



Set of Templates to Facilitate DYNAMIC ANALYSES & SYNTHESIS

An internal document for planning and summarizing client engagements.

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**Use this template in conjunction with the 1-page ConfluCore document titled:
“System Dynamics Process – *Sharing iteration with Clients*”.**

Follow the 8-phase systematic template as a mutually engaging journey with clients, always validating along the way.



TEAM CHECKLIST:

Please tick off ✓:

- ☐ **Necessary: Use this template in conjunction with the 1-page ConfluCore document titled: “System Dynamics Process – Sharing Iteration with Clients”.**
- ☐ **This template comprises all the 9 phases in a full-range ConfluCore engagement.**
- ☐ **These relate to applying System Dynamics, MFSC®, SIGOMO®, SPECTRA *dynamics*®, TLI®, or any combinations of these.**
- ☐ **If a combination of services are included, then revise the 6-Pack Primer.**
- ☐ **Check to ensure if the phases our client has signed up for are included (or not):**
 - **For Phase 2:** has the client developed any system archetypes? ☐ Y ☐ N ☐ ? *Recheck*
 - **Is Phase 7:** Management Flight Simulator included? ☐ Y ☐ N
 - **Is Phase 8:** Learning Laboratory included? ☐ Y ☐ N
- ☐ **Work with clients closely in pre-scheduled, 90 minute intervals of time, without affecting their unmovable priorities. Be respectful of your own professional time as well.**
- ☐ **Avoid giving answers quickly as you have only limited data of the situation. Not knowing opens up more opportunities and discovery possibilities for both the client and you – avoid vague catch phrases.**
- ☐ **Extra diagrams in brown color on the top-right of some templates are for helpful/illustrative purposes only.**
- ☐ **Ensure clients start recognizing the *integrative* effects of applying dynamic approaches.**
- ☐ **Summarize all sketches from your meetings in the blank spaces provided in the lower half of this template. Originals and details should be on computer records, possibly also on wall charts in the meeting room.**
- ☐ ***Regardless of your experience, check all the above to ensure your Questions Guide is tailored for this specific client engagement.***

NOTES & FOLLOW-UP:

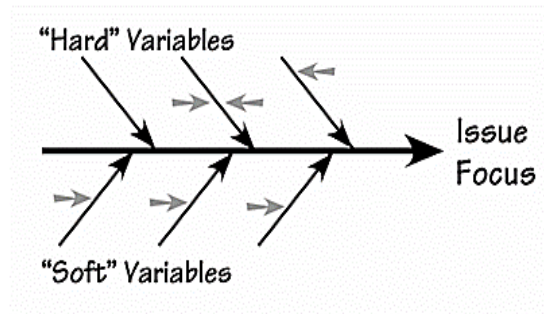
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1. Beginning with client's analyses starts teamwork between us. Clients are smart and have analyses conducted on their own.

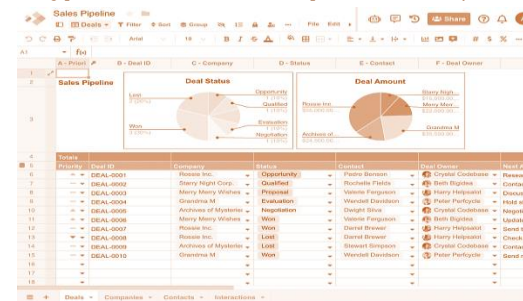


CLIENT PRE-ENGAGEMENT ANALYSES: *(Organize in formats that help lead to dynamic structuring).*

Examples: Correlations, Double-Q Diagrams, Fishbones, Spreadsheets, T-diagrams, etc.



Typical Client Data – Spreadsheets, etc.



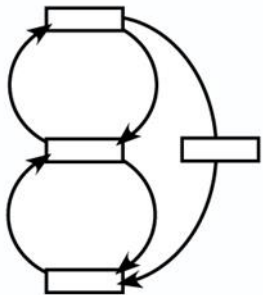
- ✓ Review data together
- ✓ Identify stocks and flows in it
- ✓ Format the data into causal connections
- ✓ Inquire about additional data, including also "soft" variables
- ✓ Assign different colors to stocks, flows, constants, parameters, etc.
- ✓ Share with client the transposition of their data to the dynamic format
- ✓ Specify any more data needs

2. OPTIONAL: If the client has developed any System Archetypes, connect these with Step 1 analyses.



CLIENT ARCHETYPES: *(Client's own illustrations of the recurring patterns of behavior).*

Example: Shifting the burden.



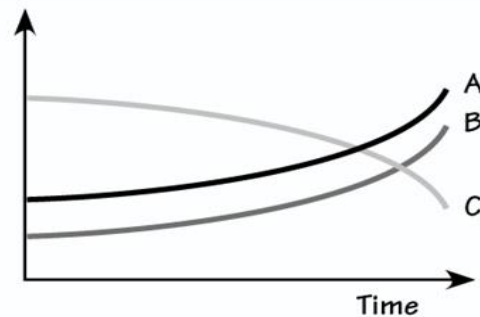
- Check for examples of:
- ✓ Fixes that fail
 - ✓ Growth and underinvestment
 - ✓ Limits to success
 - ✓ Escalation
 - ✓ Drifting goals
 - ✓ Seeking the wrong goal
 - ✓ Success to the successful
 - ✓ Shifting the burden (a.k.a. "Addiction")
 - ✓ Tragedy of the commons
- (Created any others?)*

3. Take the data – hard and soft – to develop Behaviors over Time (BOT) curves of the essential outcomes/variables.



BEHAVIOR DYNAMICS: (Graph plots of key variables).

Examples: A=Revenue; B= Profits; C=Costs, etc.



A Limited Sample of Behavior Patterns

	$\dot{x} > 0$	$\dot{x} = 0$	$\dot{x} < 0$
$\dot{x} > 0$	 Exponential growth	 Inflection point	 Exponential adjustment
$\dot{x} = 0$	 Minimum	 Equilibrium	 Maximum
$\dot{x} < 0$	 Exponential decay	 Inflection point	 Exponential collapse

And combinations, cyclical, wavy, etc.

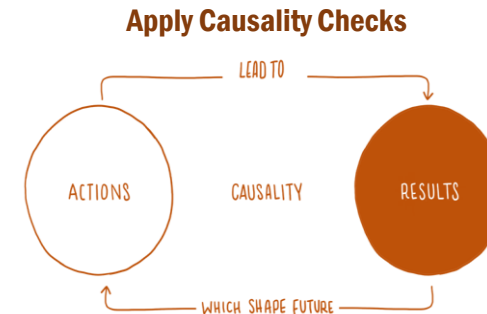
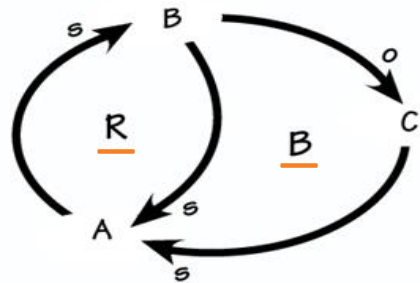
A BOT is reference mode; a fabric woven with actual dynamics of 3-5 performance outcomes over past time intervals

- ✓ The variables selected should be the ones management is most concerned about
- ✓ A minimum of 3, maximum of 5 variables need to be selected in the beginning
- ✓ The units for the vertical axis must be consistent and calibrated suitably to reveal the dynamics

4. Taking the BOT canvas, draw **causal** connections among the plotted variables – one at a time – using arrowhead links.

CAUSAL LOOP DIAGRAMS: *(Draw CLD connecting the key variables from Step 3).*

*Examples: A & B create a **Reinforcing** loop; A, B, & C make a **Balancing** loop).*

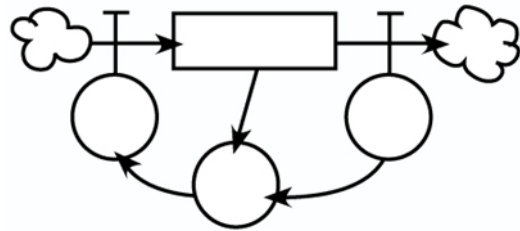


- ✓ From BOT graph, connect the key variables plotted on it with links
- ✓ These links are one-directional, shown as arrows going in the direction from the influence of one variable to the other variable
- ✓ Color shade the loops created by the links that complete a circle
- ✓ Label the loops as R or B, based on the overall incremental effect of going around the loop

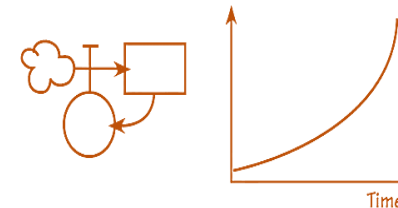
5. Taking the CLDs, build Stock Flow Diagrams (SFDs) – first on paper, then on computer – with associated decision rules.

STOCK FLOW DIAGRAMS: *(Take each stock and develop its basic structure).*

Examples: Stock=Inventory; Flows=Incoming & Outgoing; Decision=Buffers, etc.



Helpful Structure-Behavior Pairs

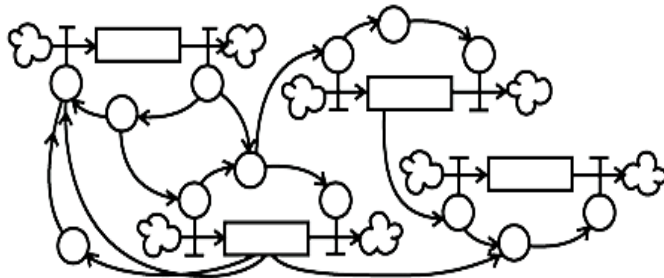


- ✓ From the CLDs, extract stocks and assign them an initial value
- ✓ Attach inflows and outflows that change the stock levels, select from the CLDs as relevant
- ✓ Put decision rule(s) that affect these flows
- ✓ HELPFUL: Validate the SBPs, *structure-behavior pairs* as these emerge, e.g., like the sketch shown on the left.

6. Integrating the multiple SFDs (and SBPs as the case may be), create an integrated simulating model of the issue/problem.

INTEGRATED MODEL: *(Integrate all the stocks as a system of the issue/opportunity in focus).*

Illustration: The model should simulate on any dynamic platform agreed with the client.*



- ✓ Start with the stocks and their BOTs
- ✓ Initialize stocks with actual data
- ✓ Test multiple initial values per client experience
- ✓ Include all flows affecting stocks
- ✓ Check the decision rules for their reality in real situations
- ✓ Add parameters per organizational realities
- ✓ Check simulation graphs with BOTs
- ✓ Perform scenario analyses
- ✓ Share outcomes
- ✓ Develop policies

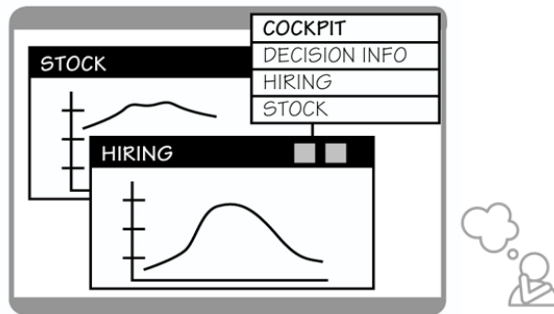
* Registered software products like: AnyLogic, Dynamo, iSee, iThink, PowerSim, Simulistics, Stella, SysDyn, Vensim, Ventity, etc.

7. OPTIONAL: Building Management Flight Simulators (MFS) are gainful investments in learning and development (L&D).



SimLab/MFS UBIQUITY*: *(Can be “played” individually or in teams, onsite or offsite, and discussed as case studies).*

Example: An example output of Talent Dynamics – with embedded parameters that can be changed.



How Does the Client
L&D Happen Today?



- ✓ Across-the-board change is often challenging but also deeply rewarding
- ✓ Phase 6 will have fully addressed the client's needs
- ✓ But futuristic organizations like to impart change by building learning labs (SimLabs, MFS)
- ✓ Making SimLabs/MFS with UI/UX takes time but offers profound learning across the organization
- ✓ Agree on the parameters and structure changes to be allowed in their SimLab/MFS

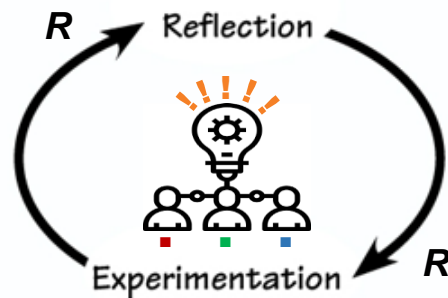
* Share with client the AOM/ACSB Memo published in **BizEd**: *Business Simulations Aren't Just Fun and Games*, April 2020.

8. OPTIONAL: Making Simulation Laboratories (SimLabs) *after MFS*, establish organizational processes for integrative implementations.



CHANGE RESOURCING***: (Building learning laboratory processes assimilating the 3 C's).*

Illustration: Individuals and teams from different departments, functions, processes, and alliances/ventures.



- ✓ People have different leanings for change
- ✓ Early adopters embrace fast; others take time
- ✓ In time, most if not all, adapt when provided for reflection and dialogue with experimentation in SimLabs
- ✓ These clarify the 3 C's* embedded in any company
- ✓ Leaders utilize experimentation and reflection to implement new policies/strategies
- ✓ These positively enable *change by design* with broad participation

** Share with client the chapter: *The Leader Integrator – An Emerging Role*, in *The Leader of the Future 2*, Jossey-Bass, 2006.

9. Consolidating dynamic findings, insights, options, and recommendations shared with the client team and keeping in touch to assess results.



POST CLIENT ENGAGEMENT: *(This may be completed towards the conclusion of the engagement).*

Plan: A goodwill visit to the clients to understand their perception of the gains from this engagement.

More:

- Get a sense of gains the client is reporting, like:
- ✓ Scale of problem resolution
 - ✓ Adoption of dynamic approaches
 - ✓ Improvements in desired metrics (revenue, cost, cash flow, profit, talent retention, cultural health, morale, etc.)
 - ✓ Ancillary gains realized (as by-products)
 - ✓ L&D energy and contribution
 - ✓ ROI ?
 - ✓ Other ?