives into the stocks that are influenced by the short term objectives (in- or outflows).

This connection between the Society Strategy’s tactics, requires a commonly agreed model-of-the-field that represents the best understanding of how the field operates.. Quite simply - ***If items of the Strategy Implementation phase are not found in the model-of-the-field, then either the items defined are not correct or we should reconsider the model.***

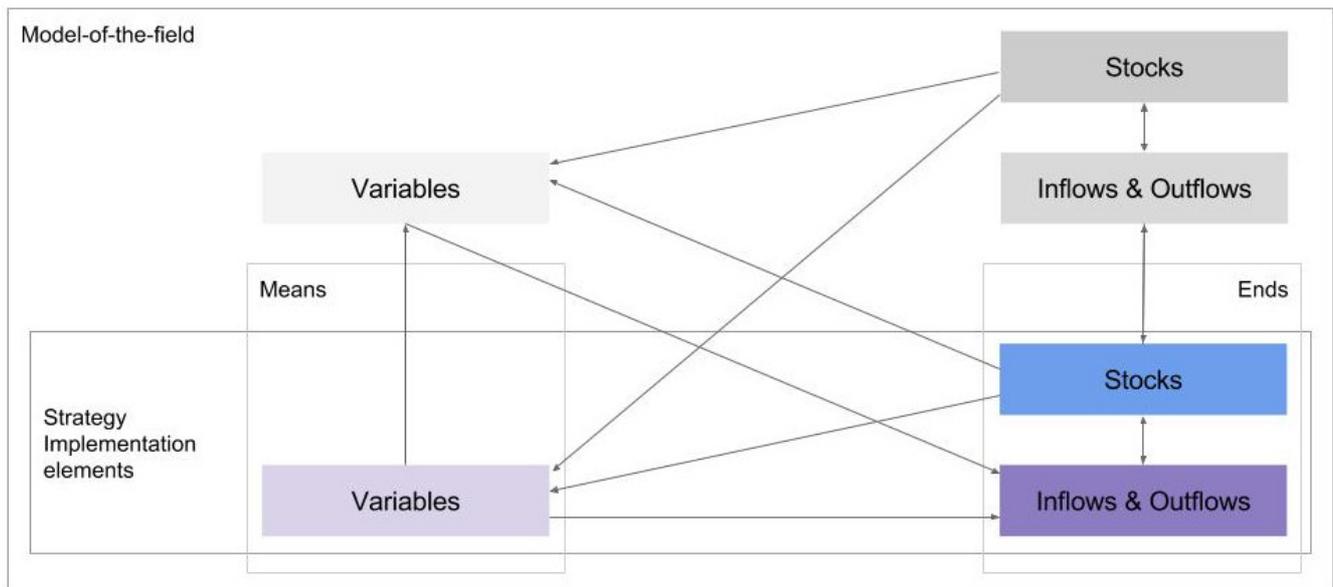
Fulfilling the vision can be accomplished if the goals set are reached. ***These goals should be translated into ‘SMART’ terms*** (Specific, Measurable, Assignable, Realistic and Time-related) - key to managing progress and motivating people:

- long term objectives (five year basis) and subsequently in SMART
- short term objectives (one year basis).
- The tactics are the means for realising the short term objectives.

A commonly agreed working model-of-the-field can deliver the objectives through simulation. It might also help discover important new tactics, by considering actions that might improve any unsatisfactory Flow-rate.

<sup>4</sup> Rill, W (2017). Converting the Systems Dynamics Society’s model-of-the-field into a management instrument. Available from the Author.

Figure 4: The items of the Strategy Implementation phase translated into system dynamics elements and their connections within the model-of-the-field<sup>4</sup>



For that we need to fill the model-of-the-field with real data. As noted above, data exists only for some few parts of the model. Quantifying the remaining sectors of the model can only be done by initiating continuing research on key elements. **We suggest transferring responsibility for developing and maintaining the model to the Society Office** (translating the model to another software platform may be desirable).

#### From the model to a management system

A simple tool of normal management practice is the **time-phased action plan** ... what we *will* do over coming period, on what tactics, with what likely impact on performance indicators. This is combined with what *has been* recently done, and the observed impact. For example:

Table 2: Illustrative time-phased action-plan item, and impact-review.

	Quarter	Online marketing spend \$'000	Expected enquiries per day	Actual enquiries per day
<i>Recent actual</i>	1Q2017	2.0	20	18
	2Q	2.0	20	13
	3Q	5.0	20	25
	4Q	5.0	20	35
<i>Future plans</i>	1Q2018	7.0	30	
	2Q	8.0	40	
	3Q	10.0	50	
	4Q	10.0	50	

We ask the Policy Council to consider development of a tactical management system, led by the relevant Vice-Presidents. This activity needs to recognise that it has not proved possible thus far to achieve most of the tactics identified in past strategy reviews. Tackling this may be assisted by:

- establishment of assistant-VP teams to support each VP and assist in tactics implementation
- review with Capital Hill Management Services their capability to support each VP's tactics
- consider retaining additional specialist capability where necessary
- establish appropriate budgets to support implementation activity for each VP
- adoption of a regular quarterly review of tactical implementation between the President and VPs