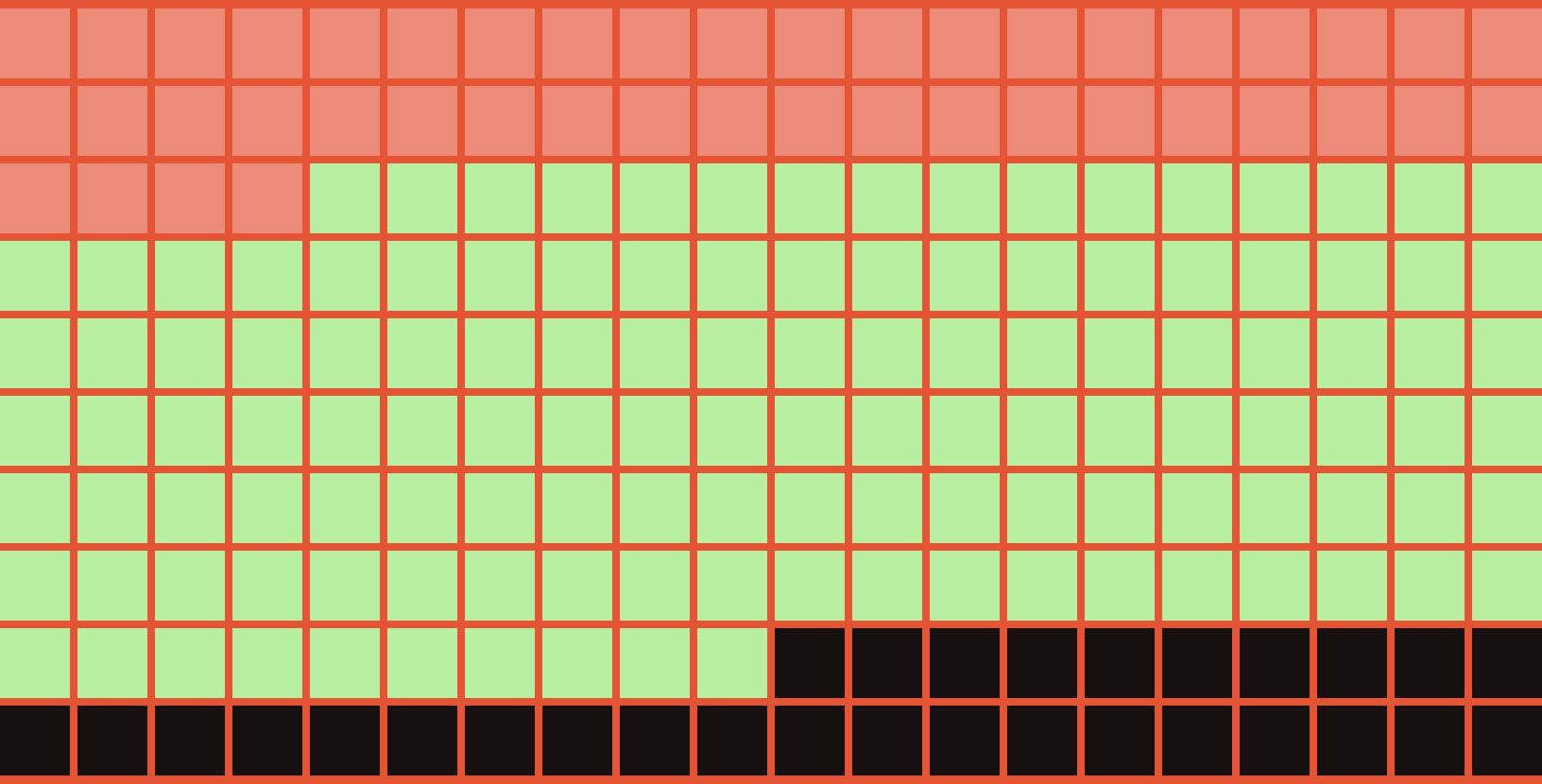
SPARQ ORIGINAL RESEARCH

Sparq



2027 Transportation & Logistics Insights Report:

How Enterprise Leaders are Sequencing Investment in Connected Data & AI

Findings from 313 U.S. respondents involved in enterprise technology and AI investment decisions.

High ROI satisfaction meets tougher investment demands

Nine in 10 transportation and logistics respondents say their implemented technology or AI investments met or exceeded ROI expectations. Yet 62% require faster ROI timelines from vendors. Leaders are setting demanding terms for the next investment, even as they report satisfaction with the capabilities already in place.

For enterprise leaders planning for 2027, that combination raises a practical question: what should the next investment deliver, and what needs to be in place in order for it to succeed? At enterprise scale, the answer depends on the systems already operating and the work required to turn a new capability into a business result.

Sparq commissioned a survey of 313 U.S. respondents involved in technology and AI investment decisions across freight brokerage and forwarding, trucking, parcel, and courier and last-mile delivery. Respondents represent organizations with annual revenue ranging from $500 million to $20 billion. Their responses reveal how investment priorities intersect with infrastructure confidence, forecasting preparedness, and expectations for operational change. Taken together, these findings provide a clearer basis for deciding where to invest in connected data and AI next.

This report examines those relationships and what they mean for 2027 investment decisions. Drawing on the research and Sparq's engineering experience, it concludes with a proposed sequence for funding improvements and measuring their contribution.



87% expect technology and AI budgets to grow

Investment intent remains strong in an environment of sustained cost pressure. Eighty-seven percent of respondents expect technology and AI budgets to increase next fiscal year, including 26% who anticipate increases of at least 20%.

Driver and labor costs and availability, fuel, and insurance and liability are the three most-cited margin pressures. Freight-rate volatility and customer price sensitivity follow, reflecting pressure on revenue as well as operating inputs. Investment priorities need to account for the commercial conditions under which an operating improvement must deliver value.

Within trucking, the economic context is visible in the American Transportation Research Institute's 2026 Operational Costs update. Its survey of for-hire U.S. and Canadian motor carriers reported an average operating cost of $2.336 per mile in 2025, up 3.4% from the previous year.[1] That benchmark underscores why technology value must withstand operating-level scrutiny.

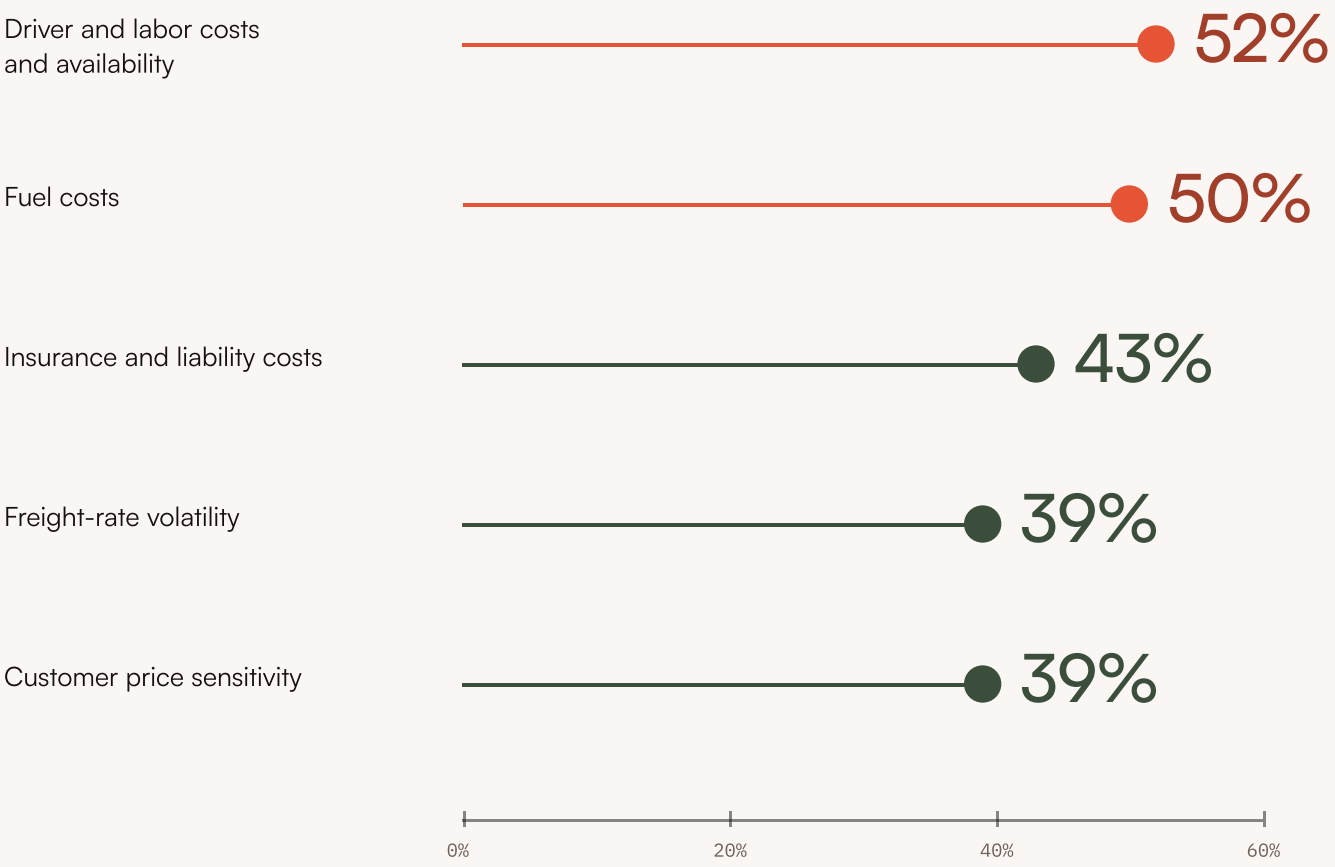
Respondents' investment priorities extend across commercial objectives: 30% give greatest weight to cost reduction or margin protection, 27% to revenue growth, and 25% to customer experience or retention. A cost-only investment framework would overlook much of what leaders are trying to accomplish.

For 2027, leaders must connect each proposed investment to the business result that warrants funding. It's no longer enough to assume a planning improvement will release capacity or improve service reliability. The expectation needs to clearly establish how that benefit will be measured, then include the cost of integrating and operating the capability in the total investment case.

Sources: Q3, Q6, Q12 and Q16. Base: all respondents, n=313. External context: ATRI, July 2026.[1]

FIGURE 1 — MARGIN PRESSURES

Labor and fuel lead the reported pressures on margins



95%

are very or somewhat optimistic about their organization's ability to grow profitably over the next 12 to 24 months.

Leaders remain optimistic about profitable growth despite the margin pressures they report. For 2027, the investment challenge is to support expansion while managing the cost of serving that growth.

Q3: Which of the following factors have put the most pressure on your margins in the past 12 months? Up to three selections; top five shown. Base: all respondents, n=313. Optimism: Q12, very or somewhat optimistic; base n=313.

Implemented investments are meeting expectations

90%

say their implemented technology or AI investments met or exceeded ROI expectations.



1 tick = 1% of respondents

Q15: Among the technology or AI investments your organization has already implemented, how would you rate the return on investment (ROI) achieved so far? Base: all respondents, n=313.

Satisfied buyers require faster returns

Sixty-two percent of respondents require faster ROI timelines from vendors. The overlap with respondents whose returns met or exceeded expectations shows that the demand for faster payback extends beyond dissatisfied buyers.

Load and route optimization and real-time visibility have the highest implementation rates among the eight capabilities tested. Active pilots extend adoption across the full set, as Figure 2 shows. Therefore, a proposed investment needs to explain what it adds to capabilities already in use.

Vendor selection reflects that scrutiny. Nearly half are consolidating vendors (49%), while 41% favor modular or point solutions and 36% report increased build-versus-buy scrutiny. Buyers can pursue more than one approach; they should evaluate each option for its impact on the cost and complexity of the operating workflow.

The attention to returns extends beyond logistics. In August 2026, Gartner reported that 55% of chief supply chain officers were unclear on the ROI of their AI investments.[2] That question differs from Sparq's measure of implemented technology or AI returns against expectations. But the two studies raise a common question for investment decisions: what evidence demonstrates value?

Answering that question starts with agreeing with vendors on the intended operating outcome and how progress will be measured. A credible payback commitment should specify the expected benefit and when it will be realized, accounting for integration and ongoing operating costs.

Sources: Q5, Q10 and Q15. Base: all respondents, n=313. External context: Gartner, August 5, 2026.[2]

Deployment and pilots span all eight capabilities

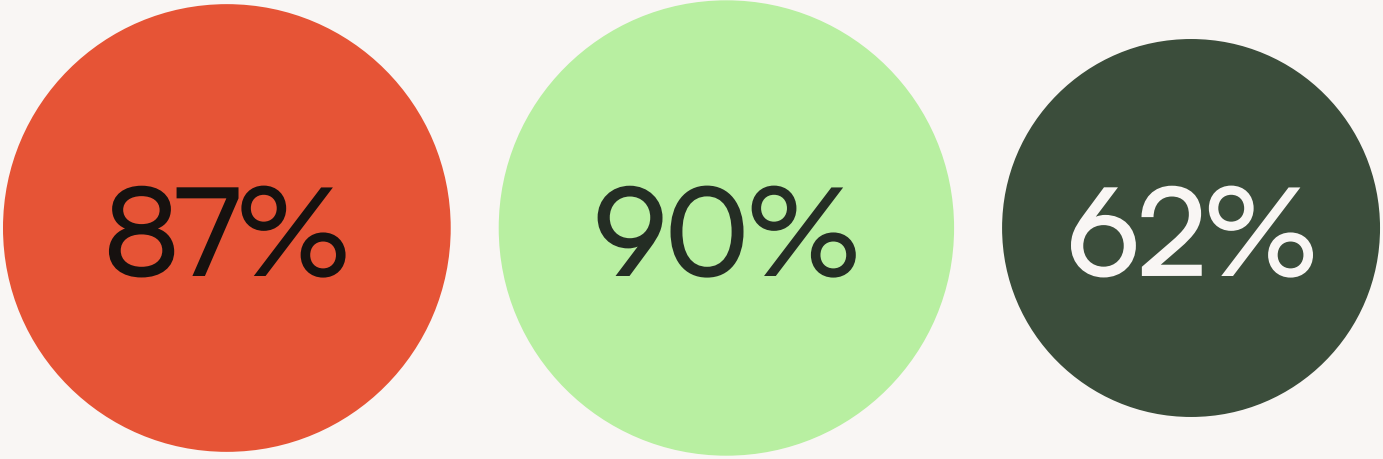


Across the eight capabilities, 83% to 96% of respondents have either implemented the capability or are piloting it. The full distribution shows where deployment is established and where evaluation or planned investment continues. Use that distinction to define whether the next investment will improve an existing capability or bring a new one into operation.

Q5: What is your organization's current status for each of the following capabilities? One selection per capability; all eight capabilities and all four response options shown. Base: all respondents, n=313. Percentages are rounded independently; rows may total 99% or 101%.

Sparq

Budget growth and ROI satisfaction coexist with faster payback demands



Expect larger technology and AI budgets next fiscal year

Implemented technology or AI ROI met or exceeded expectations

Require faster ROI timelines from vendors

61% of respondents whose ROI met or exceeded expectations also require faster vendor ROI timelines. Subgroup base: n=283.

Q16: How do you expect your organization's technology/AI budget to change in the next fiscal year compared to this year? Q15: Among the technology or AI investments your organization has already implemented, how would you rate the return on investment (ROI) achieved so far? Q10: How has your organization's approach to vendor selection changed in the current margin environment? Q10 allowed multiple selections. Overall base: all respondents, n=313. These measures are separate questions; respondents may appear in more than one group.

Value must connect to operating outcomes

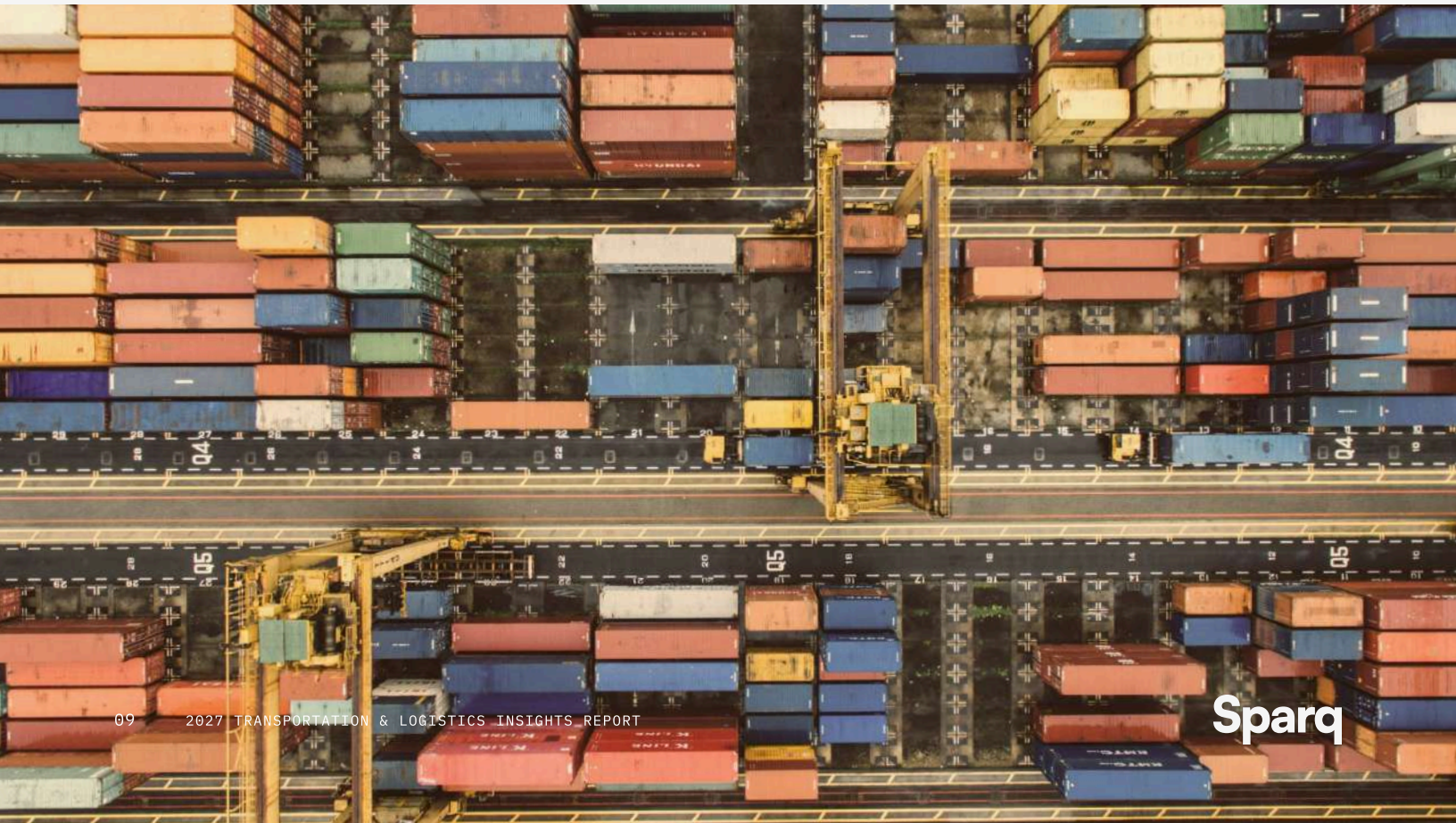
Cost savings or increased margin is the most selected outcome for justifying continued or increased connected data and AI investment (27%). Revenue or volume growth follows at 24%, customer retention at 23%, and compliance or reduced safety risk at 19%.

The evidence should match the investment objective. Cost per load or package can help assess an efficiency improvement; a retention investment needs evidence of changes in customer retention. Set a baseline that connects the operating measure to the business result used to justify funding.

Productivity measures need that connection, too. For invoice automation, measure whether reduced processing effort lowers cost per transaction or accelerates billing. Include integration and adoption costs, along with ongoing operating expenses.

Measure the full improvement across the workflow. A model or application can perform as designed while its intended benefit depends on a downstream system or a change in working practice. Make those dependencies explicit before expanding funding.

Survey source: Q11; base n=313.



Client evidence from network planning

$220M

in annual cost savings from network planning and simulation.

For a global parcel delivery leader, Sparq built a system-wide planning and simulation platform that reduced planning cycles from weeks to minutes. The client recorded a 2% gain in network efficiency alongside the annual savings. The engagement shows how a planning capability can deliver material financial results at enterprise scale.[3]

Client result: Sparq case study, May 2026.[3]

94% report infrastructure confidence

Legacy systems and integration remain the most-cited single barrier to faster AI and advanced data investment.

The confidence measure includes visibility, integration, and data quality. Thirty-nine percent are very confident, and 55% are somewhat confident in their infrastructure's ability to support AI-driven decisions. Yet legacy systems and integration lead the barrier responses at 24%, followed by data quality or availability at 19%.

Among respondents confident in their infrastructure, 23% still name legacy systems and integration as their biggest barrier. Overall confidence can coexist with connections that constrain a particular investment. Assess the specific workflow the investment needs to improve.

Evaluate integration against the decision it needs to support. For a revised shipment plan, for example, the receiving system needs consistent records and timely updates so the responsible team can act. Scope the connection around that decision, with clear ownership of the data and the response.

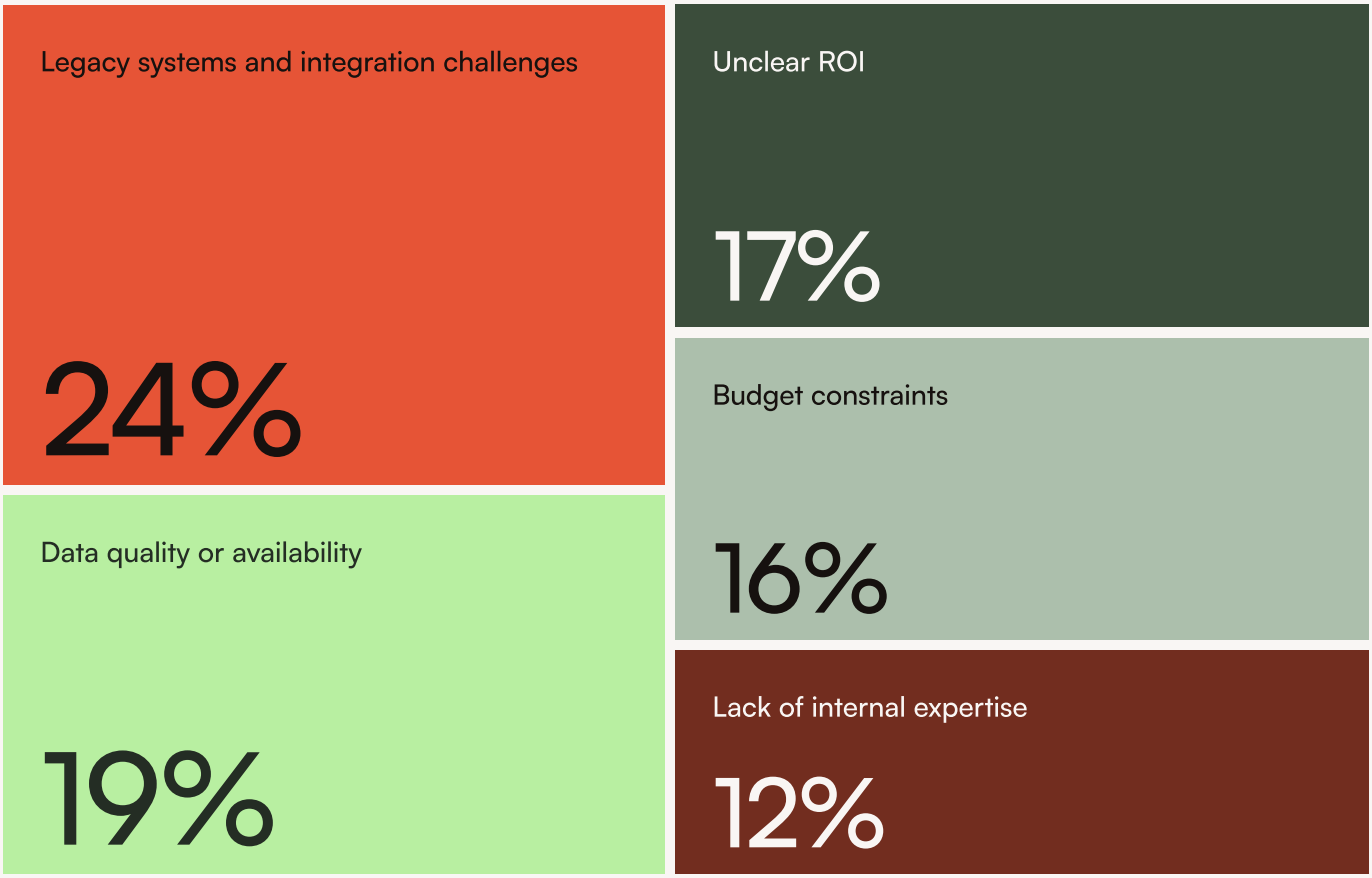
42%

name either legacy systems and integration or data quality and availability as their single biggest barrier.

Combined from raw counts: 133 of 313.

Sources: Q7 and Q8. Overall base n=313; infrastructure-confident subgroup, very or somewhat confident, n=294. Combined percentages are calculated from raw counts before rounding.

Legacy systems and integration lead the barriers to faster investment



23% of respondents confident in their data infrastructure still name legacy systems and integration as their biggest barrier. Subgroup base: n=294.

Q7: What is the single biggest barrier preventing your organization from moving faster on AI or advanced data investments? Single selection; top five shown. Base: all respondents, n=313. Q8: How confident are you in your organization's data infrastructure (visibility, integration, quality) to support AI-driven decision-making today? Annotation base: very or somewhat confident, n=294.

Forecasting leads preparedness concerns

53%

select forecasting accuracy among their three least-prepared supply chain challenges, ahead of cybersecurity and labor shortages.



1 tick = 1% of respondents

Q13: Which of the following supply chain challenges is your organization least prepared for? Three selections required. Base: all respondents, n=313. This measures relative preparedness, not forecast error or model accuracy.

52%

Forecasting concerns span implementation stages

of respondents with demand forecasting implemented still select forecasting accuracy among their three least-prepared challenges. Base: n=192.

Forecasting implementation and preparedness measure different things. The overlap shows why implementation status alone is insufficient evidence of readiness. For investment decisions, examine how forecasting supports the planning workflow and whether teams can use updates in time to act.

Sources: Q5 demand forecasting and Q13. Implemented forecasting subgroup base n=192. Figure 5 shows the peak-prepared subgroup comparison.

92%

Peak readiness coexists with forecasting concerns

report being mostly or fully prepared for the 2026 holiday peak shipping season.

Q14: How prepared is your organization for the 2026 holiday peak shipping season? Share selecting mostly or fully prepared. Base: all respondents, n=313.

As Figure 5 shows, reported peak readiness and forecasting concerns can coexist within the same respondents.

For 2027 investment decisions, test whether a forecast update can reach the people authorized to change capacity or service commitments. Define the operating constraints and the point at which an update requires intervention.

A response can protect service while adding cost elsewhere in the network. Decision support should make that trade-off visible and retain the information needed to evaluate the result. This is the connection between forecasting and operational readiness that an investment assessment should test.

Client evidence from pickup forecasting

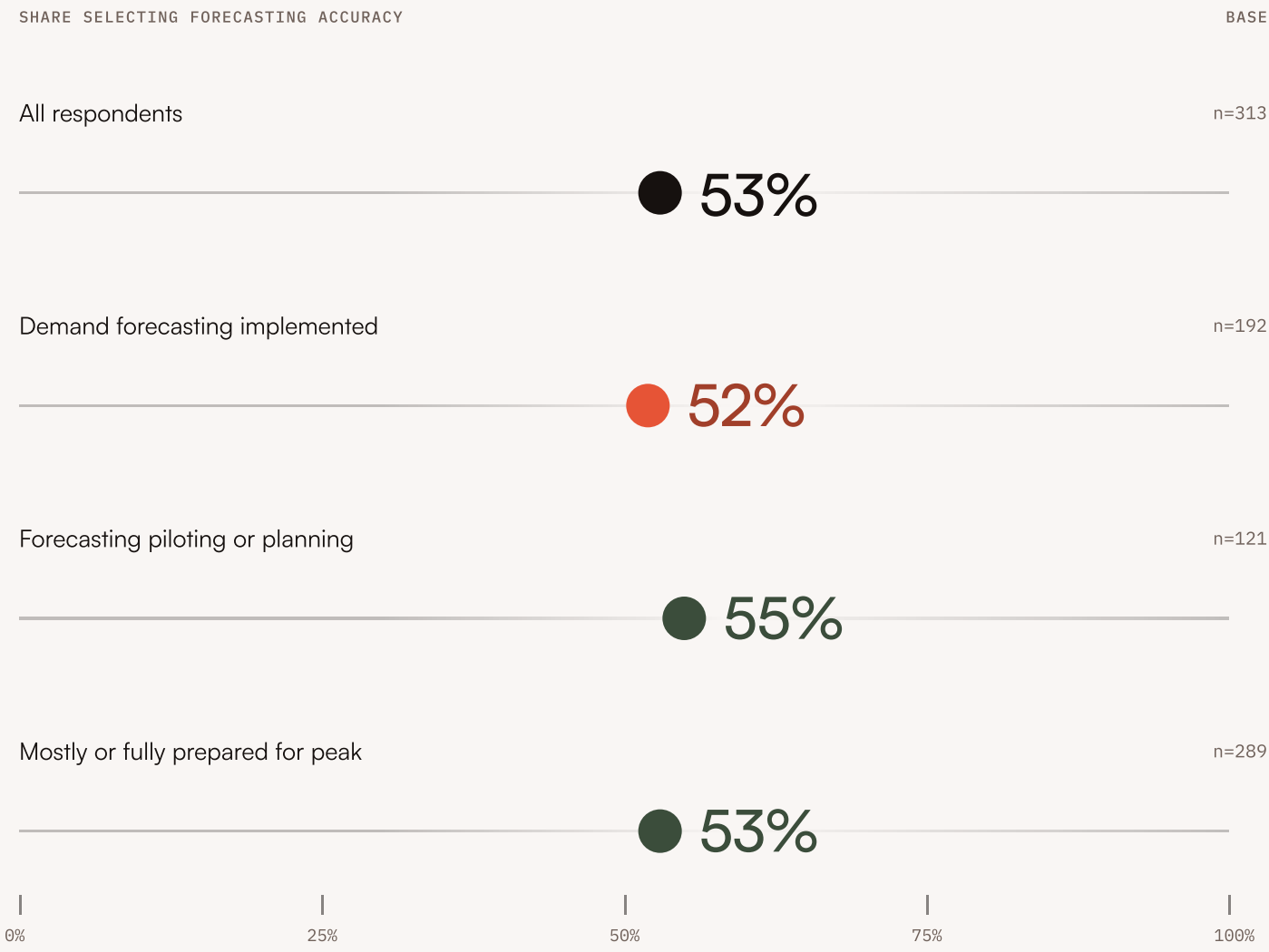
17%

increase in plan accuracy through AI-driven pickup forecasting.

In a separate client engagement, Sparq developed route- and day-level pickup forecasts for a global parcel delivery leader and translated them into routing recommendations within the daily planning workflow. This client result shows how improved forecasting can inform an operating decision.[4]

Client result: separate Sparq case study, July 2026.[4]

Forecasting concern spans implementation and peak readiness



Q13: Which of the following supply chain challenges is your organization least prepared for? Three selections required. Share selecting demand forecasting accuracy. Q5: What is your organization's current status for each of the following capabilities? Demand forecasting. Q14: How prepared is your organization for the 2026 holiday peak shipping season? Groups overlap. This is a descriptive comparison, not a before-and-after measure of implementation impact.

Sparq

Dispatch and operations lead expected transformation

Dispatch and operations connect capacity decisions to service commitments across the network. Thirty-four percent of respondents expect the function to undergo the greatest technology-driven transformation over the next two to three years. Sales and pricing follow at 21%, customer service at 18%, and finance and back office at 12%.

When a plan changes, the operational response also shapes what commercial and customer teams need to communicate. The business case should account for the systems and teams needed to carry a decision through to execution.

Sparq's analysis points to four requirements for decision support in this setting:

01 **Evaluate the business impact**
Connect shipment and capacity information to the service commitments and costs a decision could affect.

02 **Compare feasible responses**
Apply operating constraints and service priorities so recommendations reflect what the network can execute, with clear escalation for consequential trade-offs.

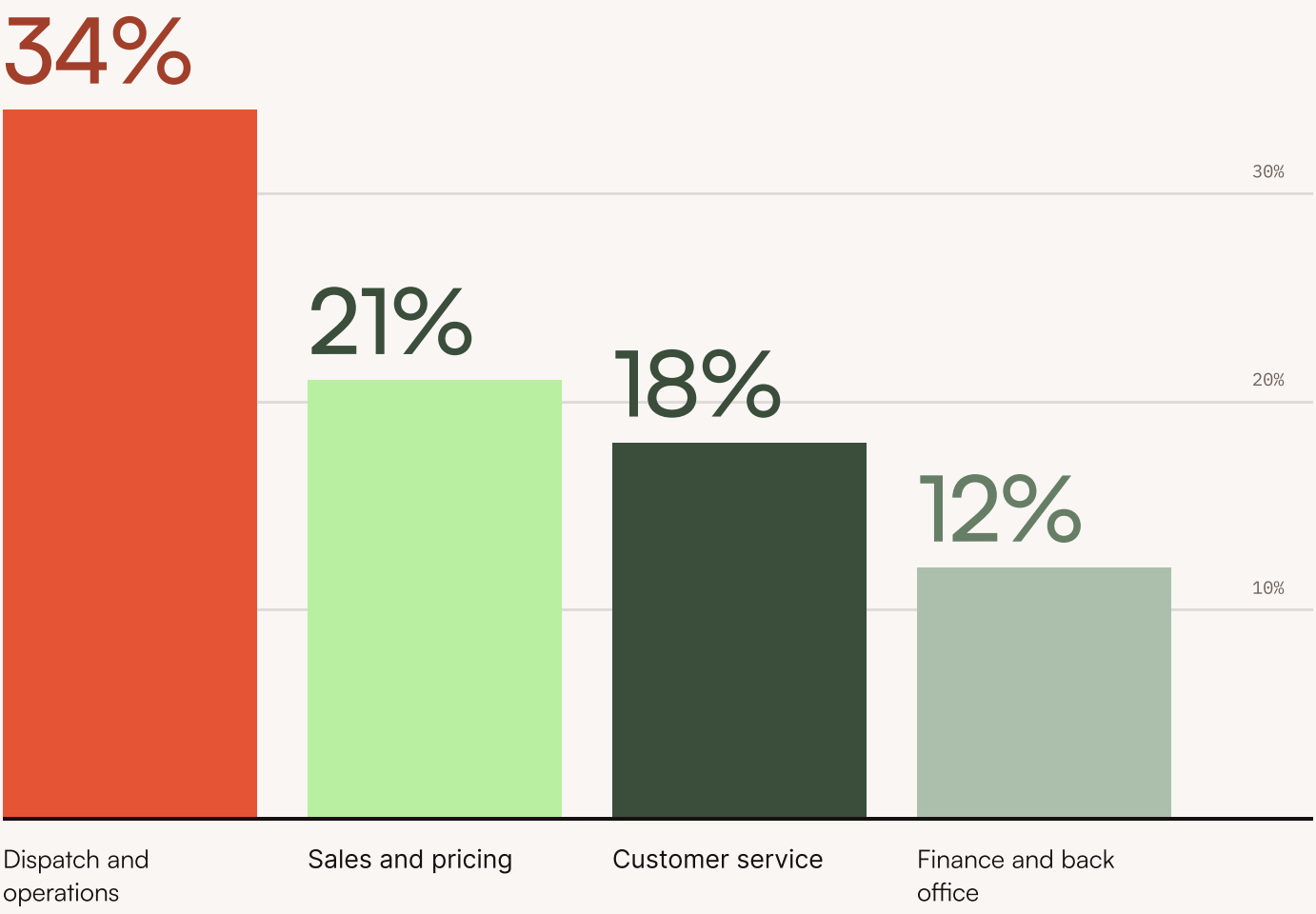
03 **Carry decisions into the operation**
Send approved decisions to the systems and teams responsible for action, with clear ownership of execution.

04 **Measure what the response changed**
Track the operational and financial effects against the investment baseline, including any cost shifted elsewhere in the network.

The business case should cover the full response, from identifying the impact to measuring the result. Include system connections and decision authority needed to carry it through.

Source: Q9. Base: all respondents, n=313. Decision support requirements are Sparq's interpretation and recommendations.

Dispatch and operations lead expectations for technology-driven change



Q9: Which business function do you expect to see the greatest technology-driven transformation in over the next two to three years? Single selection; top four responses shown. Base: all respondents, n=313.

Sparq

What the findings mean for 2027

90% say implemented technology or AI investments met or exceeded ROI expectations. Use that experience to set a measurable baseline for the next investment.

62% require faster ROI timelines from vendors. Tie delivery milestones to evidence of operating value.

24% name legacy systems and integration as their single biggest barrier to faster AI or advanced data investment. Fund the connections the intended outcome depends on.

52% of respondents with demand forecasting implemented select forecasting accuracy as one of their three least-prepared challenges. Evaluate how the capability supports decisions when conditions change.

34% expect dispatch and operations to undergo the greatest technology-driven transformation over the next two to three years. Scope improvements across the teams and systems responsible for the response.

These implications inform the investment sequence that follows; the sequence is Sparq's recommendation.

Sources: Q15, Q10, Q7, Q5 demand forecasting with Q13, and Q9. Base: all respondents, n=313, except the implemented demand forecasting subgroup, n=192.

Sequence investment around the operating outcome

The findings support a practical discipline for the next investment: start with the intended outcome and fund the work required to achieve it.

For example, if shipment updates reach planners too late because systems exchange data in batches, prioritize the connections needed to deliver those updates in time to adjust capacity. Where reliable information is already available but teams manually compare routing options and coordinate changes, decision support or workflow automation may take priority. Choose the starting point by identifying what constrains the operating result, then define the evidence that would demonstrate improvement.

Sparq proposes the following sequence for evaluating and expanding investment:

01

Establish the outcome and baseline

Identify the business result that warrants funding. Choose the relevant operating measure and connect it to margin, growth, service, retention, or risk. Include implementation and ongoing operating costs in the case.

02

Scope the dependencies required to deliver it

Identify the systems, shared records, data quality, and update timing the workflow needs. Establish ownership of those dependencies and include the necessary integration or modernization work in the funded scope.

01

02

03

04

05

03 Define accountability for automated actions

Specify which recommendations can become actions, what requires approval, and how exceptions are escalated. Build the audit trail and monitoring responsibilities into the scope before testing or expanding automated execution.

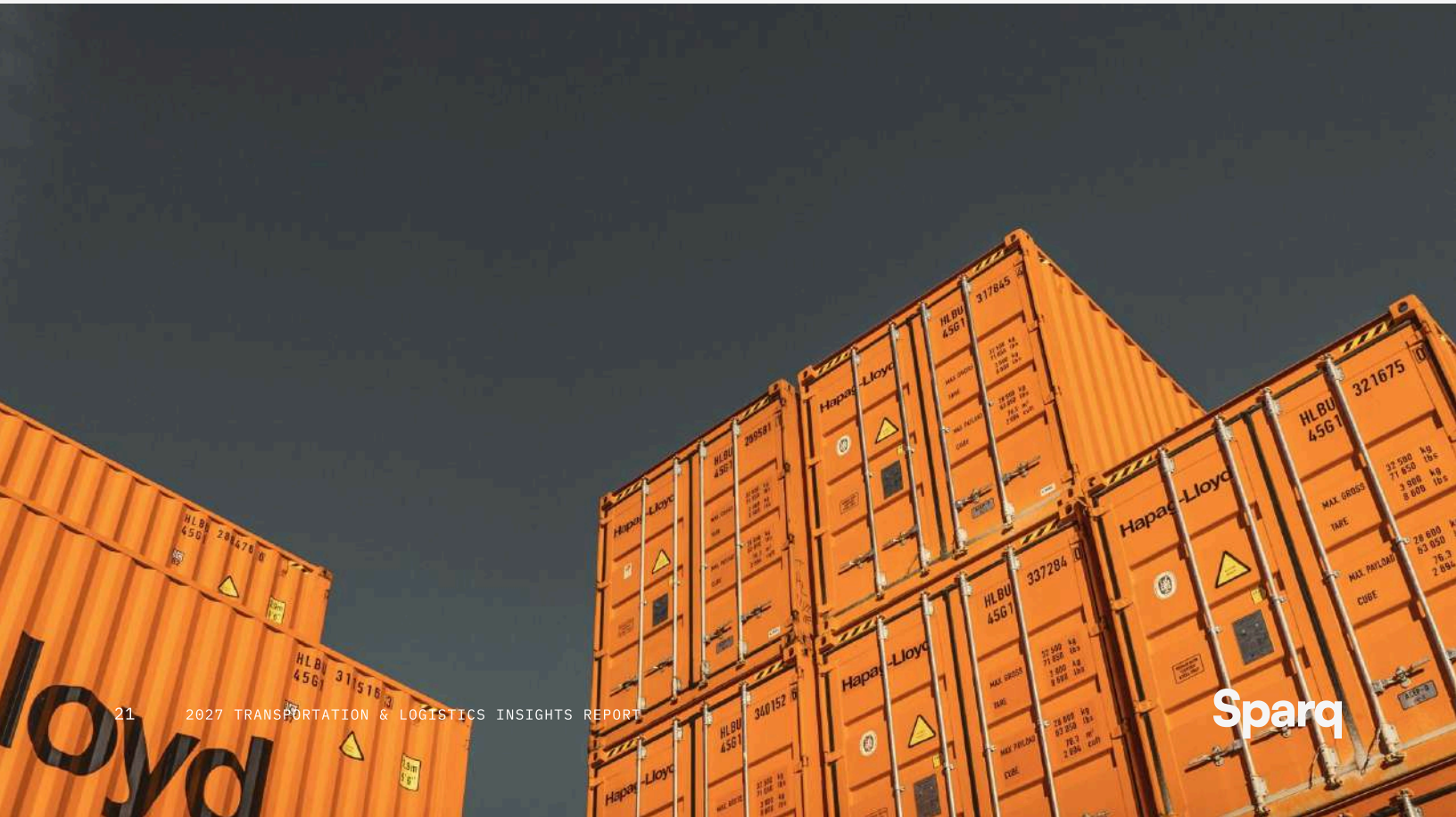
04 Test the decision under changing conditions

Evaluate whether the capability supports useful decisions when demand or capacity departs from plan. Assess feasible responses and trade-offs against service commitments, resource constraints, and the time available to intervene.

05 Stage further funding against measured progress

Agree delivery milestones and the evidence that will justify expansion. Test the benefit within the operating workflow, account for adoption and operating costs, and revisit the business case as evidence accumulates.

Recommendations informed by the survey findings and Sparq's delivery experience.





CONCLUSION

Make the next investment measurable across the network

For 2027, evaluate proposed capabilities by the operating outcome they can deliver across the network. That requires a funded path through the systems and decisions on which the outcome depends.

The right sequence will vary by workflow. Establish what must be in place for the benefit to reach the operation, then use measured progress to determine the next commitment of capital.

Discuss what these findings mean for your organization's 2027 technology investment priorities.

Connect with **Sparq**

Methodology

Sparq commissioned a survey of 313 U.S. respondents involved in technology and AI investment decisions at transportation and logistics organizations. Forty-nine percent were final decision-makers, 40% key influencers, and 90% were director-level or above.

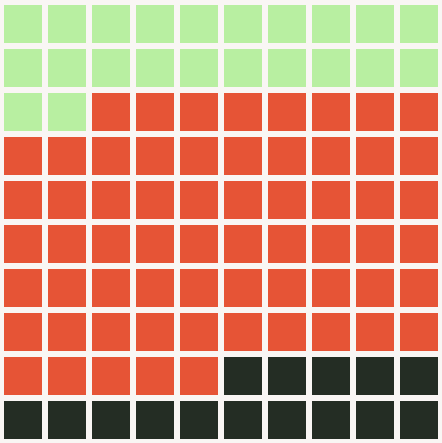
Reported annual revenue ranges from $500 million to $20 billion; approximately 78% are at $1 billion or more, and 87% have at least 1,000 employees. Respondents work in freight brokerage and forwarding (26%), trucking (24%), parcel (24%), and courier and last-mile delivery (27%).

InnovateMR conducted the survey from August to September 2026. Responses were collected online (213) and by telephone (100). Results are unweighted. ROI met or exceeded expectations for 95% of online respondents and 80% by telephone; budget increase intent was 93% and 73%, respectively. These differences do not establish an effect of collection mode.

ROI is self-reported against expectations and was not independently audited. Q3 allowed up to three selections; Q10 allowed multiple selections; Q13 required three and measured relative preparedness, not model accuracy. Subgroup comparisons are descriptive; groups may overlap. Investment sequencing is Sparq's recommendation. The survey did not measure adoption order or establish causal effects. Percentages are rounded; combined measures use raw counts before rounding. Respondents may represent the same company.

Annual revenue and primary department

ANNUAL REVENUE — SHARE

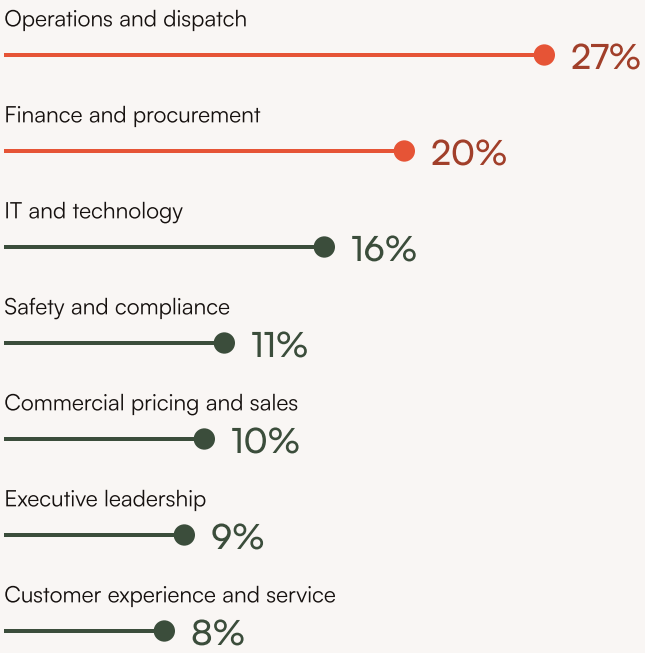


$500M to $1B
22%

$1B to $9.9B
63%

$10B to $20B
15%

PRIMARY DEPARTMENT — SHARE



SOURCES

[1] American Transportation Research Institute, Analysis of the Operational Costs of Trucking 2026 Update, July 2026.

[2] Gartner, Survey Finds Majority of Chief Supply Chain Officers Unclear on AI Investment Returns, August 5, 2026.

[3] Sparq, $220M in Annual Savings from AI-Driven Network Planning at Enterprise Scale, May 1, 2026.

[4] Sparq, 17% Increase in Plan Accuracy with AI-Driven Pickup Forecasting for a Global Parcel Delivery Leader, July 8, 2026.