Supply Chain Research · Cornerstone Reference

Calculating Supply Chain Software ROI

How Do I Calculate ROI on Supply Chain Software?

Return on supply chain software is measured against a baseline you can defend, using benefit categories that each carry a named owner and a date. The method matters more than the number, because a business case nobody can test after go-live was never a business case.

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01 The short answer

Calculate return on supply chain software by establishing a measured baseline before the project starts, classifying expected benefits as hard, soft, or avoided, attaching a named owner and a date to each one, and comparing the total against a fully loaded cost that includes internal effort. Express the result as a range across at least three scenarios rather than a single figure. The purpose of the exercise is not to produce a number that clears a threshold, but to produce a set of claims that can be tested after go-live.

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benefit types, each with a different evidential test	named owner required per benefit line	published benchmarks SCR considers reliable for this category

Key takeaways

- **Measure the baseline before the project starts.** A baseline reconstructed after go-live is an argument, and it will be treated as one.
- **A benefit without a named owner is a forecast.** Every line should have a person who agrees to be accountable for it and a date by which it lands.
- **Soft benefits are real but do not become cash on their own.** Time saved converts to money only if the freed capacity is redeployed or removed.
- **Load the cost side properly.** Internal effort is usually the largest omitted cost and frequently exceeds the license.
- **Publish a range, not a point.** A single figure invites negotiation over the number rather than scrutiny of the assumptions underneath it.

02 How do I build a baseline I can defend?

Pick a small number of measures that connect to the decisions the software will change, and record them for a period long enough to cover normal variation. For most supply chain projects that means four to eight measures observed across at least one full seasonal cycle, or where that is impractical, a documented explanation of what the shorter period omits.

Three properties make a baseline defensible. It is recorded before the project starts, from systems rather than recollection. It states the conditions that applied, including volume, mix, and any unusual events in the period. And it is agreed in writing by the function that will later be asked whether the benefit arrived. That last property does most of the work, because the common failure is not measurement error but a finance team that never accepted the starting point and therefore does not accept the improvement.

Where no clean baseline exists, say so and use a proxy, clearly labeled. A proxy baseline with a stated limitation is a stronger position than a precise number nobody can source, and it protects the case when someone examines it later.

03 What benefit categories should I count?

Three, and they carry different evidential burdens. Hard benefits appear in the ledger: headcount not replaced, a freight rate reduction realized on actual volume, carrying cost released by lower inventory. Soft benefits are real but not separable, such as time saved, errors avoided, or better decisions. Avoided costs are expenditures not incurred, such as a facility not leased or a hire not made.

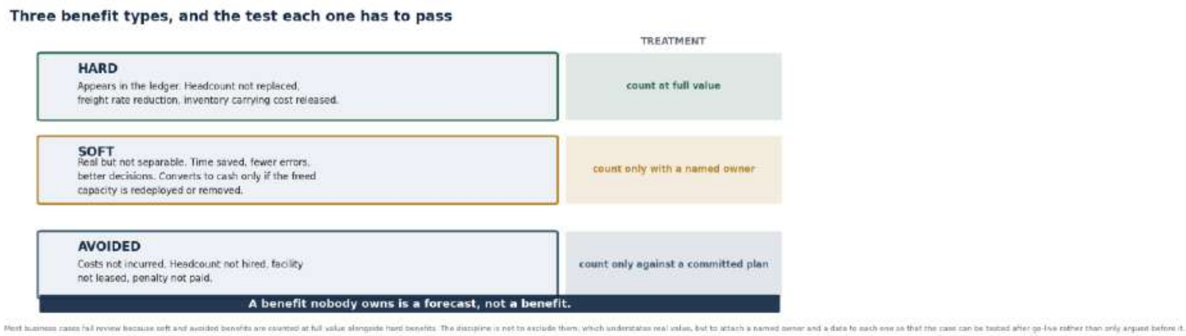

Figure 1. The three benefit types and the test each must pass. The discipline is not to exclude soft and avoided benefits, which understates real value, but to make each one testable.

Count all three, but treat them differently. Hard benefits go in at full value with the measure named. Soft benefits should be counted only where a named owner commits to converting them, because two hours per week saved across a team becomes money only if a role is removed, a vacancy goes unfilled, or the capacity is redirected to work that would otherwise have been resourced. Avoided costs count only against a plan that was committed before the project, since a hire that was never budgeted cannot be avoided.

04 How should I treat vendor-claimed figures?

As hypotheses to test against your own baseline, never as inputs. Vendor benefit claims are typically drawn from the customers most willing to be quoted, which selects for successful implementations, and they rarely state sample size, starting conditions, or the share of customers who achieved less. This does not make them dishonest. It makes them unsuitable as the basis for a capital commitment, because the reader cannot check what population they describe.

Two practical rules follow. Where a vendor cites a benefit range, ask for the number of customers behind it and the definition of the measure, and record the answer or the refusal. Where a case is built on a vendor figure with no baseline of your own, the case has no test after go-live, because there is nothing to compare against. The fair case for using vendor figures is that early in evaluation they are frequently the only quantified data available, and they do help size whether a category is worth pursuing at all. That is a reasonable use. Carrying them into the approved business case is not.

05 What belongs on the cost side?

License or subscription, implementation services, integration work, infrastructure where applicable, training, and internal effort. The last of these is the one most often left out and is frequently the largest. A supply chain implementation consumes time from operations, planning, IT, finance, and often a full-time internal lead for the duration, and that time has a cost whether or not it appears on an invoice.

Two further items deserve explicit lines. Ongoing internal support after go-live, because the operating model rarely returns to its pre-project shape. And the productivity dip during stabilization, which is a real cost in the first months and predictable enough to estimate. Including it strengthens a case rather than weakening it, because a case that shows no transition cost signals that the transition was not thought about.

Line	Frequently omitted	Why it matters
Internal effort	Time from operations, planning, IT, and finance across the project	Often exceeds the license cost and is invisible because it is not invoiced
Integration	Work on systems that are not being replaced	Scoped late, priced late, and rarely inside the software quotation
Stabilization dip	Reduced throughput in the first months after go-live	Predictable and estimable; omitting it makes the case less credible, not more
Ongoing support	Internal roles required to run the system after handover	The operating model rarely returns to its pre-project shape
Data remediation	Cleaning master data the new system will not tolerate	Discovered during implementation, when it is least negotiable

Table 1. Cost lines most often missing from a supply chain software business case, and why each one matters to the credibility of the result.

06 How do I express the result honestly?

As a range across at least three scenarios, with the assumptions that drive each one stated. A conservative case counting only hard benefits with owners attached. An expected case adding soft and avoided benefits that have owners and dates. And a downside case in which the largest single benefit line does not materialize, which tests whether the whole case depends on one assumption.

State the payback period alongside the return, because the two answer different questions, and name the point at which the benefits are expected to begin. Most supply chain implementations deliver nothing in the first months and then improve, so an annualized figure applied evenly across year one will be wrong. Committing to a review date, with the baseline and the owners on record, is what separates a business case from a proposal.

07 Frequently asked questions

What is a reasonable ROI to expect from supply chain software?

SCR does not publish a figure. Credible public data would require a representative sample of implementations including the unsuccessful ones, and no such dataset exists. Figures circulating in the market originate largely with parties selling software or implementation services, drawn from customers willing to be referenced, which selects for success.

Should the business case use ROI, NPV, or payback?

Use whichever your finance function uses for comparable capital decisions, and present payback alongside it. Software cases are frequently argued in a different currency from every other investment the company evaluates, which makes them harder to compare and easier to dismiss. Match the house standard.

How do we value inventory reduction?

Through carrying cost released, not the inventory value itself. Reducing stock by a given amount frees the holding cost of that stock, which is a fraction of its value, plus a one-time working capital release. Counting the full inventory value as an annual benefit is a common and serious overstatement.

Who should own the business case?

A business sponsor rather than IT or the project team, because the benefits land in business functions and the people who own them must accept the numbers. A case authored by the team that wants the software and never countersigned by the functions that must deliver the savings will not survive review after go-live.

What if finance will not accept soft benefits?

That is a reasonable position and worth working with rather than around. Present the conservative case on hard benefits alone and show whether it clears the threshold. If it does, soft benefits become upside rather than load-bearing. If it does not, that is important information about the strength of the case.

When should benefits be measured after go-live?

Set the date during the business case rather than afterward, and choose a point past stabilization so the measurement is not distorted by transition effects. The commitment to measure is more valuable than the timing, because most organizations never revisit the case at all and therefore never learn whether their estimating method works.

Does this method work for automation and robotics?

The structure holds, but the cost side changes materially because capital equipment, facility modification, and maintenance enter the calculation, and the asset life is longer than a software subscription. The benefit side is often more measurable, since throughput and labor hours are directly observable.

08 Method, sources, and where to go deeper

Method

- This page sets out a working calculation method rather than a survey of outcomes. The benefit classification and the treatment rules reflect SCR's own framing of practitioner method.
- Process boundaries used to scope which measures belong to which function follow the SCOR Digital Standard, an open-access framework maintained by the Association for Supply Chain Management.
- Supply Chain Research is independent and vendor-neutral. We accept no payment from the vendors or categories covered, and this page names no products.

Caveats

- SCR publishes no benchmark return for this category, and readers should treat any source that does with care. A credible benchmark would require a representative sample including failed and abandoned implementations, which no publisher currently assembles. Figures in circulation are drawn overwhelmingly from referenceable customers of parties selling the software.
- Figure 1 and Table 1 are method descriptions, not measured data. The counts in the statistics band describe the structure of the method rather than research findings.
- This page does not address discount rates, capitalization treatment, or tax effects, all of which are jurisdiction specific and belong with a qualified finance function.

Where to go deeper

The benefit lines this method asks you to quantify are category specific. The warehouse management and transportation management guides set out where value typically arises in those categories and which measures are observable, and the warehouse robotics guide covers the capital-intensive variant where the cost structure differs materially. Readers building a case across several categories should start with the SCR supply chain software category map, and those still choosing between products should read the SCR selection framework first, since a business case built before requirements are settled will be rebuilt.

Sources

[1] Association for Supply Chain Management. SCOR Digital Standard overview.

[2] Association for Supply Chain Management. SCOR DS model reference, performance attributes and metrics hierarchy.

[3] Frontiers in Sustainability. A critical review of the SCOR Digital Standard, 2026. Peer reviewed; notes SCOR DS defines processes without prescribing performance measures for newer domains, which is relevant when selecting baseline measures.