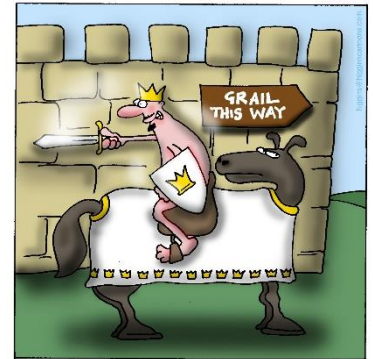


It is widely believed, with quite some evidence, that most business strategic plans and initiatives fail to deliver their promised objectives.

That may somewhat over-state the case – after all, we are surrounded by many *very* successful organisations who have developed strongly over many decades and who routinely undertake successful initiatives. Nevertheless, there is for sure much disappointment with implementing strategy, so how might we do better?



Shortcomings in guidance on strategy implementation

One of the weakest topics in most MBA programs and executive course offerings is “strategy implementation” – what exactly to do to make the strategy happen. The most common weaknesses?

- No recognition that “strategy” is **more than just the over-arching strategic plan** for the whole organisation - it also includes strategies for significant initiatives, such as entering a new market, making an acquisition or implementing business improvement programs. Functions need strategies too, and we even need ‘strategies’ for fixing small local issues.
- No explanation for **how to set quantitative, timed action plans** (TAPs) that might deliver the objectives of these strategies. (*Action plans have to evolve as circumstances change, of course, but if we don’t know how to create a TAP in the first place, we are going to struggle to adapt it!*)
- An implied presumption that **strategy implementation happens in big chunks of time** – often quarter to quarter. But real-world conditions and events happen on a much faster time-clock, and we can – and do! – respond much more rapidly. (*I recall a strategic competitive threat to a division of pharma giant Glaxo Smith-Kline that played out over just 10 weeks. No-one knew at the start of the year that it would happen, and it was mostly fought off long before the year-end. But the leadership team sure needed a response strategy!*)
- A further implied presumption that the implementation plan exists or is easy to create, and that the real challenge concerns **the process** – getting people to understand, buy into, and do what is required.

I could have picked many examples of guidance on how to do strategy implementation, but [Harvard Business School Online](#), (HBS) for example, says the 7 key steps are:

1. Set clear, achievable goals and define key variables. (*Without saying how that is done*)
2. Determine roles, responsibilities, and relationships
3. Delegate the work
4. Execute the plan, monitor progress and performance, and provide continued support
5. Take corrective action (adjust or revise, as necessary)
6. Get closure on the project, and agreement on the output
7. Conduct a retrospective or review of how the process went

Why do those shortcomings arise?

The mind-set behind such guidance on strategy implementation fails to recognise a couple of fundamental issues

... that strategy gets implemented not just by the taking of a few big decisions and actions, but by the **continuous stream of large and small decisions and actions** across all parts of the business,

... that the organisation on which those decisions and actions act is a **living, interacting system**, whose behaviour and performance is not obvious or intuitive.

These two factors mean that successful progress of the strategy can be undermined by seemingly minor decision-errors or shortcomings – not allocating quite enough people to some activity; making a slightly poor pricing decision; trying to launch too many products; spending too much cash on some activities, and too little on others, and so on. (*Spending too little, of course, is often down to the CFO's unwillingness to commit the spending that is truly required*).

What methods might help?

Given that successful implementation depends on the continuous stream of large and small decisions and actions, acting on a living, interacting system, what tools or methods exist that might help?

We can quickly dismiss the many forms of “**business model**” that are touted by many consultants and strategy writers. Most of those model frameworks are merely descriptive and qualitative, offering no means at all of figuring out **what to do, how much, and at what times, with what hard-numbers performance outcomes**.

Financial models are no use either, because they are not connected to how the interdependent activities of the business actually work. Often, they even work backwards – *How do we need profits to grow? ... So how must revenue grow? ... And to what % of that revenue must we limit the operating costs?* – and stop there! The Marketing function is told to figure out how to hit the revenue target and other functions are told to do whatever they have to do within those %-of-revenue cost limits. (*And we all know what happens if we fall*

short of the revenue growth target – cut the costs still more to try and hit that profit target. To hell with the strategy.)

And we can't build a truly joined-up plan in any case, because it's impossible with the **spreadsheet tools** on which we rely. The human brain simply can't wrap itself around all the interactions between the disparate parts of the business system by peering at rows and columns of numbers. And we know that if we try to do that, [the models will likely be flawed](#).

Data visualisation tools, such as [Power-BI](#) and [Mosaic](#), may help see performance data more clearly, and if used well may show relationships between the performance of different parts of the business. But they are just that – **visualisation** tools – not a functioning model of how the system actually works.

Balanced Scorecard to the rescue?

The most common tool by far for getting to an implementation plan, and one that does try to crack the problem, is the Balanced Scorecard (BSC). This at least recognises that financial performance outcomes arise from how the business system works and offers a way to think through and visualise some of the linkages in that system.

Unfortunately, the over-arching “theory” on which the BSC relies is not up to the challenge. In summary, that theory is that [1] **financial performance** depends on [2] fulfilling **customers' needs**, which depends on [3] effective **internal processes**, which arise from [4] strong organisational **learning and growth**.

But what exactly sits inside these parts of the BSC (*except for the financials*) is, like other business model methods, descriptive and qualitative. So BSC users' have to figure out for themselves what to do, how much and when, across all parts of the business. And they have to figure out what indicators to track to assess how well those decisions and actions are affecting the organisation's development and performance ... all without a rigorous model of how the system actually works.

Simulate reality

In just about every other field where we need to understand how a system works, we **simulate it!** Whether that is how an aircraft will fly, how a drug molecule will act on the body's chemistry, or how a distribution warehouse will operate.

So why don't we simulate how a business system works?

“That's impossible!” is the common reaction. Why do we think that?

... because we can see from those other examples that simulating things is a big **technical** challenge.

... because we believe there is too much “**detail complexity**” involved – the constant stream and variability among all the transactions and tiny events taking place.

... because we feel it is impossible to capture the how human **behaviour** affects the system.

These objections might be valid if we needed to capture the smallest detail of how the system works, every minute or every second. But we don't.

Just as a **map** on paper or satnav gives us a good enough overview at a high level to find our way around, a simulation at a high level can give us a good enough overview of how the business system works. What are the minimum features on that high level "map"?

- how **profit** and cash-flow come from revenue and costs
- how **revenue** comes from sales to customers, and price
- how **customers** are attracted by the products or services we offer, by marketing and sales effort and by our relative price
- ... and how customers are retained by those same factors and by the adequacy of our production, delivery and service
- how the rate at which **products** are developed, customers are won, production output is achieved, and service is delivered depend on the **staffing** in each function
- how **costs** come from the purchase of raw materials, components, or goods for resale, and from the staff we employ, the **capacity** or capacities we operate, and marketing costs.

(I still recall the Boston hotel lobby where I sat sketching this out on a piece of paper, realising that this is the core structure of any business system, and that we could implement it. Sure, there are a few modifications and additions for certain types of business, but not many, and they are not complex either.)

The key thing to realise here is that ...

**All of these items and relationships can be quantified,
on any time-scale that we wish.**

Need a bit **more detail**? When finding your way around, you would zoom the scale of the map a little. So "zoom" the business simulation a little too. Look in more detail, for example, at how numbers of customers are moving through steps of a marketing campaign, maybe split by segment and region; zoom in to how numbers of staff are moving through levels of seniority, split by team.

What is a Digital Twin business model?

So what does this "high level map" of a business system actually look like, and how does it work?

Each item in the business is shown on screen with a **time-chart** showing how its value has changed over time, and may change in future – e.g. "profit \$/month" or "customers won/month".

Each item is then linked with **causal connections** from those other items on which they depend – e.g. operating profit comes from gross profit and operating costs, and total customers won come from those won from marketing and those won from word-of-mouth.

Inside each item is a **simple calculation** – e.g. “revenue” *minus* “operating costs”, or “customers won from marketing” *plus* “customers won from word-of-mouth” (And that is how calculations are shown, not something like “C\$24 + B\$38”)

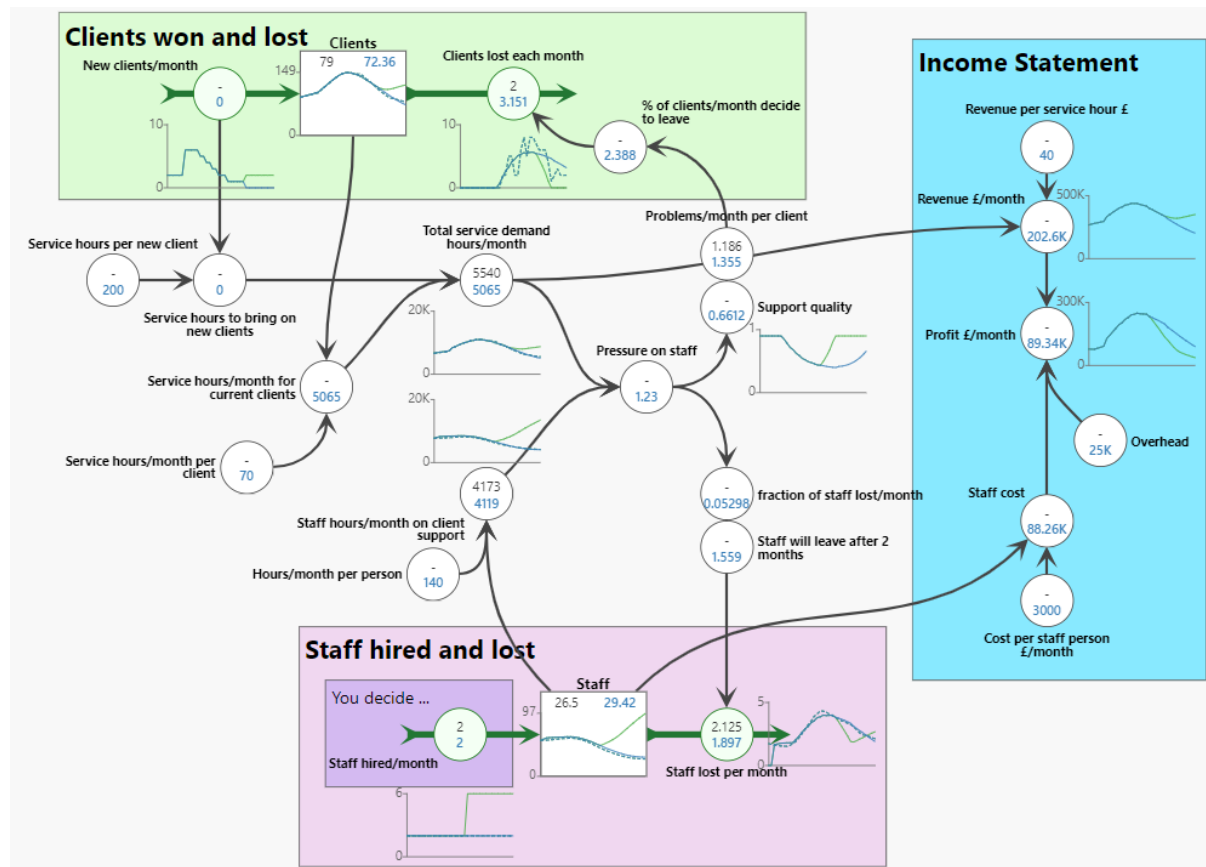
... and crucially for our strategy implementation purposes:

Some items are the **decisions and actions** we take each period, such as price, hiring and marketing promotions spend.

As explained above, we can and should do all this in short time-units, often weeks or even days, because that’s how fast things change and how fast we can respond.

To give a sense of what a digital twin business model actually is, here is a screenshot of a super-simple case – a small regional IT-support provider, going through a crisis of its own making and planning its recovery. Solid lines on the time-charts are simulated values, dash lines are real-world business data, and the green lines show a recovery plan from month 24. (Clients are revenue can be turned round quite fast – profit growth will follow).

Figure 1: Screenshot of a simple digital twin business model.



An explanation of how digital twin models work, why they are so reliable, and how to build them is beyond the scope of this article, but there is a full explanation in the workshop you can watch [here](#).

The workshop ends with a **half-price offer** for the self-paced, online course on building these models.

How do we know the model is right?

We must accept that no model is truly “right”, any more than a map is an exact replica of real geography. But the model can be a *very* good approximation – by which we mean that every item’s behaviour over time is a good match for real-world values we can see.

First, most numerical relationships are ***simple arithmetic***, as the calculations above of profit and total customers-won illustrate.

Some more complex relationships can be estimated from the types of ***research*** we already do – such as why customers choose our product or why staff leave.

Items we don’t know can often be ***figured out from others*** we do know – if A causes B causes C and we know A and C, then we can be somewhat confident of estimates for how B changes over time if its values reconcile with how we know A and C have changed.

And to help with all this, as in figure 1, each item shows both ***actual*** values from the business and ***calculated*** values – if those two time-series don’t match, something is wrong.

Lastly, there is a simple but ***rigorous 4-step process*** that is repeated a few times to ensure that the model is right – or right enough – at every step.

So how can management use this digital twin business model to implement strategy?

You can do three crucial things with these models:

- Build a business model ***before*** the strategy or initiative starts, to check it is achievable (*step 1 of the HBS-online process above says objectives should be achievable, not how to figure that out*). The modeling process ensures that it inevitably includes the decisions and actions needed to actually deliver the desired outcomes (*the ‘plan execution’ that HBS-online says you must do at their step 4.*)
- Watch the business play out its ***history*** in front of your eyes, and play out possible ***futures*** (*the ‘monitoring’ that HBS-online also says you must do at their step 4.*)
- Update model data every month, week or day and review how ***past*** decisions and actions are working out and adjust ***current and future*** decisions and actions. (*The ‘corrective action’ that HBS-online says you should take at their step 5 – but crucially, we cycle round this process much faster than conventional strategic planning processes assume*)

Remember we said that “implementation” implies a ***timed action plan***?

Well, that is what the values of those decisions and actions in the digital twin model actually ***are*** – when and by how much will we change the price, how many people will hire each week in all teams, how will we need to change the weekly spending on marketing promotions of each type, and so on.

Digital Twin business models and implementation plans are not “more work”!

“Oh no – not yet more analysis and reporting that we and our staff have to spend time on” you may cry!

Well, no, indeed – it is not “more work”. Because these models **replace** the work and reporting that you already spend time on, and replace it with activity that requires **less** effort and is more reliable.

Your analysts can build these models in half the time it would take with spreadsheet tools – even if that were possible to do, which it is not. And those models will have few errors, for the reasons under “*What is a Digital Twin business model?*”, above).

You and your team can have much more effective and shorter discussions about the strategy and action plan because the model is playing out in front of you what will likely happen under alternative choices. You get the “joined up management” you always wanted.

What needs can we fulfil with digital twin business models

Remember the problem we set out to solve? How to put together – and continually adapt - a quantified, timed action plan that can implement the strategy we chose.

We already said that that “strategy” could be a plan for some business **initiative**, as well as the overall **strategic plan** for the whole organisation. And that strategy could concern one key business **function** – the marketing plan or the HR strategy, for example.

But we can do still more. We also said we could zoom in on **a part** of the business. Well that means we can zoom in on solving specific **issues**, like how to fix a service quality problem, too-high staff turnover, or delivery delays. These too need a strategy to fix them and an action plan to implement that strategy.

And we are not limited to long time-scale plans and issues. Digital twin models can handle **fast-moving**, short-term processes and episodes.

Why not watch the workshop on digital twin business models right now.

[View the digital twin
business model workshop](#)

... and get the **half-price offer** for the online course on building these models.