

THE GAIN WAS ALWAYS SHARED · CHAPTER FIVE

Twenty-One Defects in a Thousand

Chapter Five of The Gain Was Always Shared

Ammanuel Santa Anna

Santa Anna, A. (2026). Twenty-One Defects in a Thousand. In The Gain Was Always Shared (ch. 5). Luminous Prosperity Inc. https://doi.org/10.5281/zenodo.23989511
Luminous Library Licence 1.0 · business.hautelumiere.life/library/the-gain-was-always-shared

THE LICENCE

Twenty-One Defects in a Thousand
Chapter Five of The Gain Was Always Shared

The Gain Was Always Shared · Chapter Five. The Haute Lumière edition, 2026. © 2026 Ammanuel Santa Anna.

Released under the Luminous Library Licence 1.0 (hautelumiere.life/library-licence): free to read, share, quote, translate and teach, non-commercially, for ever. The Author keeps every other right, including every commercial right.

Published by Luminous Prosperity Inc. for Haute Lumière. Author ORCID 0009-0008-3244-0306.

DOI 10.5281/zenodo.23989511 · this record's page: business.hautelumiere.life/library/the-gain-was-always-shared/05-twenty-one-defects-in-a-thousand/

Please cite as: Santa Anna, A. (2026). Twenty-One Defects in a Thousand. In The Gain Was Always Shared (ch. 5). Luminous Prosperity Inc. https://doi.org/10.5281/zenodo.23989511

Chapter Five of The Gain Was Always Shared. The whole book, with every chapter, is at business.hautelumiere.life/library/the-gain-was-always-shared (DOI https://doi.org/10.5281/zenodo.23989502).

A NOTE BEFORE YOU READ

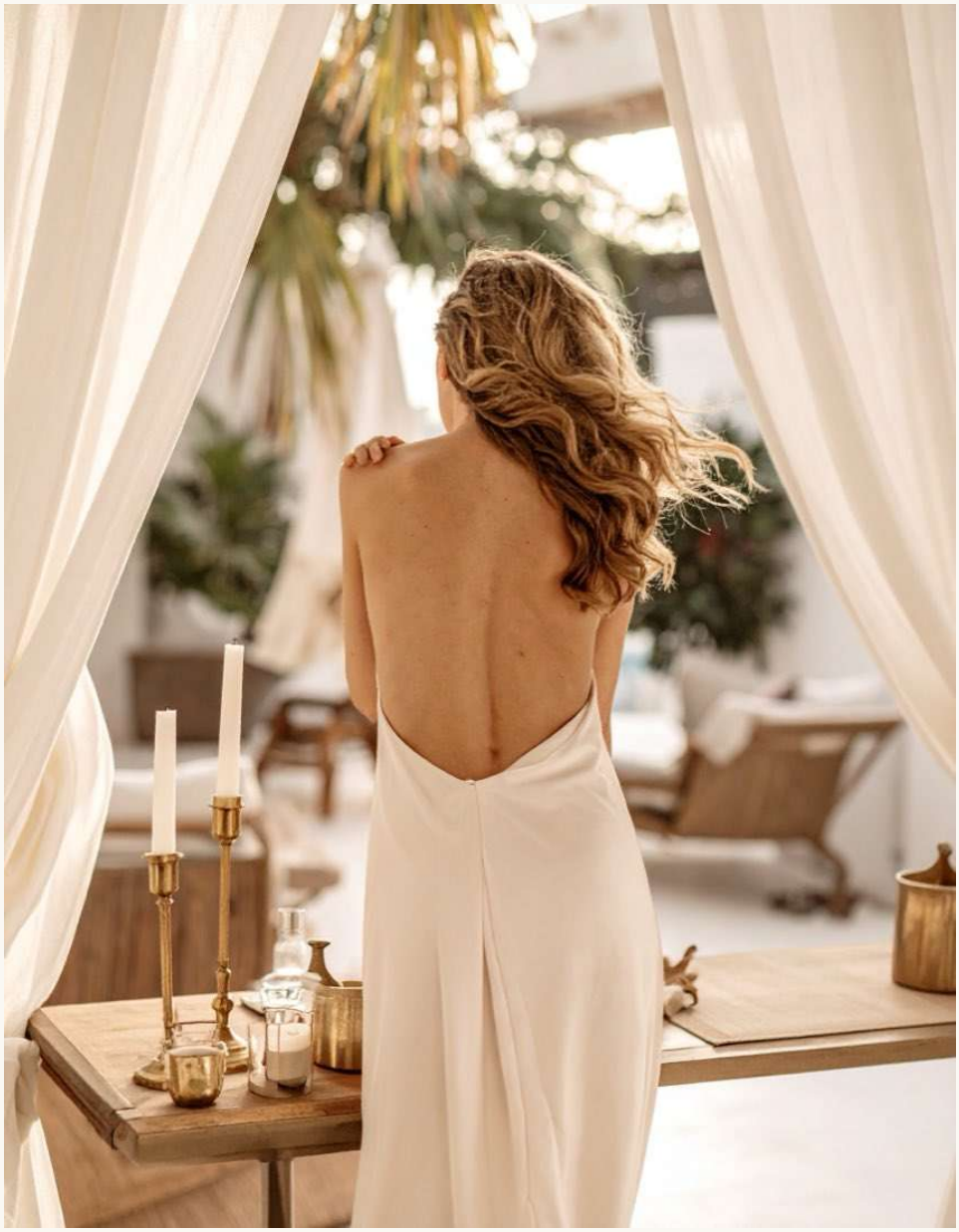
This work is offered for education and leadership development. It is not legal, financial, accounting, investment, medical or psychological advice; take the advice of a qualified professional who knows your circumstances. Companies and events are described from the public record as the author understands it; characterisations are the author's analysis. Examples are illustrative, and no particular outcome is promised to any reader.

ABSTRACT

Here is a number worth holding in the hand. At a manufacturing company studied by Larry Hatcher and Timothy Ross, defective products ran at twenty point nine three per thousand shipped while the plant paid its people by individual piecework. After the company ended piecework and introduced a plant-wide gainsharing plan with a structured system for employee ideas, the figure was two point three one per thousand. That is a fall of roughly nine-tenths. It was measured by interrupted time-series analysis over more than four years of objective data, which means the authors looked for a change in the trend at the moment of the intervention rather than simply comparing two averages. They also found a significant fall in grievances at the same moment, and surveys taken two months before the change and fifteen months after showed better perceptions of teamwork and more concern for performance.

CHAPTER FIVE

Twenty-One Defects in a Thousand



Twenty-One Defects in a Thousand

HAUTE LUMIÈRE · THE GAIN WAS ALWAYS SHARED · CHAPTER FIVE

Before and after piecework

Here is a number worth holding in the hand. At a manufacturing company studied by Larry Hatcher and Timothy Ross, defective products ran at twenty point nine three per thousand shipped while the plant paid its people by individual piecework. After the company ended piecework and introduced a plant-wide gainsharing plan with a structured system for employee ideas, the figure was two point three one per thousand.[37]

That is a fall of roughly nine-tenths. It was measured by interrupted time-series analysis over more than four years of objective data, which means the authors looked for a change in the trend at the moment of the intervention rather than simply comparing two averages. They also found a significant fall in grievances at the same moment, and surveys taken two months before the change and fifteen months after showed better perceptions of teamwork and more concern for performance.

It is also one company. The authors interpret it through Morton Deutsch's theory of cooperation and competition: individual piecework set workers against each other, and a shared measure set them alongside each other. That is a plausible explanation and it is theirs. The study shows that quality changed when the pay system changed; it cannot show that the same change would produce the same result in a different plant, with different products and different people.

This chapter works through the best-documented public cases in that spirit. The chapters before it told the origin, the critiques and the house's living-systems reading. This one does the arithmetic, traces every figure to its source, says what kind of evidence each is, and then puts the lessons in order in a composite plant, labelled as one, so that a leader can see the first year in sequence.

The Scanlon plant, up to nine years

Michael Schuster's study of a Scanlon Plan in a large manufacturing plant, published in 1984, is one of the longest single-site records in the literature.[38] He collected monthly data on productivity (output per hour), employment and voluntary turnover over a period of seven and a half to nine years, depending on the measure, and analysed it as an interrupted time series.

His abstract reports four findings, and each is worth reading at its exact strength.

An abrupt positive change in productivity, followed by positive trends for two product lines. "Abrupt" is a technical word here: the level of output per hour stepped up at the point the plan began, rather than drifting upward over years. A step at the moment of intervention is harder to attribute to background change than a slow drift.

Stable employment and turnover, in contrast to wider shifts in the industry. This is easily overlooked and arguably the most important finding. A plan that raises productivity by cutting jobs has moved the gain

from one group to another. A plan that raises productivity while employment holds steady has created something.

Consistent bonuses. The plan paid. The abstract does not give the amounts, and this chapter does not supply them.

More than two thousand four hundred and seventy-seven suggestions from the production committees, of which seventy per cent were implemented. This is the up-current of Chapter 4, counted.

What the study cannot show is equally specific. It is one plant. Schuster's own measurement cannot separate the effect of the bonus from the effect of the committees, since both began together. And it does not say what the plant was like before the plan in terms of trust between labour and management, which the later research on knowledge sharing suggests matters a great deal.

A hundred and twelve firms, read carefully

Robert Kaufman's 1992 study of Improshare is the largest quantitative study in this set.[39] He analysed 112 responses to a 1988 questionnaire sent to all known users of the plan. The figures:

- Median productivity increase in the first year: about eight per cent.
- Cumulative gain by the third year: seventeen and a half per cent, after which gains began to level off.
- Mean increases were larger than the medians and followed the same pattern, which means a minority of firms gained a great deal and pulled the average up.
- A sizable part of the gain reflected lower defect and downtime rates.
- Firm size was inversely related to productivity gain: smaller firms gained more.

Each figure has a source and a limit. The productivity figures are as reported by the firms, not measured independently. The sample is firms still known to be using Improshare in 1988 who chose to reply; firms that tried the plan and dropped it are unlikely to be well represented, and they are exactly the firms whose results a cautious reader most wants to see. The finding that the median was lower than the mean is a useful warning: if you are going to use one figure from this study to think about your own firm, use the median, and treat even that as an upper estimate.

The finding about defects and downtime is the one that best survives these limits, because it describes the mechanism rather than the size. It agrees with the Hatcher and Ross plant. Across very different designs, the gains in these studies come disproportionately from quality and from the machine standing idle less often. That is knowledge about how work is organised, and it lives with the people doing the work.

Ammanuel Santa Anna's *Ecstatic Economics* frames the general point in a sentence written about workplaces that change what drives performance rather than how hard it is pushed:

> *The vitality-centered workplace doesn't reject productivity. It redefines what drives it.*[40]

The Improshare figures, read for their mechanism, are a small instance of that redefinition. The gain is not mostly people working faster. It is fewer things going wrong.



Thirty-three cases and a disagreement

HAUTE LUMIÈRE · THE GAIN WAS ALWAYS SHARED · CHAPTER FIVE

Thirty-three cases and a disagreement

Two reviews summarise what predicts success across many plans, and they agree on most points and disagree on one, which is worth knowing.

Robert Bullock and Mark Tubbs, in 1990, gathered thirty-three published case studies of gainsharing plans implemented over fifty years and tested which features predicted success.[41] The ones that did were employee involvement in designing the plan, the use of outside practitioners, formal involvement structures such as committees, and employees' favourability towards the plan. Situational conditions, with the exception of a participative management style, did not predict success. And success was robust across organisation size, union status, technology and environment.

Dong-One Kim, in 1999, surveyed 211 organisations with gainsharing experience and asked a different question: which plans survived?[42] His associations included employee approval by vote, union participation in running the plan, retraining and new-employee training, a small bonus group, labour intensity, sound financial health and major capital investment. And he found survival associated with *low* reliance on outside consultants.

So one review finds outside practitioners associated with success, and the other finds reliance on outside consultants associated with failure to survive. Both can be true. A practitioner who helps a firm design its plan and build its committees, then steps back, may raise the odds of a good start. A firm that continues to rely on outsiders to run the plan may never come to own it, and plans that are not owned end. The finer point for a leader is in the verb. Use outside help to *build* the participation system. Do not use it to *operate* one.

Both reviews share a weakness Chapter 3 named: published cases and surviving programmes over-represent success. Both also agree on the feature that matters most, which is that the people covered by the plan take part in designing and approving it.

A composite: the first year at a packaging plant

What follows is a composite, built for teaching. It is not a real company, and its figures were set by the writer to illustrate the sequence the research suggests, not drawn from any filing or study. Its purpose is to show the order of work in the first year, which is where most plans are won or lost. It describes the participation system only; it does not describe how any gain would be calculated or divided.

The plant. One hundred and sixty people on three shifts, packing dried goods for supermarket own-label brands. A plant manager, six supervisors, a small maintenance team, one quality technician. Margins thin, defects high enough that two customers have complained in writing.

Months one to three: the answer before anything else. The plant manager introduces one rule and nothing else. Any idea, from anyone, about cost, quality, safety or waste is written on a card or entered on a tablet by the canteen, and receives a written answer within ten working days, with a reason if declined. Supervisors are told they will be measured on one thing in this period: the share of their team's ideas answered

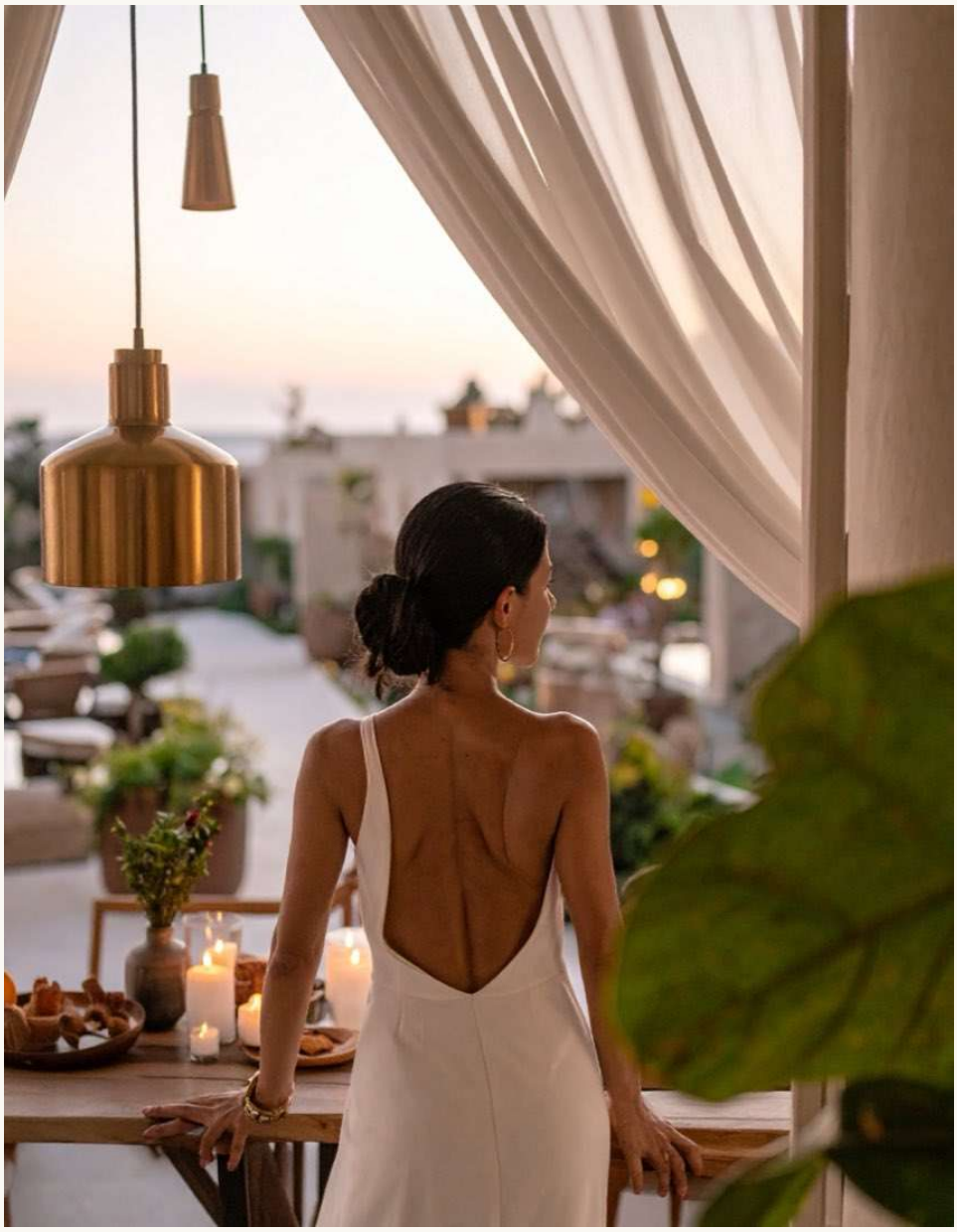
on time. In the first month the plant receives eleven ideas. By the third it receives forty. The plant manager answers every one, some of them with "no, because", and posts the answers on the board.

Months three to six: the measure made visible. The quality technician and two volunteers from the floor choose a measure the plant can affect: defects per thousand cases shipped, broken down by line. They post it weekly, by the board where the answers go. They also start a second column: downtime minutes per shift. No money is attached. People begin to connect their cards to the numbers. A card from a night-shift operator about a sealing jaw that drifts out of alignment after about four hours is implemented; the defect line for that machine falls, and the card's author is named beside the figure.

Months six to nine: the committees. With the help of an outside facilitator for three months, the plant forms one production committee per shift and a screening committee above them, with elected members from the floor and one supervisor each. The facilitator trains the committees to read the measure and to evaluate ideas, then steps back. The answer rule passes to the committees, with the plant manager answering any idea the committees cannot decide.

Months nine to twelve: the design and the vote. Only now does the plant design a shared reward, with the committees, and put it to a vote of everyone it would cover, together with the written rules for changing the base. The design is the plant's own business and is not described here. The vote passes. The plant manager notes, privately, that the twelve months of answered cards are what made a yes possible.

What the composite is for. It puts in order four things the research finds associated with success or survival: formal involvement structures, employee involvement in design, approval by vote, and outside help used to build rather than to run. And it puts first the thing Chapter 4 argued matters most: the answer. In a real plant some of these steps would take longer, some would fail and need repeating, and a leader might reasonably compress the sequence. The order is the lesson.



The finer points of working it

HAUTE LUMIÈRE · THE GAIN WAS ALWAYS SHARED · CHAPTER FIVE

The finer points of working it

The cases, read together, give a leader six specific points of practice.

Collect the measure before you share it. Schuster and Hatcher and Ross could show a change at the moment of intervention because they had data from before. A firm that begins sharing on day one has no before. Twelve months is better than six; six is better than none.

Count the ideas, the answers and the implementations. Schuster's seventy per cent implementation rate is a figure any firm can produce about itself. It is the plainest available reading of whether the up-current is real. Post it where the people who wrote the ideas can see it. Santa Anna's book, writing about pay transparency, makes a claim about visibility that applies equally to a ledger of ideas:

> *The nervous system relaxes when it can see the landscape clearly.*[43]

A team that can see how many of its ideas were answered and used has stopped guessing whether the system is listening.

Watch quality and downtime first. Both Kaufman's survey and the Hatcher and Ross plant locate much of the gain there. If a plan is working, these are likely to move before output per hour does.

Hold employment steady and say so. Schuster's plant kept employment and turnover stable. People will not volunteer an idea that removes their own job. If a firm cannot promise that an idea will not cost the person who has it their place, the up-current will carry only the ideas that cost someone else theirs.

Use outside help to build, then step back. The disagreement between Bullock and Tubbs and Kim resolves into this practice.

Let the people covered vote. Both reviews, in different words, put participation in design and approval near the top.

Santa Anna's book has a line about the cooperative firm's response to crisis that reads as a summary of the composite's spirit. Describing how Mondragon handled the collapse of one of its cooperatives, it says:

> *The crisis was metabolized by the community rather than externalized onto individuals.*[44]

A gainsharing plan, at its best, does something similar with improvement. The gain is found by the community and returned to it, rather than taken from it.

The board by the canteen

The same sequence holds at the scale of a practice of five or a household with a shared budget, and Chapter 11 works it through at that scale. Ask before you share. Answer every idea. Make one number visible. Let the people affected help design the rule.

On the board by the canteen, in the composite plant, the card about the sealing jaw is still pinned beside the line it changed, the operator's name in pencil, the number under it smaller than it was.

The Tool: The First-Year Ledger

Keep this as one page per month for the first twelve months of any participation system. Every entry is a count or a date, not an opinion. It is the record that lets a firm become its own case study.

Header

Unit: · People covered: ___ · Month ___ of 12 · Prepared by:

1 · The up-current

- Ideas received this month: ___ · from how many different people: ___
- Ideas about quality ___ · downtime ___ · cost ___ · safety ___ · the process itself ___

2 · The answer

- Answered within the agreed ___ days: ___ of ___
- Median days to answer: ___
- Declined with a reason: ___ · declined without one: ___ (target: none)

3 · Implementation

- Ideas implemented this month: ___ · cumulative implementation rate: ___ %
- Implemented ideas whose effect was reported to the person who had them: ___ of ___

4 · The measure (collected before anything is shared)

Measure chosen: · this month: ___ · same month last year: ___

- Defects per thousand: ___ · downtime minutes per shift: ___

Outside events this month that moved the measure, and by roughly how much:

5 · Employment

- Headcount at start of month: ___ · at end: ___ · voluntary leavers: ___

Any role removed because of an implemented idea? yes / no · if yes, where the person went:

6 · Structure

- Committees meeting this month: ___ of ___ scheduled

Outside help in use: none / building / operating · planned end date for outside help:

- Vote held on design and rules? not yet / yes (date ___, result ___)

7 · One line

The most useful idea this month, in the words of the person who had it:

A note on method

The packaging plant in this chapter is a composite built for teaching. It is not a real company, its figures were set by the writer, and its sequence is this book' recommendation drawn from the studies cited, not a finding of any one of them.

References

1. Hatcher, L., & Ross, T. L. (1991). From individual incentives to an organization-wide gainsharing plan: Effects on teamwork and product quality. *Journal of Organizational Behavior*, 12(3), 169–183. https://doi.org/10.1002/job.4030120302. One company; interrupted time-series analysis of more than four years of data and surveys before and after. It cannot show the result would transfer to another plant.
2. Schuster, M. (1984). The Scanlon Plan: A longitudinal analysis. *The Journal of Applied Behavioral Science*, 20(1), 23–38. https://doi.org/10.1177/002188638402000107. One large plant; the bonus and the committees began together, so their separate effects cannot be distinguished.
3. Kaufman, R. T. (1992). The effects of Improshare on productivity. *ILR Review*, 45(2), 311–322. https://doi.org/10.1177/001979399204500208. Self-reported results from 112 firms still known to use the plan in 1988.
4. Santa Anna, A. *Ecstatic Economics: Wealth Creation Rooted in Vitality, Not Extraction*, chapter 4 (variant), "The Vitality-Centered Workplace". The Luminous Developmental Canon, Luminous Prosperity Inc.
5. Bullock, R. J., & Tubbs, M. E. (1990). A case meta-analysis of gainsharing plans as organization development interventions. *The Journal of Applied Behavioral Science*, 26(3), 383–404. https://doi.org/10.1177/002188639026301l. Thirty-three published cases; published cases over-represent successes.
6. Kim, D.-O. (1999). Determinants of the survival of gainsharing programs. *ILR Review*, 53(1), 21–42. https://doi.org/10.1177/001979399905300102. A 1992 survey of 211 organisations; associations, not causes.
7. Santa Anna, A. *Ecstatic Economics*, chapter 4, "Compensation Transparency and Felt Fairness".
8. Santa Anna, A. *Ecstatic Economics*, chapter 4, "Worker Cooperatives: Ownership as Somatic Practice".

Twenty-One Defects in a Thousand

Ammanuel Santa Anna · Luminous Prosperity Inc. · Haute Lumière

Set in Cormorant Garamond and Manrope.

Read the Business Library at business.hautelumiere.life/library.

Luminous Library Licence 1.0 · hautelumiere.life/library-licence

REQUEST A CONVERSATION

business.hautelumiere.life/book/?kind=gainshare

The Business Library

business.hautelumiere.life/library/

The packages

hautelumiere.life/pricing/