PASTBEHAVIOR FIELDWORK 048

The Invisible Value Problem

Why making the work disappear does not make the value disappear, and what has to stay visible instead.

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THE WORK

Visible → Invisible

Monitoring, planning, intervention and repair move out of sight.

THE OUTCOME

Visible → Still visible

The engine is flying. The payroll is right. The file comes back.

RESULT

Value remains legible

There is an intuitive worry about automation, and most people who run a software or service business have felt some version of it.

You do more for the customer. The customer sees less of it. The system runs in the background. The machine stops breaking. The payroll arrives correctly every fortnight without anyone thinking about it. The security product blocks something nobody knew was coming.

Eventually somebody asks why they are still paying.

We went looking for the historical record of that happening. It is thinner than expected.

WHERE IT SHOULD HAVE HELD

The case that should have proved it

Backup is the cleanest place to test the worry, because backup is designed to be forgotten.

A backup service does its job quietly. On an ordinary day the customer receives nothing they can feel. The best possible experience is that nothing happens at all, for years. If the invisible-value problem is real anywhere, it should be real here.

Backblaze launched automatic online backup in 2008, built so that the customer did not have to choose what to protect or remember to run anything. Carbonite had done the same two years earlier and described its own product as set and forget.

Then Backblaze raised its price. Then it raised it again.

In its SEC filing the company disclosed that the 2019 and 2021 Computer Backup price increases had no material impact on customer retention. At the end of 2021, Computer Backup gross customer retention was 91% and net revenue retention was 102%.

BACKBLAZE COMPUTER BACKUP, YEAR-END 2021

2019 + 2021	91%	102%
Price increases, no material retention impact disclosed	Gross customer retention	Net revenue retention

The case where the hypothesis should have worked best did not.

An intentionally invisible product, sold on prevention, with no observable benefit on a normal day, raised price twice and kept its customers.

Carbonite's numbers point the same way. Its annual retention rate sat between 83% and 87% over five years, with renewal rates between 80% and 85%.

This is where the hypothesis had its best chance. It did not take it.

HIDDEN WORK, VISIBLE OUTCOME

The other version

Rolls-Royce shows what is actually going on.

TotalCare moved responsibility for jet engine maintenance from the airline to Rolls-Royce. Engine health monitoring became a core part of the arrangement around 1999, and maintenance planning, workscope creation and overhaul moved steadily into Rolls-Royce's hands. The airline stopped watching the work.

It paid a fixed amount per engine flying hour. Rolls-Royce earned more when the engine stayed in service and less when it did not.

By 2010, 76% of the large civil engine fleet was covered by TotalCare and service revenue had grown to more than half of group revenue. Emirates later extended a TotalCare agreement on its A380 engines into the 2040s.

THE WORK — LESS VISIBLE

- ~~Engine monitoring~~
- ~~Maintenance planning~~
- ~~Overhaul~~

The airline stopped watching any of it.

THE OUTCOME — OBVIOUS

Engine flying

Priced per engine flying hour. The purchaser can verify it without supervision.

The maintenance work became close to invisible. The commercial value did not move.

The reason is not complicated. An airline may never see a workscope. It knows perfectly well whether the engine is flying.

That is the distinction the study kept running into, and it is not the one we started with.

THE SEPARATING CONDITION

Work visibility is not the variable

We coded every case for how visible the work was and, separately, for how visible the resulting outcome was. Those two things came apart constantly, and the second one did the commercial work.

GE's OnPoint agreements are structured the same way as TotalCare. Maintenance is priced by engine flight hour. Virgin America signed for twelve years. Southwest signed an eight-year agreement worth $1.5 billion. GE later passed a hundred OnPoint agreements covering more than two hundred engines on one business-aircraft family alone.

ADP is the long historical version. It started automating payroll processing on mainframes in 1957. What an employer sees today bears no resemblance to the payroll department ADP replaced. The outcome stayed brutally easy to check: did everyone get paid, and was it right? ADP reported 92.1% Employer Services revenue retention in fiscal 2026, with an average client relationship it estimates at around thirteen years.

Hilti did the same thing with something far less glamorous. Construction tools. Customers pay a monthly fee covering the tools themselves, repairs, maintenance, theft protection and replacement. Hilti reports more than a million tools under contract across roughly 100,000 customers, with fleet contracts usually running about four years.

A site manager does not watch Hilti repair anything. He knows whether the drill is there when the crew starts.

In every one of these the work went dark and the business held, because the customer retained an independent way to tell whether the thing they were buying had happened.

COUNTER-EVIDENCE

The case that came closest

Michelin is the one that argues against us, and it deserves to be taken seriously rather than explained away.

In 2000 Michelin launched Fleet Solutions. It stopped selling tires to certain customers and started managing their tires under three to five year contracts, charging by the kilometre. The fleet would get fewer breakdowns, better cost control and less administration. The buyer was meant to be purchasing the ability to drive.

Three years in, expansion was below expectations and profitability was poor.

What the people running it said is close to this study's original hypothesis. Customers understood the product and did not see enough additional value to justify paying more. Salespeople struggled to list and communicate the benefits. Michelin brought in consultants and set about training the sales force to teach customers why outsourcing tire management was worth it.

That is the invisible-value problem in the words of the people living it.

MICHELIN FLEET SOLUTIONS

Directional positive

Competing explanations unresolved. Segmentation, pricing, more than seventy contract variants, sales-force mismatch, long sales cycles and third-party delivery were all in play at the same time. This case points the right way and cannot carry the causal claim.

It still does not clear the bar, because the same investigation found weak segmentation, pricing errors, more than seventy contract variants, long sales cycles, a sales force that had not adapted, and difficulty delivering through third parties. All of that was happening at once. Nothing in the public record separates the perception failure from the operational ones.

So Michelin is recorded as directional. It points the right way and it cannot carry the causal claim.

There is a reading of Michelin that may matter more than the visibility one. Michelin had moved its buyer from purchasing a tire to purchasing a bundle of outcomes that Michelin's own sales organisation could not define. That is a different failure from the work becoming hard to see.

COMPETING CAUSES

How easy this is to misdiagnose

Three cases look like strong evidence for the invisible-value thesis and are not.

LOOKS LIKE INVISIBLE VALUE		BETTER EXPLANATION EXISTS
Norton	→	Bundling and substitution
Dropbox	→	Commoditization and free substitutes
Xerox	→	Falling underlying demand

Consumer antivirus is the most tempting. It prevents events the customer never witnesses, and paid vendors have been under sustained pressure. Symantec was warning in 2013 and 2014 that free security products and Microsoft were major competitors, and Gen Digital still tells investors that Apple, Google and Microsoft can bundle competing protection at no charge and make standalone products less valuable. That is a real commercial problem. It is a bundling and substitution problem. The buyer has not forgotten what antivirus does. A credible replacement arrived inside something they already own at a marginal price of zero.

Dropbox is the same shape from another angle. It made file synchronisation vanish into the background, and by 2018 that capability was a standard feature of OneDrive, iCloud and Google Drive. Dropbox had around 500 million users and about 11 million paying ones, with contemporary coverage describing sync and storage as commoditised. The work becoming invisible is not what happened. The work becoming available everywhere else is.

Xerox managed print has a third confound. Xerox runs print infrastructure quietly in the background and earns from devices in the field, pages printed and revenue per page. There is real revenue pressure in that business, and the volume of printing has been falling for years as work went digital. Declining demand explains it before legibility does.

Any of these three could be written up as a cautionary tale about value disappearing from view. None of them should be.

THE FINDING

What the evidence supports

The finding is narrower than where we started, and it is more useful for being narrower.

Invisible work is commercially dangerous only when the commercial outcome disappears along with it.

> **The customer does not need to see the work. The customer needs to be able to tell whether the thing they bought happened.**

That distinction changes the prescription entirely. The advice that follows from the original hypothesis is to keep showing customers what you did for them. The companies in this study that came through the transition intact mostly did the opposite. Rolls-Royce does not ask an airline to appreciate each maintenance intervention. It charges for the engine flying. GE charges by the hour in the air. Hilti sells availability and a predictable monthly number. ADP sells correct payroll. Backblaze sells the ability to get the file back.

What each of them has is a unit the purchaser can verify without supervision. Hours flown. Tools on site. A pay run that reconciles. A file that comes back.

NOT

Make invisible work visible.

INSTEAD

Make the thing the purchaser is paying for legible even after the work producing it disappears.

The commercial architecture that survives is not making invisible work visible. It is making the thing the purchaser is paying for legible even after the work producing it disappears.

THE REPORTING QUESTION

On dashboards

We looked specifically for evidence that value reporting changes commercial behaviour. Activity summaries, savings calculations, prevented-loss counts, reliability statistics, annual recaps.

We did not find evidence strong enough to establish it.

There are many vendors who say such reporting proves value, and many products built to deliver it. There is very little independent evidence that introducing the report changed a renewal, a price, or a willingness to pay.

That result is consistent with what this research programme keeps finding in other settings. Disclosing how a recommender gets paid rarely changes what buyers do. Removing friction from a task changes how people complete it more reliably than whether they complete it. Showing someone a demonstrably better technique does not produce adoption unless using it improves the outcome they are judged on. Manufacturing a recurring touchpoint between transactions creates activity without necessarily creating economic value.

> **A reporting layer is not a commercial unit.**

Adding a report is a communication decision. It is not a commercial one. A reporting layer is not a commercial unit, and reaching for the first is usually a sign that the second has not been settled.

APPLICATION

What this means for AI

An agent can now perform a large amount of work without anyone watching any of it. Sessions fall. Clicks fall. Time in product falls. The natural conclusion is that the product is in trouble.

The historical cases suggest a more specific question than that. When the user stops watching the work, what remains that the purchaser can use to decide whether this is worth the price?

If the answer is a verifiable economic outcome, the historical cases show that the work can disappear almost entirely without creating an obvious commercial penalty. If the answer is sessions, tasks completed, or another internal activity number the purchaser cannot reconcile to anything, the exposure is real.

We should be careful here, because this study did not establish the second half. No case in the sample cleanly linked a metric drifting away from underlying value to churn or pricing pressure. The concern is reasonable and it is not yet demonstrated.

What does follow is that the answer for an autonomous product is not a better dashboard. It is deciding what the product is bought to produce before the work becomes invisible. If that cannot be named, no amount of reporting will supply it.

The fieldwork test

Worth asking about a product, a pricing model, a renewal that has become difficult, or any automation programme about to remove the last visible human step.

01 **What is the customer actually paying us to produce?**

Name the thing. Not the feature set and not the effort.

02 **Can the purchaser tell whether that happened without watching the work?**

If the only evidence comes from a number we calculate and report ourselves, treat that as a warning sign.

03 **Is the price tied to that thing, or to our internal activity?**

Per hour flown, per kilometre, per tool on site, per correct pay run. Or per seat, per session, per user who logged in.

04 **If usage falls because the automation improved, does the customer lose evidence of value or only evidence of effort?**

These feel identical on a chart and are not the same thing.

05 **Are we reaching for a dashboard because we cannot name the commercial unit?**

This is the most common version of the mistake and the easiest one to fund.

06 **What competing explanation would better account for the pricing or renewal pressure we are seeing?**

Bundling, a free substitute, and falling demand accounted for three of our eleven cases. They are far more common than value becoming illegible.

07 **What would have to be true for this product to become more invisible and more valuable at the same time?**

Every durable case in this study can answer that question in one sentence.

Method and limits

11 SUBSTANTIVE CASES	6 INDUSTRIES
0 CLEAN CONFIRMING	1 DIRECTIONAL POSITIVE
6 MATURE NULLS	3 BETTER EXPLAINED BY COMPETING CAUSES
1 IMMATURE NULL	3 MATCHED-PAIR ATTEMPTS
0 SURVIVING PAIRS	9.1% INCOMPLETENESS

Fieldwork 048 examined eleven substantive cases across six industries and business models, from payroll automation beginning in 1957 through to consumer backup pricing in 2021. Cases were coded against a pre-registered scheme before their commercial outcomes were interpreted, and each observed consequence was tested against the strongest competing explanation available in the public record.

The outcome split: zero clean confirming cases, one directional positive, six mature nulls, three cases better explained by competing causes, one immature null. Three matched-pair comparisons were attempted and none survived the pre-registered matching standard. The criteria were not relaxed to produce one.

One of the eleven cases, Kaeser, had insufficient commercial-cycle evidence for a mature classification and was recorded as an immature null. That leaves the study with a 9.1% incompleteness rate under the pre-registered rule.

No prevalence claim is made. Public evidence about a visibility transition is much more likely to exist where a company ran into trouble or built a distinctive response, so the researched sample is biased toward cases consistent with the original hypothesis. Difficulty finding counterexamples is not evidence that counterexamples are rare.

Where prevention figures come from the vendor selling the prevention, they are treated as directional and are not counted as independently realised value.

PastBehavior Fieldwork 048. Published from public sources. Findings are labelled in the underlying research as fact, company claim, reported, estimate, inference, or unresolved. Where sources conflict, the conflict is reported rather than resolved. This is research, not investment advice.

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A number that stays accurate while the thing it represents moves underneath it.