

THE ECONOMY THAT KEEPS BECOMING · CHAPTER NINE

Knowing Whether It Worked

Chapter Nine of The Economy That Keeps Becoming

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THE LICENCE

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Chapter Nine of The Economy That Keeps Becoming

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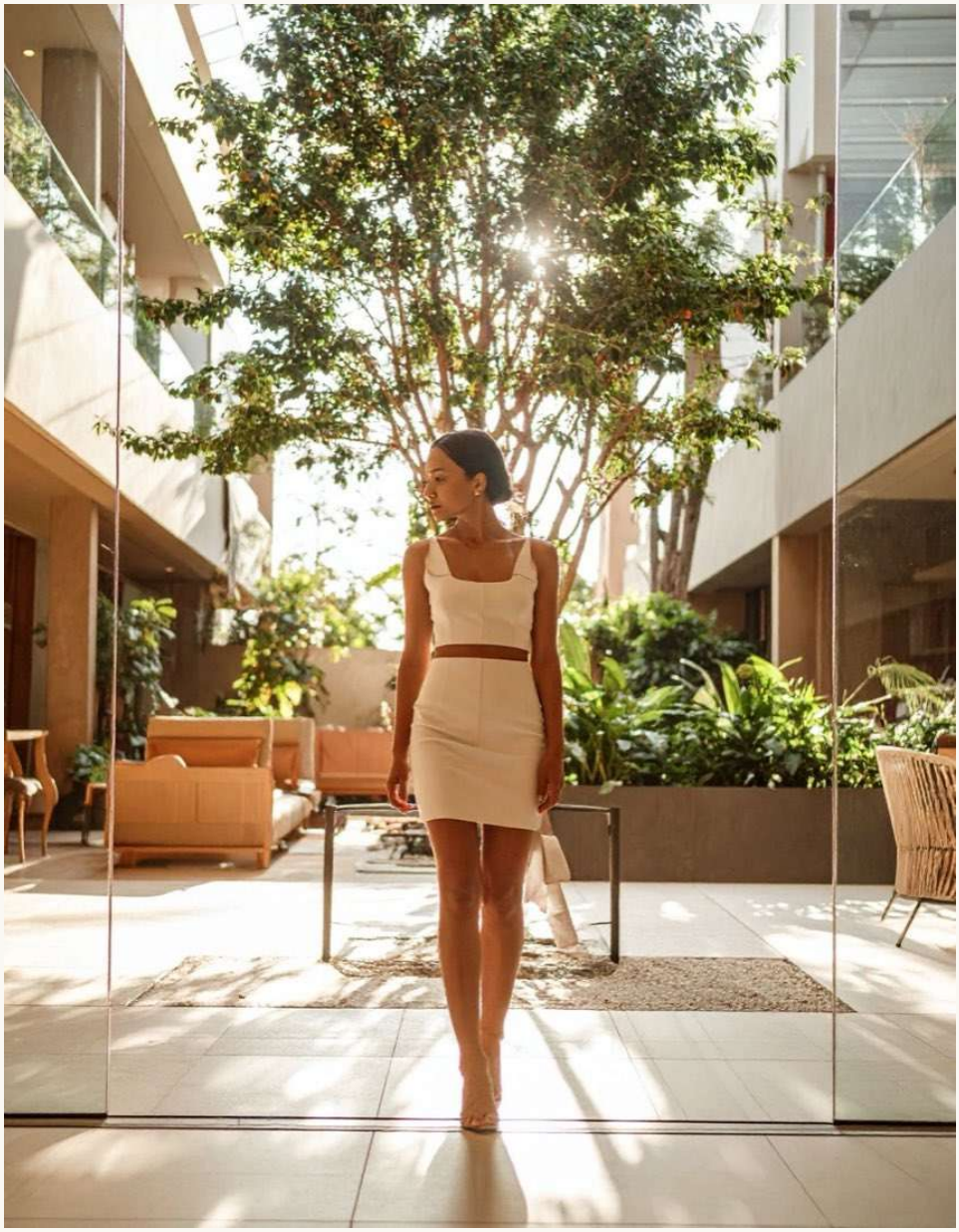
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ABSTRACT

There is a problem at the centre of measuring anything in a complex adaptive system, and it is worth stating before any advice is given. The people inside the system can see the measure. They adapt to it. And once they adapt to it, the measure no longer tells you what it told you before. Two social scientists stated this independently in the 1970s, and their formulations are still the clearest. The psychologist Donald Campbell, in a 1979 paper in Evaluation and Program Planning titled "Assessing the Impact of Planned Social Change", put it as a law of social indicators: the more any quantitative indicator is used for social decision-making, the more subject it will be to corruption pressures, and the more apt it will be to distort and corrupt the social processes it was meant to monitor. The economist Charles Goodhart, writing about monetary policy at the Bank of England a few years earlier, made a narrower observation that has since been generalised under his name: that a statistical regularity tends to collapse once pressure is placed on it for control purposes.

CHAPTER NINE

Knowing Whether It Worked



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The measure that moves

There is a problem at the centre of measuring anything in a complex adaptive system, and it is worth stating before any advice is given. The people inside the system can see the measure. They adapt to it. And once they adapt to it, the measure no longer tells you what it told you before.

Two social scientists stated this independently in the 1970s, and their formulations are still the clearest. The psychologist Donald Campbell, in a 1979 paper in *Evaluation and Program Planning* titled "Assessing the Impact of Planned Social Change", put it as a law of social indicators: the more any quantitative indicator is used for social decision-making, the more subject it will be to corruption pressures, and the more apt it will be to distort and corrupt the social processes it was meant to monitor.[51] The economist Charles Goodhart, writing about monetary policy at the Bank of England a few years earlier, made a narrower observation that has since been generalised under his name: that a statistical regularity tends to collapse once pressure is placed on it for control purposes.[52]

Neither of them was writing about complexity economics, but both were describing the El Farol problem from chapter 2 in another setting. A forecast that everyone uses defeats itself. A measure that everyone is judged by changes what everyone does. In a system of agents who learn, measurement is not observation from outside. It is one more loop.

This chapter is about how to measure anyway, honestly, in a way that helps the practice of chapter 8 learn rather than fool itself. It begins with Santa Anna's book, because his critique of the most famous measure in economics is a case study in exactly this problem.



What the largest measure misses

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What the largest measure misses

Ecstatic Economics opens its diagnosis of the extractive economy with a criticism of gross domestic product, and it makes the point with two short examples that are hard to forget:

> *A car accident generates GDP.*[53]

And, a few paragraphs later:

> *A forest standing contributes zero. Cut it down, and GDP increases.*[53]

The point is not that GDP is a bad statistic. Its designers were clear about what it does and does not count. The point is about what happens when a measure built for one purpose becomes the target of a whole society's decisions. A measure that counts the flow of market transactions and is blind to the stock of living capital will, once it is the thing everyone is judged by, reward the conversion of living capital into transactions. The forest is cut not because anyone wants it gone but because the measure sees it only when it falls.

Every organisation has its own version of this. A support team judged on tickets closed per hour learns to close tickets quickly rather than to solve the problems behind them, and the number of tickets rises. A sales team judged on new contracts signed learns to sign contracts that do not renew. A household that judges its month by the balance on one account learns to move money out of sight rather than to spend less. In each case the measure is accurate, and in each case it is steering the system toward something nobody wanted.

The book is also honest about the limits of the alternative. Writing about national wellbeing budgets, which measure health, connection and environmental quality alongside output, it says plainly:

> *The framework is necessary but not sufficient.*[54]

A better measure does not, on its own, change the loops that produce the outcomes. It changes what can be seen. The practice of this book needs both.

Five principles for measuring a living system

The principles below are this book's synthesis of Campbell's warning, the living-systems reading and the practice of chapter 8. They are not a standard, and they are not the only way to proceed. They have the merit of being usable by a leader without a statistician, and of failing visibly when they fail.

1 · Predict first

The single most protective habit in measurement is writing down, before acting, what you expect to see and what would prove you wrong. Chapter 8 makes this a rule for every probe. The reason is that complex systems are unusually generous to hindsight. Almost any result can be explained afterward by a story about loops, which is exactly the weakness the critics of chapter 3 identify. A prediction written in advance and kept by someone else is the only reliable defence.

A prediction should name a measure, a baseline, a direction, a size and a time. "At least six new small clinics in twelve weeks, against two in the same regions over the same period last year" names all five. If one of the five is missing, the prediction can usually be satisfied by whatever happens.

2 · Measure the loop, not only its output

A reinforcing loop has several links, and the output is only the last. Larkfield's referral loop, in chapter 7, produced new customers; that was its output. But the loop ran through several earlier links: clinics using the product, clinic managers finding something worth praising, managers meeting colleagues at regional events, colleagues trying the product. A leader who measures only new customers will learn that the loop has weakened months after it began to weaken. A leader who also measures one earlier link, for instance how many existing customers would recommend the product and what they would say, will see the change sooner.

The general rule: for each loop the practice cares about, choose one measure near its end and one near its beginning. The early measure gives warning; the late one confirms.

3 · Pair every measure with its shadow

Campbell's law predicts that any measure used for decisions will be pushed on. The defence is to pair each measure with a second that would move the wrong way if the first were being gamed. Tickets closed per hour, paired with the share of tickets reopened within a week. New contracts signed, paired with first-year renewal. Monthly spending, paired with the balance of money owed. Neither number on its own is trustworthy. Together they are much harder to fool, because improving one by gaming it tends to worsen the other.

A useful test for any proposed measure is to ask: if I were judged by this number and wanted to look good without doing the work, what would I do? The answer names the shadow measure.

4 · Bring the measure to the people in the loop

Chapter 4 argued that the house's distinctive diagnosis concerns severed feedback: consequences that never reach the people who act. Measurement is one of the main ways feedback is restored or kept severed. A measure that is collected from the people in a loop, summarised by an analyst and reported to leadership has not restored any feedback to those people. A measure that is shown to them, in a form they can use, close enough in time to steer by, has.

Santa Anna's book, writing about the trust that wellbeing measures can build when citizens feel their whole lives are being attended to, puts the economic case in two short sentences:

> *Trust, it turns out, is extraordinarily efficient. Suspicion is extraordinarily expensive.*[54]

A measure experienced by the people in the loop as surveillance will generate suspicion, and Campbell's corruption pressures with it. A measure they experience as information for their own use is less likely to be gamed, because they are its first users.

5 · Read the distribution, not the average

Complexity economics predicts shapes, not points (chapter 3). In systems with increasing returns, outcomes tend to be unevenly distributed: a few products, customers, teams or months account for most of the result. An average hides this. A probe that produced a modest average improvement may have produced a large improvement in a few places and none in the rest, and the few places are where the next cycle should look.

The practical habit is to look at every result as a list before looking at it as a number. Which clinics came? Which teams changed? Which weeks were different? The list shows the shape; the number only summarises it.



Questions for the second reader

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Questions for the second reader

The second reader in chapter 8's practice exists to falsify the findings. These are the questions that do most of the work, in the order to ask them.

1. Was the prediction written before the probe began? If not, set the result aside as a hypothesis for the next cycle.

2. What else changed during the probe? A new competitor, a change in the season, a staff change, a price change elsewhere. If any of these could explain the result, say how much.
3. Who chose the participants? If the people running the probe chose which customers, teams or regions took part, they may have chosen the ones most likely to succeed.
4. Did people know they were being measured? If so, the measure may have moved because of the attention rather than the intervention. That is not always bad, but it should be named.
5. What is the shadow measure doing? If the main measure improved and the shadow worsened, the improvement is suspect.
6. Is the result an average, and what is the distribution? See principle 5.
7. Would the result surprise anyone who works in the loop? If the people closest to the work are not surprised, the probe may have measured something they already knew. That is useful confirmation, but it is not new learning.

Measuring a lock-in loosening

Some of the most important changes in this book's practice are slow: a lock-in loosened over several cycles, as Larkfield set out to loosen its old integration in chapter 7. They need their own measures, because the arrangement itself will look unchanged for a long time.

The useful measure is usually dependency: how much of the system now depends on the arrangement, and is that share falling? For Larkfield, it would be the share of support tickets involving the old integration, and the share of new clinic logic written so as not to depend on it. For a household, it might be the share of monthly spending that renews automatically. For a regional network like those in chapter 5, it might be the share of a capability held in a single firm. Measure the share at the start, predict where it will be after two cycles, and read it then.



Measuring a restored loop

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Measuring a restored loop

A suture, in this book's sense, is a route by which a consequence travels back to the people who act. Three measures tell whether one is working.

- Arrival. Is the consequence reaching the people it was meant to reach, on schedule? Count it. Restored loops decay; an arrival rate that falls is the first sign.
- Use. Are the people who receive it doing anything differently? Ask them, in their own words, and record the answers as a list.
- Effect. Is the loop the suture was meant to strengthen running more strongly? This is the slowest and least certain measure, and it should be predicted in advance like any other.

In Larkfield's case, arrival was the monthly reading of referrers' words to engineers; use was the engineers' decision to improve the boarding screen; effect, still uncertain at twelve weeks, would be whether referrals rose in the following year.

What not to measure

Measurement costs attention, and attention is the scarcest thing in most organisations. A few warnings.

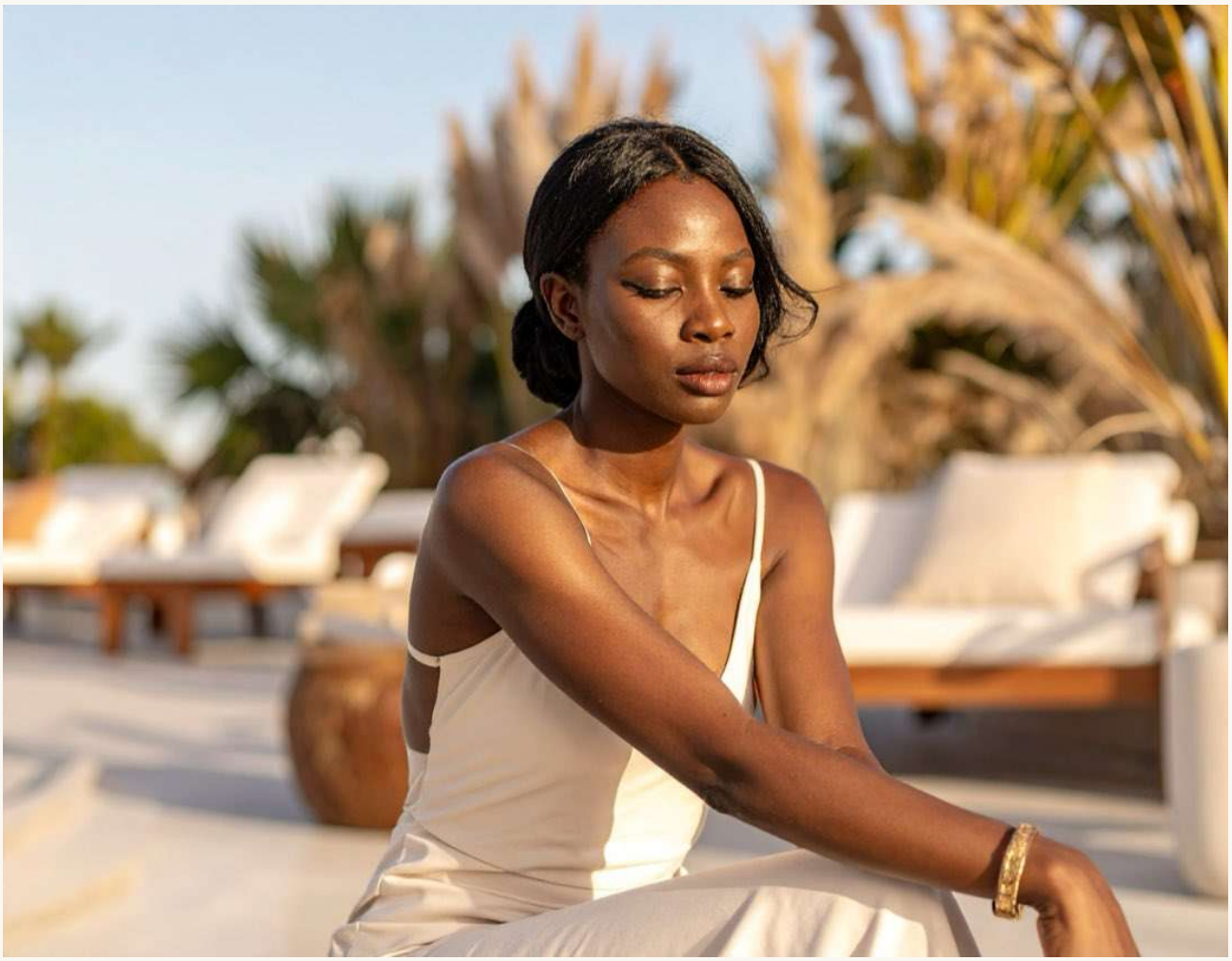
Do not measure what nobody will act on. A figure that no one will use to decide anything is a cost with no return, and it adds to the noise in which useful figures are lost.

Do not build a dashboard before the practice has run once. The first cycle of chapter 8 will show which measures matter. A dashboard built before then encodes the guesses of week one.

Do not measure people when you mean to measure loops. A loop is a pattern among people; measuring individuals within it tends to produce the corruption pressures Campbell described, and to turn a shared pattern into individual blame. Chapter 4's principle of emergence without a villain applies to measurement as much as to diagnosis.

The household reading

A household needs very few measures. The Kitchen-Table Map in chapter 11 suggests four: the share of monthly income that is committed before it arrives (a lock-in measure), the amount set aside in the month (a reinforcing-loop measure), the balance owed (the shadow), and one measure that is not money at all, chosen by the household, of whether its members feel the month went well. The last is the household's version of the wellbeing budget. It cannot be gamed without the household noticing, because the people measured are the only people reading it.



The Tool: The Honest Dashboard

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The Tool: The Honest Dashboard

One page, completed by the steward with the second reader. No more than six measures in total.

1 · The loops being measured

Loop 1 (from the Loop Ledger):

Loop 2:

2 · Each loop, measured near its beginning and near its end

LOOP	EARLY MEASURE (A LINK NEAR THE START)	LATE MEASURE (THE OUTPUT)	SOURCE OF EACH FIGURE	HOW OFTEN READ

3 · Shadows

MEASURE	IF I GAMED THIS, WHAT WOULD I DO?	THE SHADOW MEASURE THAT WOULD REVEAL IT

4 · Who sees each figure

MEASURE	SEEN BY THE PEOPLE IN THE LOOP? YES / NO	HOW SOON AFTER IT HAPPENS?	IN WHAT FORM?

5 · Lock-in dependency

Arrangement being loosened:

Share of the system that depends on it today: · source:

Predicted share after two cycles:

6 · Restored loop

Arrival: what is supposed to reach whom, how often? · actual arrival so far:

Use: what have the recipients done differently?

Effect: predicted · observed

7 · The second reader's seven questions Tick each one asked of the latest result: prediction first ☐ · what else changed ☐ · who chose participants ☐ · knew they were measured ☐ · shadow measure ☐ · distribution ☐ · surprising to the people in the loop ☐

A note on method

The five principles and the second reader's questions are this book's synthesis and are not drawn from a single source.

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