Pixie

WHITE PAPER

SCALING INTELLIGENCE

Why more data alone isn't enough to build a better business

NOVEMBER 2026

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Pixie

Pixie is in the business of scaling intelligence.

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Why this paper

Founders have never had more information. A founder can read everything there is to read about scaling a business. Then Monday arrives, the cash is tight, a key hire has just resigned, and none of it says what to do next.

That is the gap this paper, written with Dr Sam Knowles, is about: the distance between knowing more and deciding what to do next. We call the answer Scaling Intelligence: the ability to turn what is known about successful scaling into contextually relevant understanding, better decisions, and effective action.

I have been that founder, more than once. I did not need more to read. I needed help to work out what mattered for my business, at that moment, with the decision still mine.

What I believe is in these pages. The founder is part of the intelligence; their own voice is data nobody else has. AI raises the floor so that humans can raise the ceiling. Intelligence is worthless until somebody acts. And you can't outsource your scaling journey.

Pixie exists to make that intelligence available to many more founders, and to keep them firmly in the lead.

It is a framework to explore, not a formula for success. Read the argument. Challenge it where you disagree. Then decide what you will do on Monday.

Richard McCandless
Founder, Pixie



AI raises the floor so that humans can raise the ceiling.

Dr Sam Knowles

Data Storyteller in Residence, Pixie

Dr Sam Knowles is a data storyteller. He helps companies and brands make smarter use of data: in the questions they ask, the insights they draw, and the stories they tell.

He hosts the Data Malarkey podcast, sits on the Harvard Business Review Advisory Council, and works as a keynote speaker and trainer. He holds a doctorate and is based in Lewes, England.

He developed CLEAR, the Standard for Decision Quality set out in Section 5.

BOOKS BY SAM KNOWLES

Narrative by Numbers
ROUTLEDGE, 2018

How To Be Insightful
ROUTLEDGE, 2020

Asking Smarter Questions
ROUTLEDGE, 2022



Intelligence should serve founders, not replace them.

Richard McCandless

Founder, Pixie

Richard McCandless is the founder of Pixie.

He spent 12 years at Lloyds Banking Group, then ran CFM Group, a financial marketing agency, until its sale to Publicis. He was Regional Director, Asia Pacific, at FCB, and went on to build brands and businesses across South-east Asia for 20 years.

Since returning to the UK, Richard has been involved with multiple startups as a founder, investor and advisor.

More recently he was Chief Operating Officer of archie, an acceleration partner for fintech businesses, which launched at DIFC in Dubai.

SOLD TO PUBLICIS
CFM Group
FINANCIAL MARKETING

REGIONAL DIRECTOR
FCB, Asia Pacific
DATA-DRIVEN MARKETING

MULTIPLE FOUNDER
Entrepreneur
EARLY-STAGE INVESTOR

Executive summary

Founders have never had more information, expertise, and technology available to them. Yet only a small share of startups go on to scale. Why does so much knowledge coexist with so little success?

This paper introduces **Scaling Intelligence**: the ability to turn what is known about successful scaling into contextually relevant understanding, better decisions, and effective action. At its heart is Pixie's five-stage Theory of Change:



Why does so much knowledge coexist with so little success?

SEVEN CONNECTED IDEAS

1

More data isn't more intelligence.

The challenge isn't just giving founders information, but helping them to recognise what matters, understand it, and decide what to do next.

2

Scaling Intelligence connects data to impact.

Access, interpretation, decisions, action, and scaling form a continuous process, not a guaranteed formula for success.

3

Expertise must become more accessible.

Traditional entrepreneurial support is constrained by geography, networks, and limited human capacity. It is also loaded with biases, from gender to neurodiversity. AI offers the opportunity to extend intelligence to millions more founders.

4

The founder is part of the intelligence.

Effective guidance combines external evidence about successful scaling, live company performance data, and the founder's own knowledge, ambitions, and judgement.

5

Better intelligence enables better decisions.

Decision quality matters more than speed or confidence. Founders must challenge assumptions, assess evidence, consider alternatives, and calibrate confidence to complexity.

6

Intelligence is worthless until somebody acts.

Knowing what to do doesn't guarantee implementation. Scaling requires strategic planning and execution management.

7

You can't outsource your scaling journey.

AI can raise the floor by democratising intelligence, but humans must raise the ceiling through judgement and action. Even modest improvements in scaling success would matter a great deal.

Scaling Intelligence isn't about giving founders more information. It's about helping them turn what they know into better decisions, effective action, and ultimately, more successful businesses.

01 The scaling paradox

If we know more about what makes startups succeed than ever before, how come so few businesses manage to scale to their full potential?

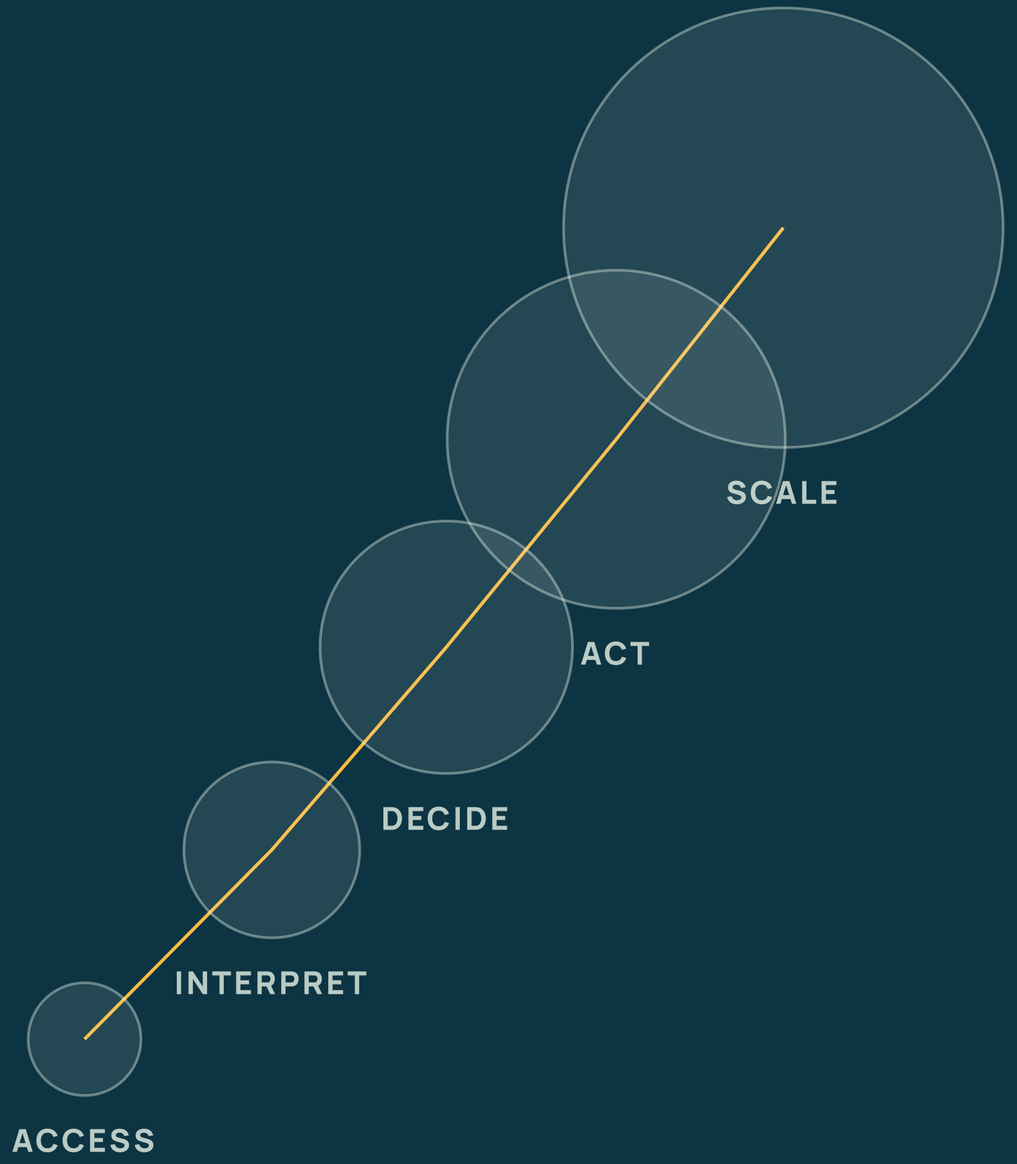
IN THIS SECTION

The numbers behind the paradox

An ecosystem built around scarcity

More data isn't the same as more intelligence

A different kind of constraint



There has never been a better time to start and scale a business, or at least there has never been more help available to those who want to. Entrepreneurs today can draw on an extraordinary wealth of information and expertise, technology and capital.

Decades of practical and academic research have identified patterns associated with successful businesses. Accelerators and incubators offer structured programmes, mentoring, and networks. Digital platforms put sophisticated analytical tools within reach of business leaders that they could scarcely have imagined a generation ago. And now, artificial intelligence (AI) promises to make knowledge and advice more accessible still.

Yet the evidence is sobering. In Startup Genome's study of early-stage startups surveyed between 2015 and 2019, only 2.5% of those in early-stage (Activation-phase) ecosystems and 8.7% of those in more mature (Integration-phase) ecosystems reached a $50 million valuation within four to eight years.[1] How can so much knowledge coexist with so little success?

The numbers behind the paradox

Let's start with the scale of the opportunity. Startup Genome's 2026 Global Startup Ecosystem Report draws on data from more than 5.5 million startups across 350-plus ecosystems.[2]

But these figures need careful interpretation. What counts as a startup? What constitutes successful scaling? And over what period?

1 Startup Genome, The Scaleup Report: The DNA of Successful Startups, September 2023, chapter "What Makes a Startup Succeed". https://startupgenome.com/report/scaleup-report/what-makes-a-startup-succeed-identifying-scaling-success-factors

2 Startup Genome, Global Startup Ecosystem Report 2026, June 2026, introduction. https://startupgenome.com/report/the-global-startup-ecosystem-report-2026/introduction

Meantime, Startup Genome defines a tech scaleup as a startup valued at $50 million or more.[3]

By any measure, $50 million is a demanding threshold, and not the only definition of business success. A profitable, sustainable business employing 30 people may be a tremendous achievement for its founder, even if it never approaches that valuation. What's more, founders often have their own version of what success looks like, which no-one in the ecosystem should deny them. Rather, we should be flexible enough to accommodate it and help them plan for it.

Nor does failing to scale necessarily mean failing as a business. Some founders choose not to pursue rapid growth while others build successful enterprises that remain small by design. So, while the headline figures are a useful starting point, they're not a complete diagnosis. What matters is the broader question they raise: why do so many businesses with growth ambitions struggle to fulfil them?

An ecosystem built around scarcity

Part of the answer lies in how entrepreneurial support has developed. Much of the world's most valuable scaleup expertise is concentrated in a tiny number of places and institutions. Venture capital firms, accelerators, specialist advisers, and experienced entrepreneurs often provide extraordinary support and yet their capacity is limited.

A venture capital firm must select the businesses it believes offer the strongest investment prospects in the least possible time. An accelerator can only take on so many participants. And an experienced mentor has a finite number of hours. These limitations are understandable, and while selectivity is central to many organisations' business models, there's a consequence.

3 Startup Genome, The Scaleup Report, September 2023, Methodology. https://startupgenome.com/report/scaleup-report/methodology-894

An ecosystem designed to identify and support such a small proportion of promising business ideas cannot - by its very nature - be an ecosystem designed to help the greatest possible number succeed.

Those founders who miss out on formal programmes don't necessarily lack ambition, talent, or potential. They may lack the right connections, live in the "wrong" place, or just be building businesses that don't fit investors' preferred profiles.

This is the **bandwidth problem**: valuable expertise and knowledge of the immutable laws of scaleup success exist, but there isn't enough capacity in the ecosystem to deliver it personally to everyone who might benefit from the value inherent in the network, including referrals and introductions.

More data isn't the same as more intelligence

Technology is changing the balance of the bandwidth problem. First, the internet made information widely available. Then, cloud computing made sophisticated business tools affordable.

THE BANDWIDTH PROBLEM

Valuable expertise and knowledge exist, but there isn't enough capacity in the ecosystem.

And now, AI can synthesise research, analyse data, generate options, and provide personalised guidance at extraordinary speed, bringing together multiple, complex data sets, spotting relationships and correspondences that hitherto remained invisible. As a result, the traditional constraints on distributing knowledge are loosening.

But relaxing these bottlenecks doesn't magically solve the problem. Consider the case of two founders who can access the same research about how businesses scale successfully. One is running a company with strong demand but dwindling cash reserves. The other has secured substantial investment but cannot retain key employees. Both can read the same advice about growth, recruitment, pricing, and fundraising; both can ask an AI assistant what successful startups do, yet the decisions facing them are fundamentally different.

What matters isn't what successful businesses have done before. It's what that evidence means for this *particular* business, at this *particular* moment, with these *particular* constraints. The first founder might need to slow growth to protect cash. The second might need to invest in leadership or decide that now is the opportune moment to offer an Employee Stock Ownership Plan (ESOP) rather than accelerate recruitment. Yet neither decision follows automatically from having more information and both require interpretation, judgement, and an understanding of context. Even when founders reach the right conclusions, they still need the confidence, resources, and motivation to act. We'll return to motivated behaviour change in Section 6.

A different kind of constraint

For decades, the challenge has been partly about getting more expertise to more entrepreneurs and that remains important. Access to capital, experienced advisers, and valuable networks is still profoundly unequal, but as AI makes information increasingly abundant, another constraint becomes harder to ignore.

The problem isn't that founders don't know enough; it's that knowing more doesn't help them decide what to do next.

Founders don't need every possible answer but rather they need to recognise which questions matter, how to distinguish useful evidence from distracting noise, make decisions under uncertainty, and turn those decisions into action. What's more, they need to repeat that process time and again as their business grows.

This suggests that the next advance in supporting entrepreneurs won't come from expanding access to information, but from improving their ability to use it intelligently. This is the proposition at the heart of Scaling Intelligence.

The problem isn't that founders don't know enough; it's that knowing more doesn't help them decide what to do next.

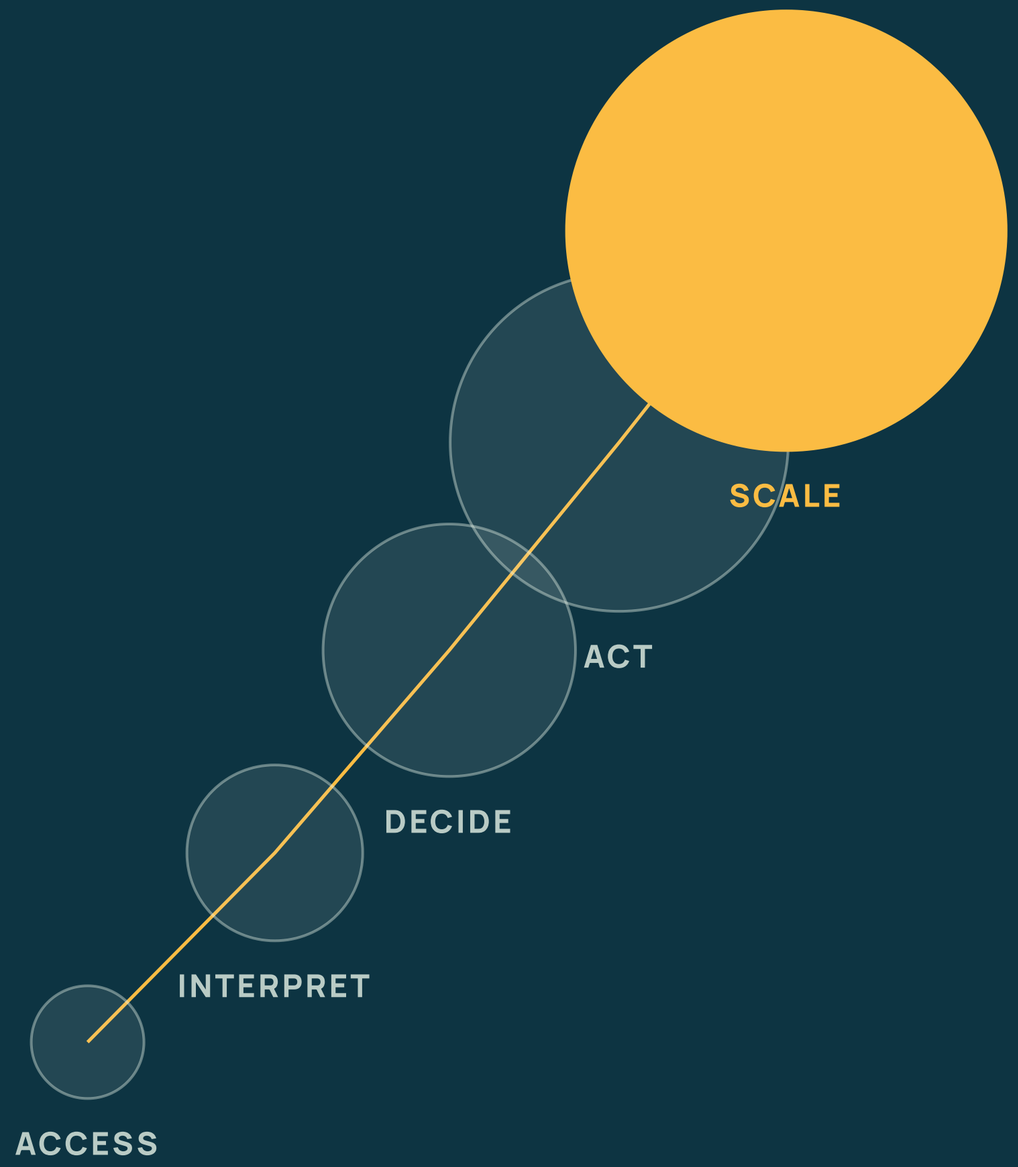
02 Scaling Intelligence: from insight to impact

What does it take to turn knowledge about successful scaling into better outcomes for founders?

IN THIS SECTION

- A practical Theory of Change
- A framework to explore, not a formula for success

- ACCESS: make scaleup know-how accessible
- INTERPRET: turn data and founder insight into understanding
- DECIDE: make better decisions, at the right time
- ACT: turn decisions into effective action
- SCALE: help more startups fulfil their potential



If the challenge facing entrepreneurs is not so much a shortage of data but rather their ability to make the best use of it, we need to think differently about what effective support looks like. This is where the concept of **Scaling Intelligence** comes in. We define it as **the ability to turn what is known about successful scaling into contextually relevant understanding, better decisions, and effective action.** It combines evidence about what has worked for other businesses with an understanding of the circumstances facing an individual founder.

Scaling Intelligence is not another name for artificial intelligence for business growth, nor is it just a collection of data, benchmarks, and business advice. It's a capability that founders can develop and apply throughout their entrepreneurial journey, supported by technology, expertise, and their own experience and judgement. AI has the potential to make this capability more widely available than ever before - as well as enable a more conversational interaction between founders and their data - but it cannot substitute for every element of it.

the ability to turn what is known about successful scaling into contextually relevant understanding, better decisions, and effective action



Figure 1. Pixie's Theory of Change behind Scaling Intelligence

A practical Theory of Change

Pixie has developed a Theory of Change that sets out five connected stages through which Scaling Intelligence could help more startups fulfil their potential and it's shown in Figure 1, above. This model is deliberately straightforward. Each stage addresses a different challenge, and each creates the conditions for the next. Together, they describe a journey from making knowledge available to putting it to work and ultimately achieving better outcomes.

For the rest of this section, we put a little more flesh on the bones of each stage of this Theory of Change, and the flow dictates the structure of the paper that follows.

A framework to explore, not a formula for success

There is an important qualification. This Theory of Change is a proposition about how Scaling Intelligence has the potential to improve outcomes, not proof that following five steps guarantees success. Scaling a business is rarely linear, and founders will continually revisit earlier stages as circumstances change. New evidence may challenge an established interpretation, a decision may need reconsidering, and an unsuccessful action may reveal something valuable about the business, the market, or customer behaviour.

The immutable laws of scaling apply less or more as founders and their businesses progress along their growth journey such that "what got you here may not get you there". What matters to early-stage, pre-revenue startups is inevitably different for startups when they move into a high-growth phase.



ACCESS

make scaleup know-how accessible

The first challenge is to open up knowledge, evidence, and expertise that have historically been concentrated among a relatively small number of founders, investors, advisers, and institutions. Advances in technology, particularly AI, create opportunities to extend knowledge to many more entrepreneurs, wherever they are in the world and whatever their connections and networks.

INTERPRET

turn data and founder insight into understanding

Access alone isn't enough. Founders need to understand what the evidence means for their own businesses, taking account of their performance, markets, ambitions, resources, and constraints. This requires combining external knowledge with live business data and something equally important: the founder's own understanding of their specific circumstances.

DECIDE

make better decisions, at the right time

Understanding creates options, but founders must still make choices. They need to weigh options, assess quality of evidence, and make judgements under uncertainty. Better intelligence should improve quality of decisions not just accelerate how quickly they're made.

ACT

turn decisions into effective action

Even the best decision achieves nothing until somebody does something about it. Founders need the motivation, resources, and confidence to translate choices into practical changes, while learning from what happens next. This is where intelligence can deliver tangible value and help founders to stay on track on their scaleup journey.

SCALE

help more startups fulfil their potential

The ultimate ambition is not to generate more information, better dashboards, or even better decisions for their own sake. It's to help more businesses achieve sustainable growth, create employment, generate economic value, and realise the ambitions of their founders.

Nor are the five stages equally straightforward to deliver. Making data accessible is increasingly a technological challenge that AI can help address. Interpreting it, making decisions, and motivating action require a more complicated combination of human and artificial intelligence; knowing when to turn up the treble of human intelligence (HI) but turn down the bass of AI. Successful scaling depends on factors that neither founders nor technology can entirely control.

We believe that the value of this model lies in making these distinctions explicit. It encourages founders to assess whether the information they can access helps them understand, decide, and act more effectively. In so doing, it also provides a framework for examining where support currently falls short and where better approaches could make a difference.

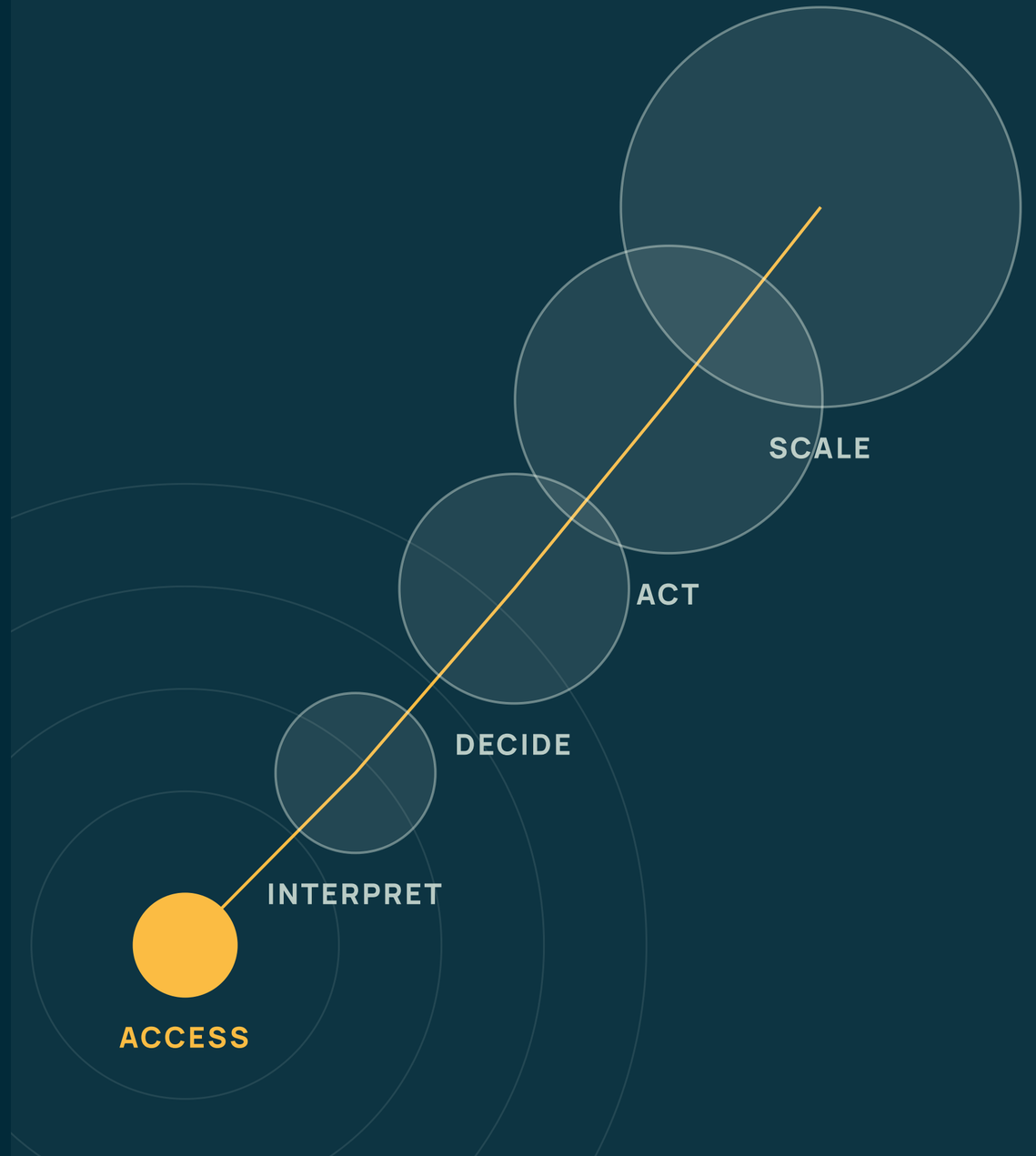
Successful scaling depends on factors that neither founders nor technology can entirely control.

03 From scarce expertise to abundant intelligence

What if the biggest barrier to scaling isn't a lack of knowledge, but who gets access to it?

IN THIS SECTION

- The limits of the traditional model
- Technology changes the economics of access
- Access is just the start of the journey, not the destination



For much of the history of entrepreneurship, access to the knowledge, expertise, and networks that help businesses grow has depended heavily on who founders know, where they live, and which institutions support them. The most valuable advice has often come from people who have successfully built businesses themselves, investors who have seen hundreds of startups succeed or fail, and specialist advisers who understand the challenges of growing a company. Such expertise is immensely valuable, but it has never been evenly or widely distributed.

Consider the role of accelerators. Organisations such as Y Combinator, Techstars, and Seedcamp have developed sophisticated approaches to identifying promising businesses and helping their founders develop the capabilities, connections, and confidence to grow. Their programmes bring together mentoring, structured learning, access to investors, and opportunities to learn from other entrepreneurs. But they are selective by design, and the intensive, personalised support that makes them valuable also limits the number of founders they can accommodate.

The same applies to venture capital firms and experienced advisers. Investors understandably concentrate their attention on businesses that fit their investment strategies (and/or deliver strong, time-limited returns), while advisers charge for their time. The result is an ecosystem in which a minority of founders enjoy access to extraordinary resources, while most must navigate similarly complex challenges without expert support.

The limits of the traditional model

This isn't an argument against accelerators, investors, or advisers. They fulfil important roles, and the best experienced guidance can make a real difference to entrepreneurial outcomes. The problem is one of reach, or the scale of scaling, if you will. Even if every existing support organisation operated at maximum capacity, the personalised attention available would remain a fraction of what the world's ambitious founders need.

Geography compounds the problem. Entrepreneurs in established startup centres such as London, Silicon Valley, and Singapore benefit from concentrations of investors, experienced founders, universities, and specialist services that are difficult to replicate elsewhere. Digital communication has reduced some of these disadvantages, but it hasn't eliminated the importance of personal relationships, reputation, and proximity to capital. Particularly for startups in - say - Marrakech, Mumbai, or Manila.

Access is also not just a question of geography. Founders without established professional networks, substantial personal resources, or experience of raising investment can find themselves excluded from opportunities that others take for granted. A promising business doesn't automatically attract the support it deserves.

The paradox is that the expertise needed to help more businesses succeed already exists, but the traditional ways of sharing it cannot reach everyone who might benefit.

The result is an ecosystem in which a minority of founders enjoy access to extraordinary resources, while most must navigate similarly complex challenges without expert support.

Technology changes the economics of access

For decades, extending access meant expanding the capacity of existing institutions: more accelerators, advisers, mentoring programmes, and investment in entrepreneurial ecosystems. Those approaches remain valuable, but they depend heavily on scarce human time and available capital. Ironically, systems devoted to scaling startups are not - themselves - inherently scalable.

systems devoted to scaling startups are not – themselves – inherently scalable.

Technology and the private commons[4] - privately operated platforms that become more valuable as more people use them and contribute to them - offer a different opportunity. Digital platforms can distribute knowledge to enormous audiences at relatively little additional cost, while AI can make that knowledge easier to search, interrogate, and apply and make it both more conversational and more personalised. Instead of waiting for an appointment with a specialist adviser, a founder can explore a business problem immediately, examine relevant evidence, and consider alternative approaches.

More significantly, AI can bring together information that previously sat in separate, siloed places: research into successful scaling, benchmarks from comparable businesses, and data about the founder's own company performance. This enables entrepreneurs to move beyond generic guidance towards support that responds to a business's own changing circumstances.

Yet technological capability shouldn't be confused with demonstrable effectiveness. An AI system that produces plausible advice at scale isn't necessarily providing accurate, relevant, or useful guidance for a particular business. Recommendations are only as dependable as the evidence and assumptions behind them, and how they relate to the metrics that matter.

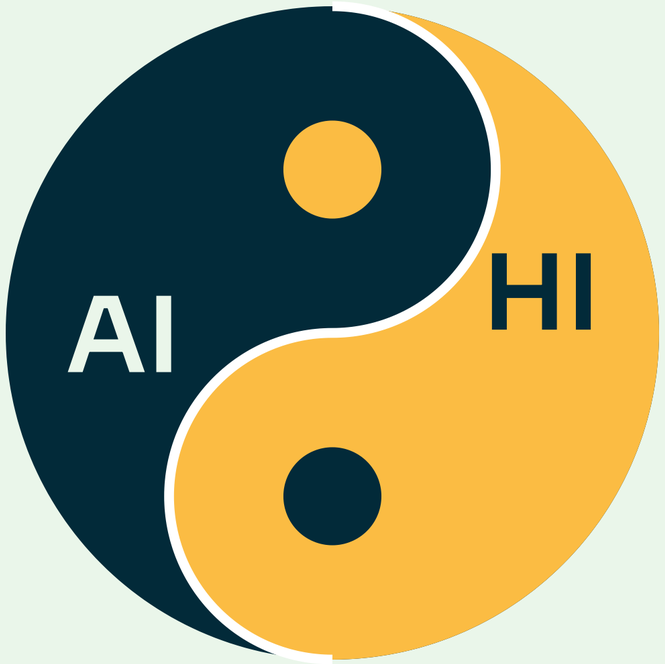
4 See Reid Hoffman (co-founder of LinkedIn) and Greg Beato, Superagency: What Could Possibly Go Right with Our AI Future (Authors Equity, 2025).

Access is just the start of the journey, not the destination

Making information widely available doesn't imply everyone has an equal opportunity to benefit from it. Founders differ in their digital skills, confidence, experience, and ability to evaluate advice. Some have the time and resources to experiment with new technologies; others are consumed by the immediate demands of keeping their businesses afloat.

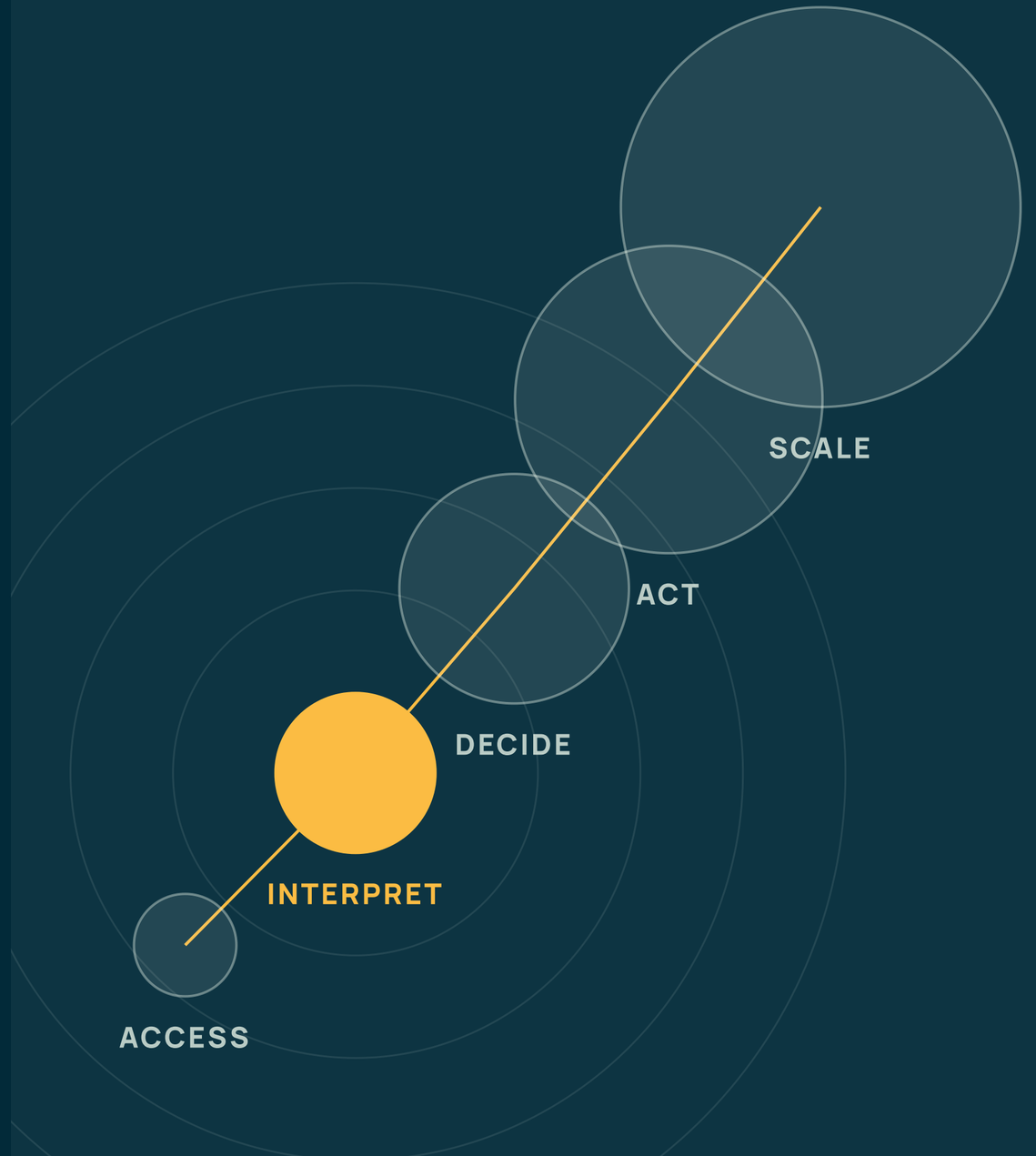
Nor is the most valuable entrepreneurial knowledge always easily captured in a database. Experienced founders and advisers bring tacit knowledge, intuition, relationships, and an understanding of human behaviour that can be difficult to codify. Technology may extend their reach, but it doesn't necessarily reproduce everything that makes their contribution valuable.

The ambition for the scaleup ecosystem shouldn't therefore be to replace existing institutions with automated advice, but to make their accumulated knowledge available to many more founders while recognising where human expertise remains indispensable. It all comes down to the delicate balance between human and artificial intelligence (HI and AI). Not all startups can succeed even with access to Scaling Intelligence - or even to high-intensity ecosystem programmes, including incubators and accelerators. This is not a fix for failure. Rather, it aims to improve how founders decide and act.



04 The founder is part of the intelligence

How do we combine what the data tell us with what only the founder can know?



IN THIS SECTION

From information to understanding

The Voice of the Founder

The promise and LLMitations of AI

Imagine two startups operating in the same market, at a similar stage of development, with comparable revenues, growth rates, and financial resources. On paper, they look remarkably alike. An analysis of their performance against established benchmarks might identify similar strengths, weaknesses, and opportunities. Yet one founder is determined to build an international business and raise substantial external investment, while the other wants to retain ownership, grow steadily, and create a sustainable company that provides financial security for their family. Should they receive the same advice?

Clearly not. And therein lies one of the fundamental challenges of Scaling Intelligence: data can tell us a great deal about a business, but it cannot tell us everything that matters to the person building it.

ONE STARTUP

determined to build an international business and raise substantial external investment

THE OTHER STARTUP

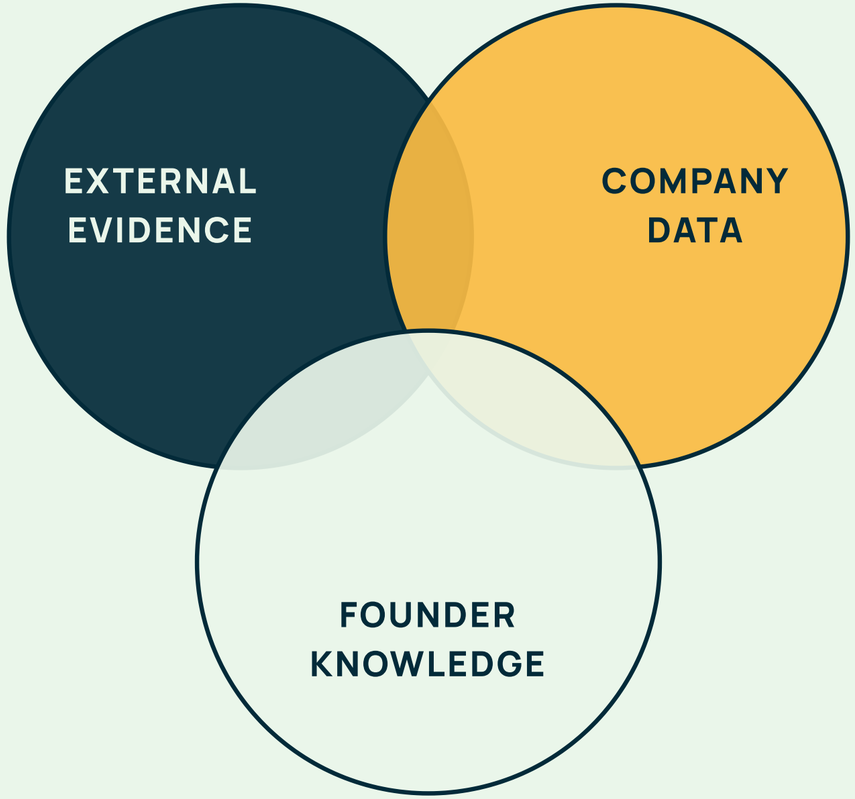
wants to retain ownership, grow steadily, and create a sustainable company that provides financial security for their family

From information to understanding

In our Theory of Change, INTERPRET is the bridge between accessing information and developing genuine insight - that profound and useful understanding. The challenge is less about identifying patterns associated with successful scaling and more about establishing what those patterns mean for a particular business, at a particular moment in its development.

This requires bringing together three complementary sources of intelligence. The first is **external evidence**: research into successful businesses, sector trends, market conditions, and benchmarks. The second is **company data**, including finances, customers, employees, operations, and commercial performance. The third is **founder knowledge**: their understanding of the business, ambitions, experience, priorities, and appetite for risk.

Complementary sources of evidence underpinning Scaling Intelligence



Each source provides a different perspective. External evidence offers context and comparison; company data reveals what's happening within the business; and founder knowledge helps explain why it's happening, what matters, and what might be possible. This includes founders' goals and aspirations which need to be embraced in the context of the market. None is enough in and of itself; they need, feed off, and amplify one another.

Take staff churn. An industry benchmark might suggest that a startup is losing people more quickly than comparable businesses, while its HR data reveals that leavers are concentrated in one team. That's useful information but understanding the problem requires probing. Is the business struggling to compete on salary? Has a manager created an unhealthy working environment? Or is the founder deliberately changing the organisation's capabilities as the business enters a new phase? The same numbers could point towards radically different explanations and decisions.

The difference between data and insight is the difference between knowing what's happening and understanding what it implies; moving from **"What?" to "So what?" and ultimately to "Now what?"**, aka what the data are, what they mean, and what we should do as a result.

The Voice of the Founder

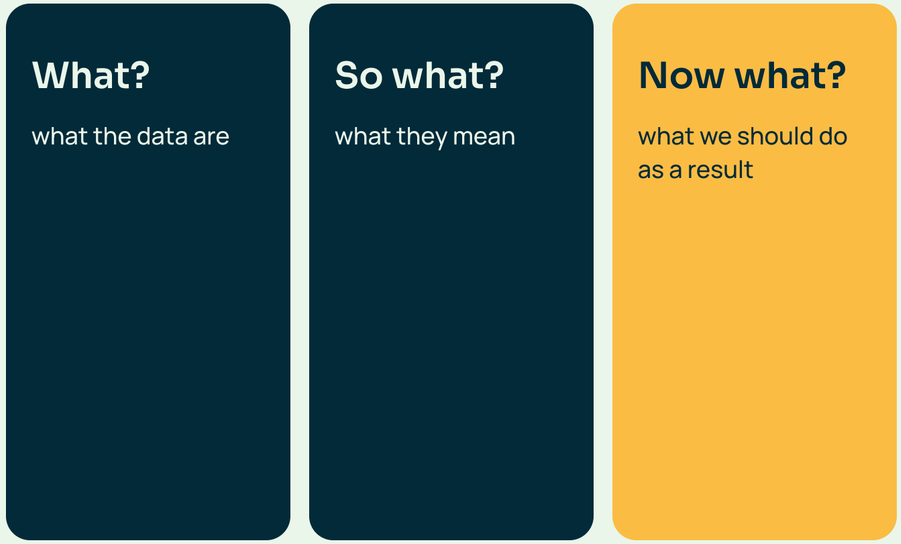
This is why the Voice of the Founder must sit at the heart of Scaling Intelligence. Founders aren't just another source of data to be incorporated into an analytical model. They're active participants in interpreting evidence, challenging assumptions, and determining what constitutes success for their businesses.

Their contribution extends beyond facts that can be captured by a questionnaire. Founders possess knowledge accumulated through conversations with customers, negotiations with suppliers, experience of their teams, and countless decisions made along the way, including the original eureka moment that enabled them to spot a gap in the market in the first place.

Of course, founders aren't infallible. Their proximity to the business can make them overconfident, emotionally attached to unsuccessful strategies, or reluctant to confront uncomfortable evidence. Personal conviction is not proof, and intuition should be challenged, not automatically trusted. Equally, an analytical system that ignores the founder's experience risks producing recommendations that are technically plausible but practically irrelevant.

The promise and LLMitations of AI

AI makes this approach increasingly feasible. Yet unless it's their business or central to their business model, there's no imperative for founders in the age of AI to be experts in large language models (LLMs). Rather, LLMs should be able assistants capable of taking founders' visions further by doing what they do best. By connecting information from accounting, customer relationship management, human resources, and other business systems, it becomes possible to build a more comprehensive, continuously updated picture of a company's performance.



Comparing that picture with evidence from businesses that have successfully scaled before can help identify emerging strengths, weaknesses, and opportunities that founders might otherwise overlook.

There are important qualifications, however. Business data can be patchy, contradictory, or misleading, while comparisons between apparently similar companies may conceal significant differences. Correlation doesn't establish causation, and the fact that successful businesses share a characteristic doesn't suggest that adopting it will produce success elsewhere. With their trademark lack of hesitation and associated humility markers - not to mention their people-pleasing tone - LLMs too often generate overconfident explanations that are unsupported by the underlying evidence.

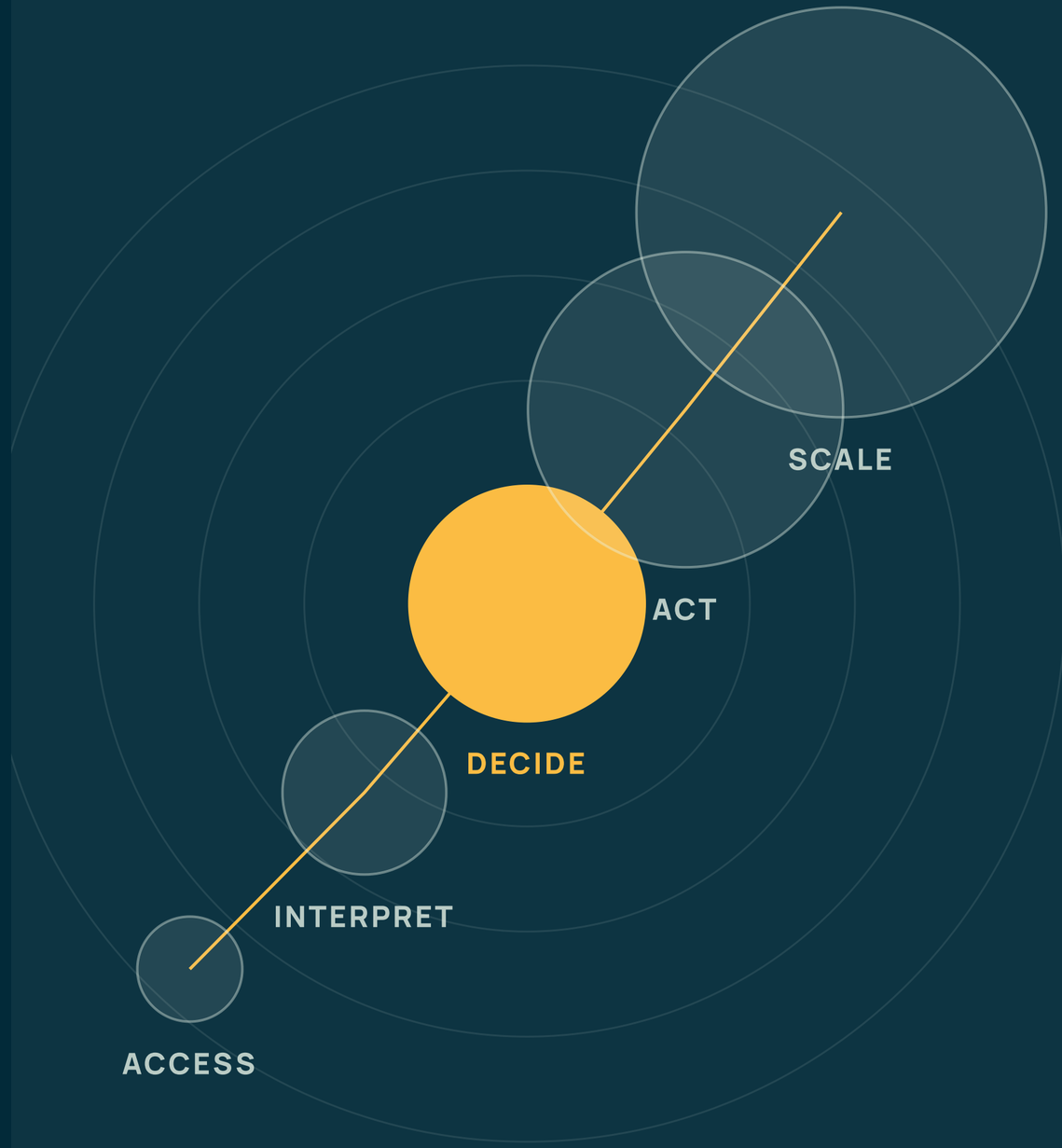
These limitations make the founder's involvement more important, not less. A useful system should expose uncertainty, invite challenge, and distinguish established evidence from interpretation and informed speculation. Its purpose should be to help founders ask smarter questions rather than provide more convincing answers.

The founder isn't another data point. The founder is an integral, arguably the most important, part of the business's intelligence ecosystem.

INTERPRET therefore transforms Scaling Intelligence from a sophisticated exercise in benchmarking into something more valuable: an understanding of what the evidence means for this business, its founder, and its future. But understanding alone doesn't determine what happens next. Founders still face competing priorities, incomplete evidence, and difficult choices about where to invest their time, money, and attention.

05 Better intelligence enables better decisions

How can founders make better decisions when the stakes are high, the evidence is incomplete, and the future is uncertain?



IN THIS SECTION

Better decisions, not faster ones

Calibrating confidence to complexity

Learning from every decision

Every successful scaleup is built on a long run of consequential decisions. Some are relatively straightforward, such as choosing a new supplier or adjusting a marketing campaign. Others can determine the future of the business: entering a new market, recruiting a senior leadership team, raising investment, or deciding when to accelerate growth. Founders must make these choices with imperfect information, competing priorities, and consequences that may not become apparent for months or years.

Sitting at the midpoint of our Theory of Change, DECIDE is where Scaling Intelligence faces one of its stiffest challenges. Understanding evidence matters, but that doesn't automatically lead to good decision-making. Nor does confidence indicate competence. The challenge is to improve the quality of founders' judgement without taking responsibility away from them.

Better decisions, not faster ones

AI can analyse evidence, identify patterns, generate alternatives, and challenge assumptions at extraordinary speed. But faster analysis doesn't automatically facilitate better decisions. Sometimes founders need to act decisively; on other occasions, the most intelligent response is to slow down, consider alternatives, and examine what could possibly go wrong.

The distinction between decision quality and outcome quality is important. A founder might make a carefully considered decision that produces a disappointing result because circumstances change unexpectedly. Another might make a poorly informed decision that succeeds through good fortune. Judging decisions based solely on outcome risks learning the wrong lessons from both.

One approach to improving decision quality is to use CLEAR, a new Standard for Decision Quality[5] developed by Dr Sam Knowles, the author of this paper and of *Asking Smarter Questions* (Routledge, 2022). It enables decision-makers to assess five dimensions of decision quality, scoring each subjectively from 1 (poor) to 5 (excellent). The dimensions are shown in Figure 2.

This approach doesn't promise correct answers. It provides a disciplined way of asking better questions before committing to a course of action. A complementary technique is the pre-mortem[6], developed by cognitive psychologist Gary Klein, which invites decision-makers to imagine that a proposed course of action has failed and work backwards to identify what might have gone wrong. Both approaches create space to challenge assumptions long before they become expensive mistakes. Indeed, both demand engagement in the decision before it's even been taken.

Faster analysis doesn't automatically facilitate better decisions.

5 https://decision-quality-clarity.replit.app/?welcome

6 Gary Klein, "Performing a Project Premortem", Harvard Business Review, September 2007.



Figure 2. Criteria for judging decision quality, simply and clear-ly

Calibrating confidence to complexity

Not every decision warrants the same level of scrutiny. A founder choosing between two familiar suppliers faces a different challenge from one contemplating international expansion. Equally, two founders confronting the same decision may experience very different levels of confidence. Pixie's Scaling Intelligence **Complexity x Confidence matrix** brings these dimensions together, distinguishing four situations in which founders may benefit from different kinds of support, as shown in Figure 3.

In the top left quadrant, **The Overwhelmed** faces a hard decision with little confidence about what to do. Applying a technique such as the pre-mortem or using a tool like CLEAR can help reduce uncertainty by clarifying the problem, structuring alternatives, and identifying which evidence matters most. The objective isn't to eliminate risk; it's to make a daunting decision manageable.

Moving to the top right, **The Conviction Call** combines a complex decision with high confidence. This may be the most dangerous combination, particularly when conviction becomes overconfidence. The appropriate response is challenge: test assumptions, explore alternatives, and look for blind spots that enthusiasm or experience might conceal.

Down in the bottom left, **The Second-Guesser** lacks confidence about a relatively straightforward decision. More analysis may do no more than prolong hesitation. Here, useful intelligence provides reassurance, proportionate evidence, and the confidence to move forward.

Finally, **The Autopilot** combines confidence with a relatively easy decision. Excessive scrutiny would waste time and undermine momentum. A quick check for obvious risks may be all that's required before acting.

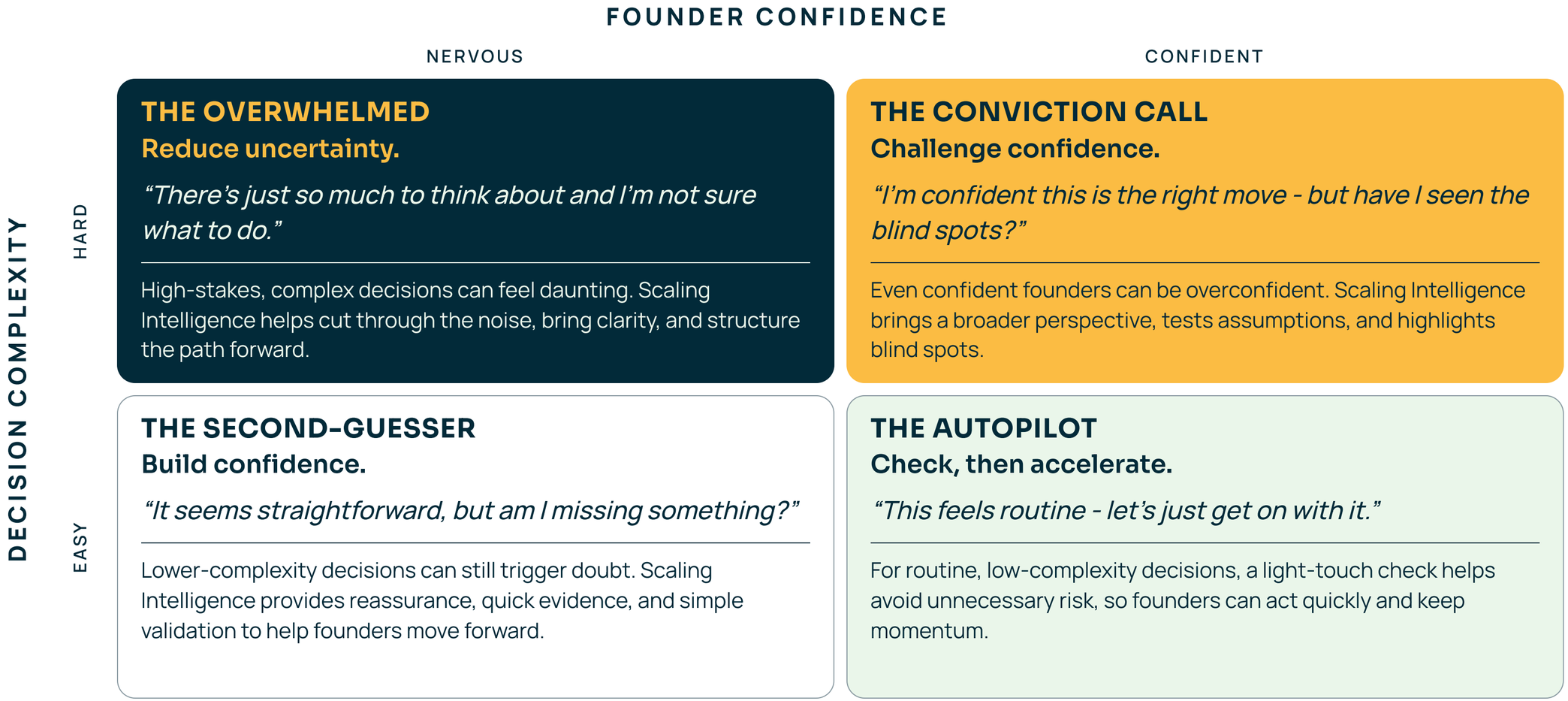


Figure 3. Pixie's Scaling Intelligence "Complexity x Confidence" matrix

These aren't four fixed types of founder. They're four situations that any founder might encounter, sometimes several times in the same day. **Scaling Intelligence helps founders calibrate their confidence to the complexity of the decision**, providing challenge or reassurance, structure or freedom to act as circumstances demand.

Learning from every decision

AI can strengthen each of these processes, but it cannot shoulder accountability from the founder. Nor should its recommendations become an invisible autopilot, quietly substituting algorithmic judgement for human choice.

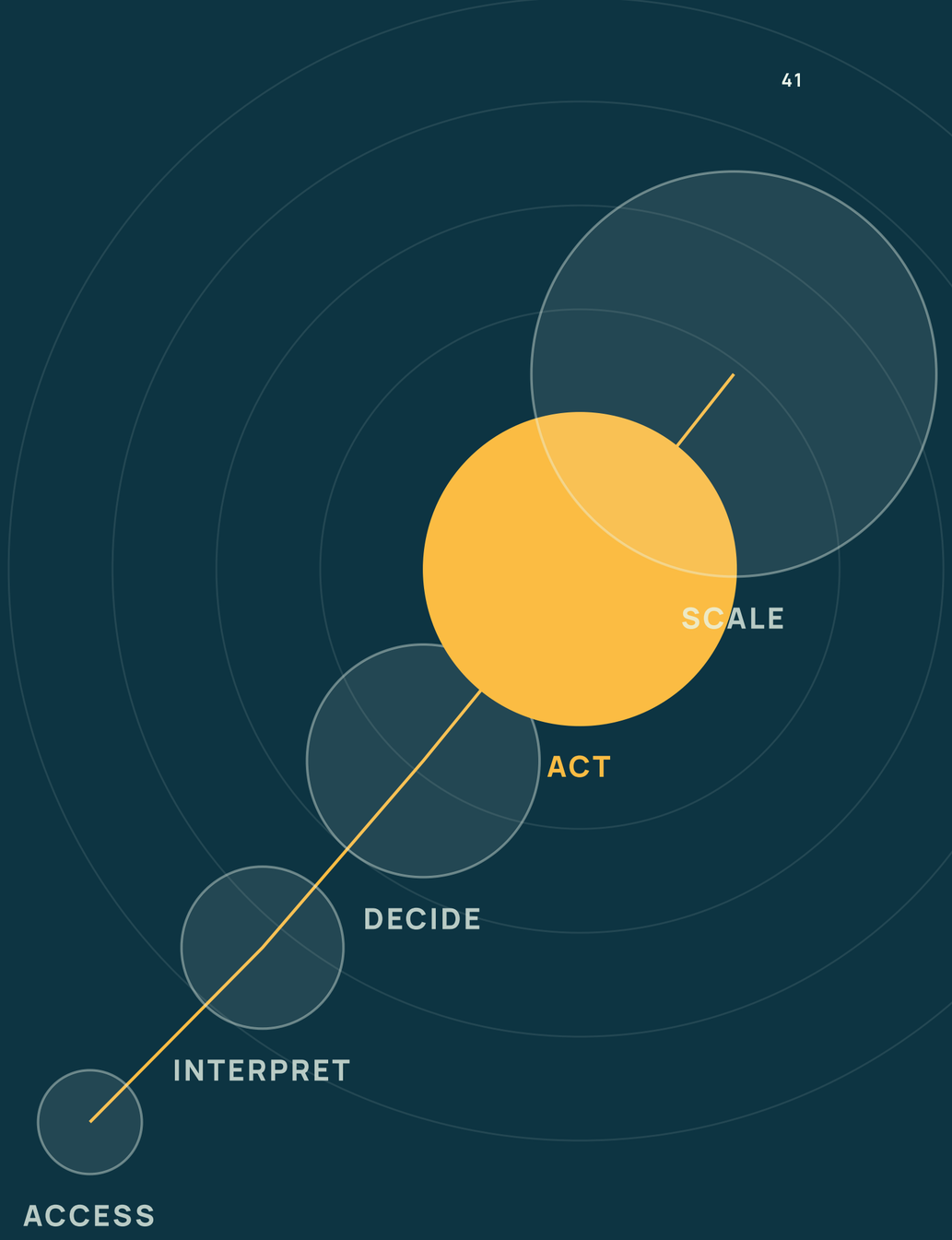
A further opportunity lies in recording not only *what* founders decide, but also *why:* the evidence considered, alternatives rejected, assumptions made, and outcomes subsequently observed. Over time, this living record of decisions made can help founders recognise recurring weaknesses in their reasoning, improve their judgement, and learn from decisions that worked as well as those that didn't.

Using this approach and worldview, founders can learn whether they routinely fall short in … how clear they are about the decisions they make; whether they have enough live options; whether the evidence they use to make their decisions is fit for purpose; whether there's an obvious accountability chain; and whether they commit to learning from today's decision to better inform tomorrow's and next week's.

This can give founders the confidence to delegate decision-making, with the ability to track quality in the decision-making moment and identify areas of the business that need additional support, such as - for instance - coaching and training.

06 Intelligence is worthless until somebody acts

Why is knowing what to do so much easier than actually doing it?



IN THIS SECTION

- From decisions to motivated behaviour change
- Accountability turns intention into action
- Action creates new intelligence

There is a substantial difference between making a good decision and putting it into practice. Founders can analyse the evidence, consider their options, and reach a well-reasoned conclusion, yet still struggle to translate that decision into meaningful action. Some of the most consequential failures in business occur not because people don't know what needs to change, but because they don't change it.

ACT is therefore an essential, and frequently neglected, component of Scaling Intelligence. Better information, deeper understanding, and improved decision-making create the conditions for progress, but none guarantees it. **Intelligence only becomes valuable when it changes what people do.**

From decisions to motivated behaviour change

Consider a founder who recognises that their business has outgrown its informal management structure. The evidence is compelling: decisions are taking longer, responsibilities overlap, and talented employees are becoming frustrated.

Intelligence only becomes valuable when it changes what people do.

The founder concludes that they need to delegate more authority, establish clearer accountability, and recruit experienced managers. Yet six months later, little has changed. Why?

Perhaps the founder struggles to relinquish control, worries about recruitment costs, or lacks confidence in the existing team. Maybe immediate operational pressures repeatedly displace longer-term priorities. The problem isn't insufficient information or even poor judgement. It's the difficulty of changing entrenched behaviour.

Moving from decision to action requires three conditions to coalesce. Founders and their teams need the **motivation** to make a change, the **capability** to carry it out, and the **confidence** to persist when difficulties arise - not to mention the obligatory resources and opportunities to act. Understanding these levers of motivated behaviour change - hard won in the labs of behavioural psychology just as much as in the practical reality of business - matters as much as identifying the right thing to do.

AI can help translate decisions into practical plans, identify dependencies, and track progress to prompt founders when commitments slip. But a reminder isn't motivation, and a beautifully structured action plan cannot overcome an unwillingness to change. Understanding human psychology remains central.

Accountability turns intention into action

One way to close the gap between deciding and doing is to make commitments explicit. What exactly will change? Who is responsible? By when? What resources are required, and how will progress be assessed? The decision-making framework detailed in Section 5, above, already primes founders on these critical dimensions.

Indeed, these questions turn an abstract intention into something observable and accountable. They also help identify obstacles early, rather than discovering months later that an important decision was never implemented.

This matters particularly in growing businesses, where responsibility increasingly extends beyond the founder. Scaling requires others in the business beyond the founder to understand decisions, commit to them, and coordinate action.

What exactly will change?

Who is responsible?

By when?

What resources are required, and how will progress be assessed?

A decision that makes perfect sense to the founder may fail if employees don't understand its purpose or lack the authority to implement it.

> Accountability isn't about holding people responsible when things go wrong. It's about making action more likely in the first place.

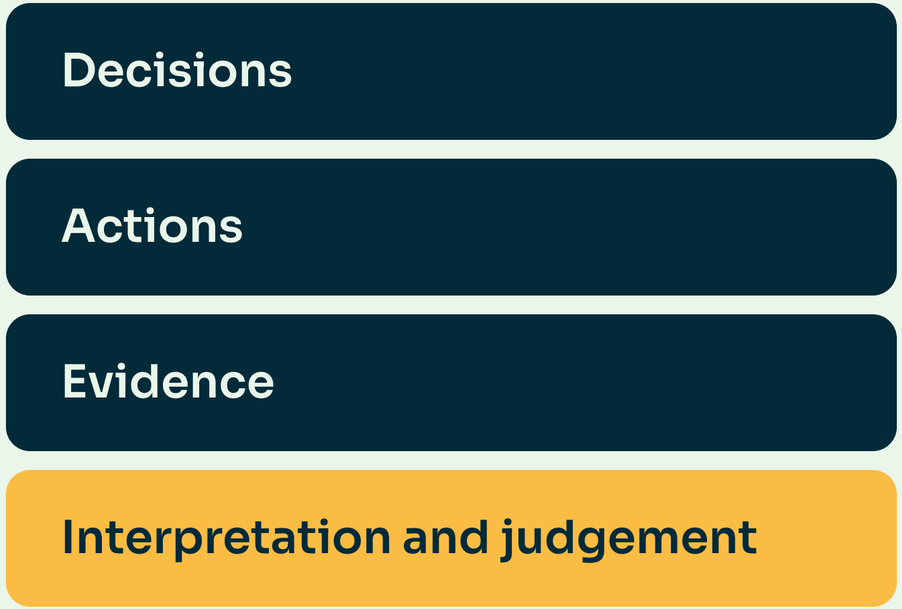
Action creates new intelligence

Doing something generates evidence that no amount of prior analysis can provide. A new pricing strategy reveals how customers respond in the wild. A revised recruitment approach tests assumptions about the talent market. Entering a new territory exposes opportunities and constraints that weren't visible from desk or field research.

Not every action will succeed, but even disappointing outcomes can improve subsequent decisions if founders examine what happened and why. This requires distinguishing between a flawed decision, poor implementation, and circumstances that couldn't reasonably have been anticipated.

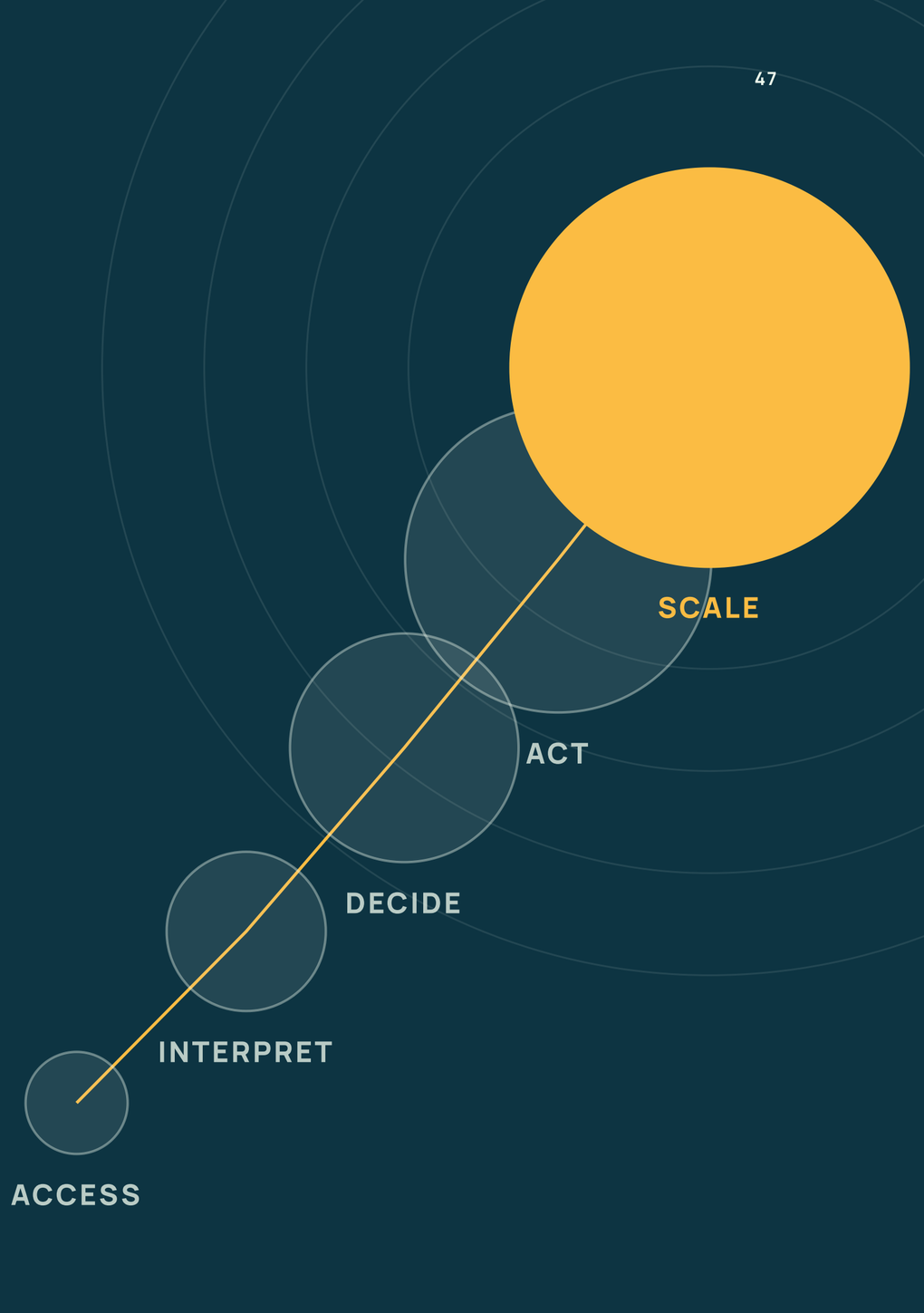
The relationship between DECIDE and ACT is therefore continuous rather than sequential. Decisions lead to actions, actions produce evidence, and that evidence informs the next round of interpretation and judgement. Over time, this feedback loop can strengthen both the business and the founder's ability to lead it.

Scaling Intelligence isn't about knowing what to do next. It's about creating the conditions in which decisions become action, action produces learning, and learning improves the decisions that follow.



07 You can’t outsource your scaling journey

What might become possible if every founder had access to the intelligence they need to scale, without surrendering their judgement?



IN THIS SECTION

Raising the floor to raise the ceiling

What difference could Scaling Intelligence make?

From possibility to proof

Imagine a world in which the knowledge, experience, and expertise that have helped a relatively small proportion of startups grow into successful businesses could be made available to millions more. Not as an online library of advice, or an AI assistant dispensing answers like a stochastic parrot, but as a continuous source of intelligence that helps founders understand their businesses, make better decisions, and act on them.

This is the ambition behind SCALE, the final stage of Pixie's Theory of Change. It isn't about removing the uncertainty inherent in entrepreneurship, predicting which businesses will succeed, or replacing founders with algorithms. It's about improving the conditions in which more businesses can fulfil their potential.

Pixie is in the business of scaling intelligence. What it offers at the SCALE stage is a scaling intelligence system: a dynamic, interactive system created to help startups scale by design and not by chance. It describes where a business stands today. It doesn't predict which businesses will succeed, and it doesn't replace founders with algorithms. It enables founders to improve their scaling outcomes, so that more businesses can fulfil their potential. Technology enables part of what Pixie does, and it uses whatever technology is best at the time.

Raising the floor to raise the ceiling

AI has the potential to transform the economics of entrepreneurial support. Knowledge that once required expensive advisers or access to exclusive networks can increasingly be made available at relatively little additional cost. Sophisticated analysis, benchmarking, and guidance can become accessible to founders who would previously have struggled to obtain them. **AI raises the floor so that humans can raise the ceiling.**

But greater access to intelligence doesn't eliminate the need for human judgement. Founders must still decide which opportunities to pursue, what risks to accept, whom to trust, and how to respond when circumstances change. They must persuade employees, investors, and customers to share their ambitions, while accepting responsibility for decisions that may not work out as intended.

What difference could Scaling Intelligence make?

Consider the scale of the opportunity. Startup Genome's 2026 report covers more than 5.5 million startups. If one more in every hundred of them reached a $50 million valuation, Startup Genome's scaleup threshold, that would mean at least 55,000 more scaleups, with combined valuations of at least $2.75 trillion. This is Pixie arithmetic, not an estimate of new economic value or of any effect of Pixie. (Sources: notes 2 and 3.)

AI raises the floor so that humans can raise the ceiling.

An illustration, not a forecast

Scalable startups	5.5 million+
Increase in scaleup rate	+1 in 100
More scaleups	at least 55,000
Combined valuations	at least $2.75 trillion

This is an illustration, not a forecast. It doesn't establish that Scaling Intelligence could produce such an improvement, or that any additional value would arise within a particular period. Nor should valuations be confused with economic output.

Even so, it shows why scaling outcomes matter, for founders and for the places where they build their businesses.

Equally, greater access to Scaling Intelligence could help founders recognise when rapid growth isn't the right ambition, or when a particular strategy is unlikely to succeed. Better decisions won't always mean bigger businesses. Sometimes they create more resilient, sustainable ones.

From possibility to proof

None of this is inevitable. Making intelligence widely available is a technological and commercial challenge; demonstrating that it improves entrepreneurial outcomes is an empirical one. The real test of Scaling Intelligence won't be how many founders adopt and live by it, how much information it processes, or how sophisticated its recommendations appear. It will be whether founders make demonstrably better decisions, translate more of those decisions into effective action, and achieve better outcomes over time.

This requires measurement, experimentation, and a willingness to discover where the approach works, where it doesn't, and why. Our Theory of Change provides a framework for asking smarter questions to help make that possibility real. But the opportunity is bigger than any one company or technology, and its success depends on combining the accumulated knowledge of the scaleup ecosystem with the intelligence, ambition, and judgement of individual founders.

Scaling Intelligence also provides considerable benefits for portfolio managers and ambitious scaleup ecosystems. These include greater visibility of how the businesses in their portfolios are performing, and consistent evidence to inform ecosystem investment by governments and development agencies.

At its heart, Scaling Intelligence isn't about giving founders more information. It's about helping them turn what they know already into better decisions, effective action, and ultimately, more successful businesses.

Anyone can share intelligence, while judgement, responsibility, and ambition remain the exclusive domain of the founder.
And that's why you can't outsource your scaling journey.

/ ends /

Scaling Intelligence isn't about giving founders more information. It's about helping them turn what they know already into better decisions, effective action, and ultimately, more successful businesses.

APPENDIX

Glossary

Terms as the paper itself defines them.

Scaling Intelligence
The ability to turn what is known about successful scaling into contextually relevant understanding, better decisions, and effective action.

Theory of Change
Five connected stages through which Scaling Intelligence could help more startups fulfil their potential.

ACCESS
Make scaleup know-how accessible.

INTERPRET
Turn data and founder insight into understanding.

DECIDE
Make better decisions, at the right time.

ACT
Turn decisions into effective action.

SCALE
Help more startups fulfil their potential.

Scaleup
A startup reaching a valuation of $50 million or more.

Bandwidth problem
Valuable expertise and knowledge of the immutable laws of scaleup success exist, but there isn't enough capacity in the ecosystem to deliver it personally to everyone who might benefit.

Private commons
Privately operated platforms that become more valuable as more people use them and contribute to them.

HI and AI
The delicate balance between human and artificial intelligence (HI and AI).

LLM
Large language model.

CLEAR
A new Standard for Decision Quality.

Pre-mortem
Invites decision-makers to imagine that a proposed course of action has failed and work backwards to identify what might have gone wrong.

Complexity x Confidence matrix
Distinguishing four situations in which founders may benefit from different kinds of support.

Pixie

Scaling Intelligence

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