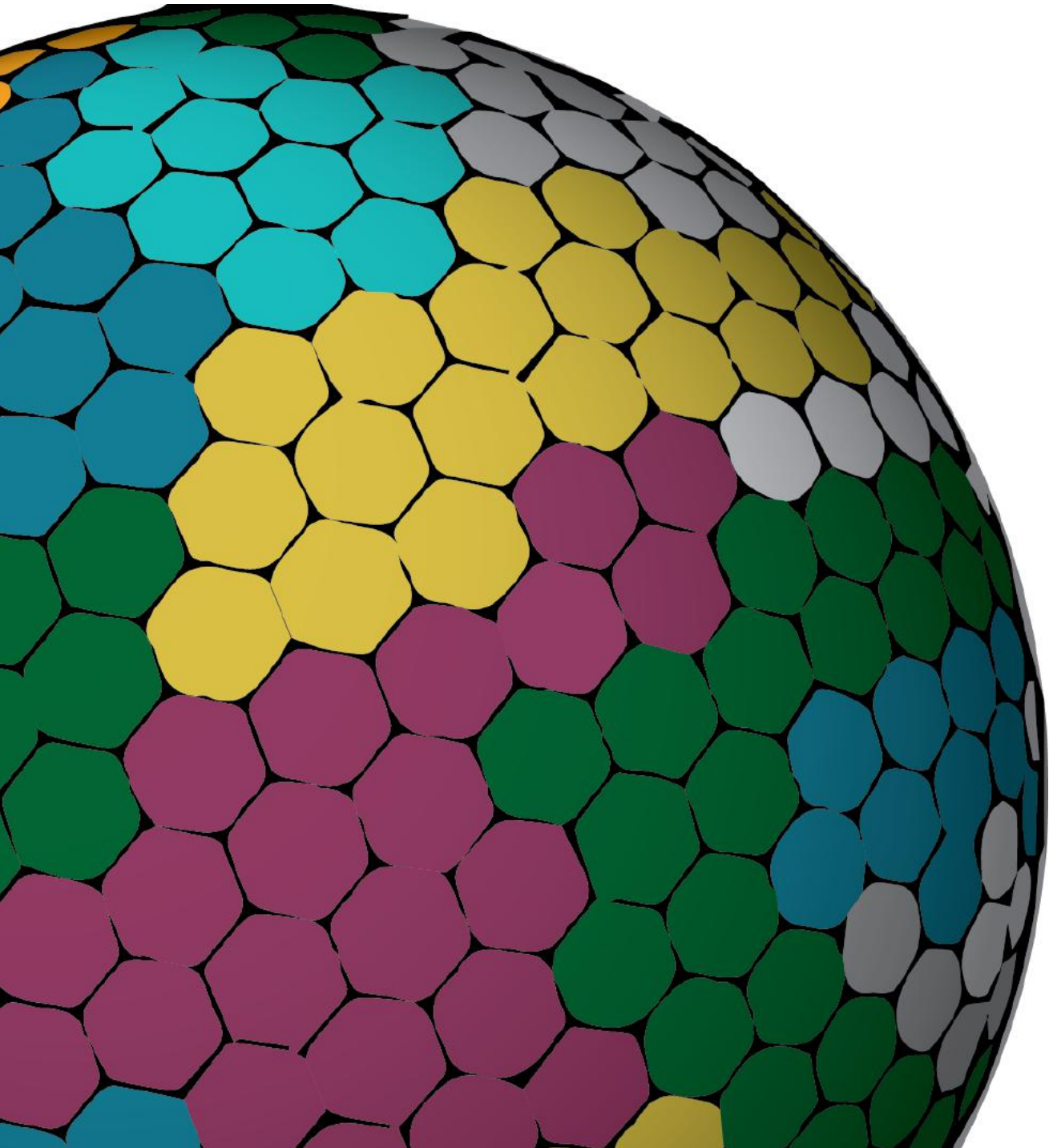


# Accelerating

## innovation ecosystems with

# Strategic Doing™

## Report and

## Proforma Proposal

Ecosystem learning and building solution

# Contents

# Summary


Globally and locally, we are faced with a growing number of complex and complex, dynamic challenges.  Wicked problems have surpassed our ability to respond in a timely fashion. It is only as a society, through collaboration and a joint commitment of resources, skills, and assets that we can hope to match the pace of change. Thankfully, we no longer think of innovation as a solitary pursuit.

Lone entrepreneurs will not solve the world's problems. Instead, we are seeing networks of individuals, organizations, and institutions fostering and cultivating an ecosystem of resources and generating ingenious solutions. **Participants in an ecosystem can quickly link, leverage, and align people to generate solutions to systemic issues.**

Ecosystem building is not new. However, the capability to shape, influence and manage such complex, dynamic, and intangible knowledge assets, remains elusive. The Kauffman Foundation presented us with a challenge. Could we use Strategic Doing -- an open-source operating system for complex collaborations -- as the foundation to replicate and scale the development of entrepreneurial ecosystems? After six months of discovery and design work, we conclude: Yes.

Our work included conducting virtual design challenges with **over 100 participants worldwide**. We conducted detailed interviews with ecosystem builders in Flint, Iowa City, and North Alabama to understand the challenges of using Strategic Doing to develop ecosystems. We piloted a human-centered design process to explore how we might design a system down to the interface design level. We developed a new visual language to communicate and demystify ecosystem building. We integrated these ideas with sample content, including practice briefs, videos, and a sample podcast.

**This content follows a tested model of ecosystem development.** This model focuses on developing collaborations across four strategic focus areas: brainpower, open networks, quality connected places, and opportunity narratives. Over the past three decades, we have used this model, grounded in the lessons of the transformation of Oklahoma City's economy in the 1990s, to build multiple ecosystems.

We also designed a "back end" information architecture to make sharing data across ecosystems possible. This information architecture allows for easier data capture and aggregation for visualizing ecosystems as they develop, conducting scholarly research on ecosystems, expanding our capacity to evaluate ecosystems, and fostering faster ties across ecosystems. **The architecture sets the stage for integrating artificial intelligence and the blockchain into ecosystem development.**

At the same time, our work **outlines a path that democratizes innovation. We envision a new form of "civic infrastructure" in communities that fosters, educates, and enables all people, regardless of location, education, socio-economic status or technical sophistication, to develop and participate fully in entrepreneurial ecosystems**. To imagine this solution, we have collaborated with the people who are faced with the difficult challenge of creating these systems. We use human-centered design and systems thinking processes to experiment, test and evolve our concepts and to inform the conceptual design of our Minimum Viable Product (MVP).

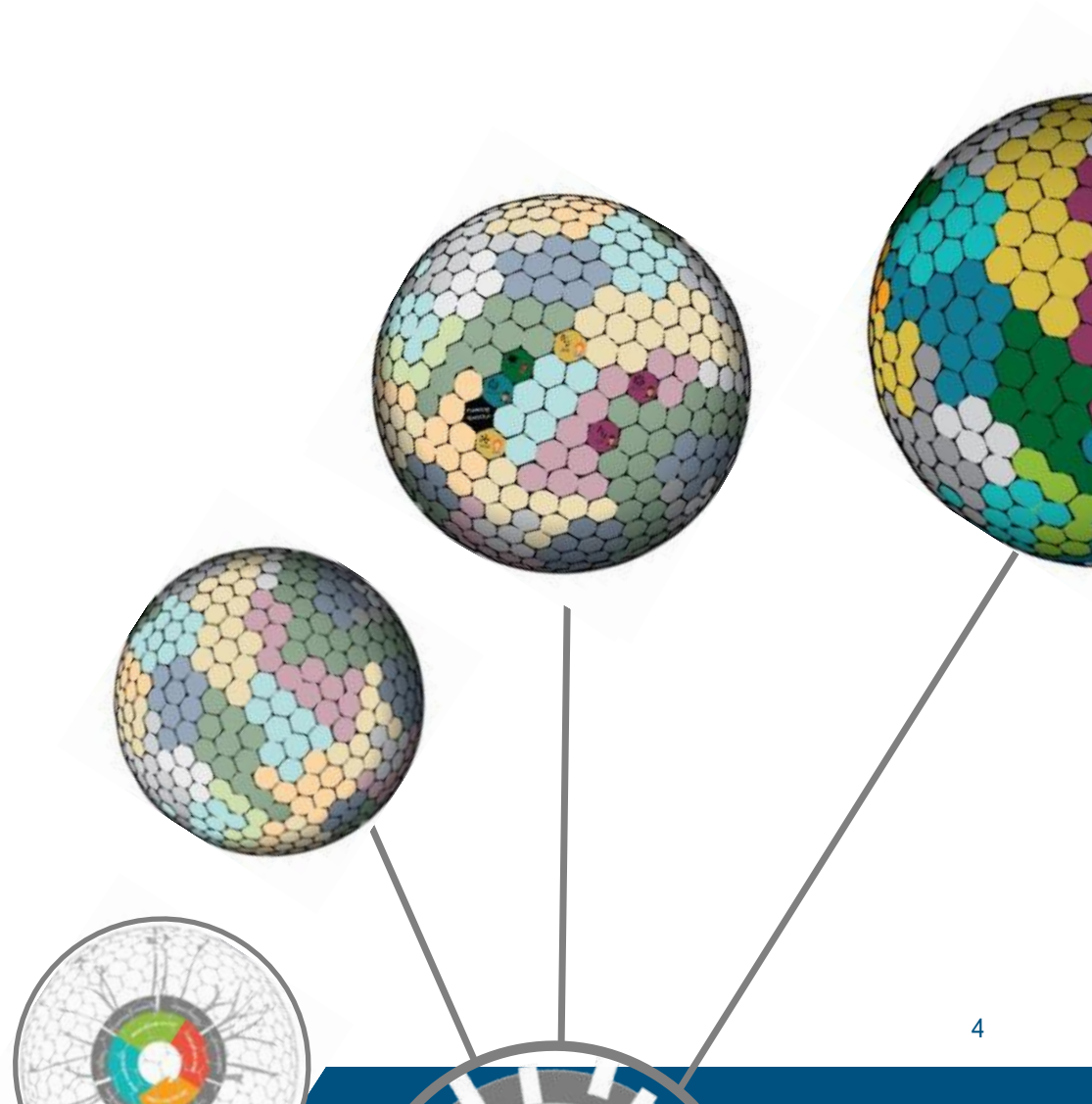
We have envisioned this platform as a dynamic "exoskeleton" that ecosystem-builders can "wear" as they design and guide new collaborations to strengthen their ecosystem. Just as a gardener equips herself with the right outerwear and tools every Spring, we see our "exoskeleton" as a set of frameworks, tools and resources that make the process of ecosystem faster, more open, and more productive.  What we see is far from the passive nature of most platforms we see today. Rather, we want to **leverage the interactive power of online networks** to assist ecosystem builders navigate the complex challenge of designing and guiding an ecosystem.

**We rely on Strategic Doing -- and its core values of supporting diversity, equity, and inclusion -- as our core operating system**. The discipline, which is now spreading globally, provides a clear path with simple rules to follow. Combined with our simple, powerful portfolio model for ecosystems, it provides the guidance practitioners need to accelerate ecosystem development. It is built on the lessons of community engagement that we have learned over the past thirty years.

**The concept we have developed represents a first step towards overcoming systemic barriers that slow ecosystem development.** We are building capabilities to surface, manage, and connect people and resources across the traditional boundaries that separate us. This document provides background, our process, our initial concept, and the proposed next steps to make this "learning by doing platform" a reality. If we are right – and we believe we are – **we have charted a map for accelerating both the volume and velocity of entrepreneurial ecosystem development.** It provides a path to more open, inclusive, innovative, and sustainable economies. In the process, we are developing the needed foundation for learning, evaluation, and research in entrepreneurial ecosystems.

To imagine a solution, we have collaborated with the people who are faced with the difficult challenge of creating these systems. We used **human-centred design** and **systems thinking** processes to experiment, test and evolve our concepts and to create the concept of our Minimum Viable Product (MVP). We also use **Strategic Doing** as the basis of mindset and the way ecosystems can be augmented and fast-tracked from initial idea to achieving results. Our concept development has also led to an emerging **visual language** to communicate and demystify ecosystem building. We believe the concept of the exoskeleton is the first step towards the ability to surface, manage and connect people and resources in multi-disciplinary structures without systemic barriers.

This document provides background, our process, **our initial concept** and the proposed next steps to make the exoskeleton a reality.



# The Challenge

## 1.1 The Challenge

Successful entrepreneurs create valuable businesses out of resources they do not fully own or control. They gain access to these resources through their networks. Taken together, the networks supporting entrepreneurs form an entrepreneurial ecosystem in a community or region. A high performing ecosystem increases both the volume and velocity of resources flowing to promising ideas. If an ecosystem is weak, fragmented, and disconnected, entrepreneurs face significant barriers to starting and growing a business (Spigel & Harrison, 2018).

Building ecosystems to support entrepreneurs is a relatively new concept, and the Kauffman Foundation has pioneered efforts to bring discipline and rigor to the field (Auerswald, 2015). The ESHIP Summit initiative, starting in 2017, has provided a catalytic effort to bring coherence to the rapidly emerging field of ecosystem building. The challenge remains, however. Building entrepreneurial ecosystems is a piecemeal process, funded disproportionately by philanthropy. Moving down the path toward entrepreneurial ecosystems is time consuming and expensive. But it does not have to be.

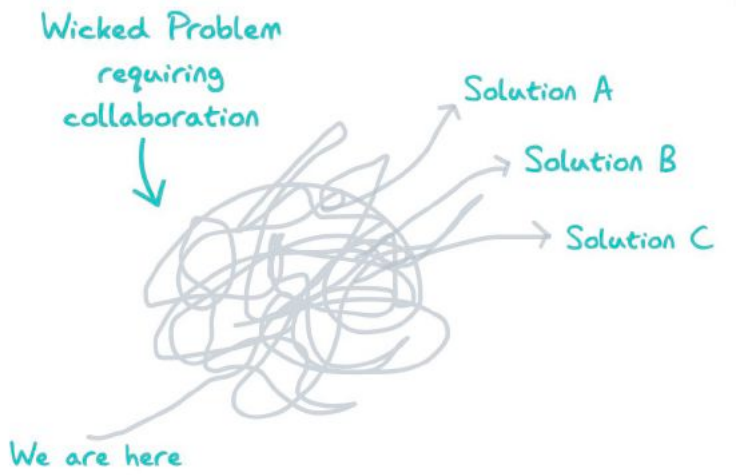
For most communities, five barriers stand in the way. This project focuses on overcoming these barriers.

### Five barriers to building ecosystems

1. **Weak collaboration** - the core practice of ecosystem building is not a widely shared approach in most communities. They lack widespread support for developing habits that increase trust across the ecosystem. Existing power structures often create an "immune response" to the new arrangements inherent in ecosystem building. Crossing organizational and political boundaries can be treacherous and often lead to failure.
2. **Ambiguity -** An entrepreneurial ecosystem is an abstract concept that is difficult to explain (Stam & Van de Ven, 2021), making community engagement difficult. Because we cannot easily explain ecosystems in a practical, clear, and visual way, we have not made entrepreneurial ecosystems accessible to the communities that need them.
3. **Learning difficulties -** It is hard to learn how to build ecosystems. We have no shared “operating system”. Ideally, practitioners would learn from other practitioners. But practitioners often compete with one another. Because we lack a common language describing ecosystems and how they develop, it is difficult for practitioners to share what works. Failures are often hidden, which further inhibits learning (Hartford, 2011).
4. **Weak metrics** - Entrepreneurial ecosystems lack meaningful metrics. Ecosystems builders tend to count what is countable rather than measuring what matters. Well-functioning ecosystems accelerate the velocity and volume of resources flowing through the ecosystem (Spigel & Harrison, 2018). Yet, practitioners and researchers do not have access to the data that dynamically measures the key dimensions of an ecosystem: the actors, their assets, their relationships, and how these factors change over time.
5. **Hidden networks -** We cannot easily visualize the system. Building an entrepreneurial ecosystem is not rocket science. It is harder, more like molecular biology. Molecular biologists use drawings to understand signaling pathways within the cell. These pathways are not visible, but they can be inferred from experimental data. In the same way, ecosystem builders are developing networks that they cannot see. To become more proficient, they need a visual language to communicate what they are observing.

Overcoming these barriers is tricky. New approaches to ecosystem development cannot be injected into a community like a vaccine. They must be grounded in conscious efforts, a replicable process to bring members of different constituent groups together for conversations that honour the resources, wisdom, and experience they bring. As Mary Walshok, the highly successful designer of San Diego's entrepreneurial ecosystem reminds us, building an entrepreneurial ecosystem changes a community (Walshok, 2013).

## Why do we need to focus urgently on developing an accessible approach to replicating, scaling, and sustaining entrepreneurial ecosystems?




Several reasons stand out:

### We are not learning fast enough about what works to develop effective entrepreneurial ecosystems.

Fragmentation is slowing the spread of entrepreneurial ecosystems. We have a connection problem. Ecosystems may be connected internally, but the connections across ecosystems are weak. Ecosystem builders working in similar circumstances -- inner city neighborhoods, rural communities -- cannot easily find each other. This means ecosystem builders cannot easily learn from each other or weave networks of entrepreneurs working on similar problems. What's worse, because we use a range of different metrics, we cannot easily compare performance across ecosystems. This failure limits both research and practice.

### We need more effective approaches to supporting underserved entrepreneurs.

Growing inequality demands that we innovate. Minority and women entrepreneurs can help us close income gaps and build healthier, safer, more democratic communities (McDaniel at al., 2022; Audretsch & Moog, 2022). But to do that, they need the support of a practical, tested framework to co-design new entrepreneurial ecosystems. Co-designing any approach with the community is critical to its success.

### We need new investment in entrepreneurial ecosystems.

Enormous resources are invested in economic development by state and local governments. Some estimates range to $95 billion a year. These incentives are more likely to undermine local development than enhance it (Farren & Mitchell, 2020; Farren & St. Jean, 2021). In contrast, effective ecosystems lead to significant improvements in innovation and productivity (Stam & Van de Ven, 2021; Cao & Shi, 2021). They create ample returns to attract local public and private investors. To do that, each ecosystem needs a practical, sustainable business model that is not dependent on philanthropy.

# We now have the capacity to scale solutions

The field of entrepreneurial ecosystems and economic development (more generally) suffers from a long list of pilot projects that failed to replicate and scale. We are left with interesting examples, but little impact. Funders have financed dozens of pilot projects, but these projects remain largely isolated as islands of disconnected knowledge.

Now, this dynamic has shifted. Scaling the development of entrepreneurial ecosystems – – shifting from a single ecosystem to dozens or even hundreds of ecosystems is now possible for three reasons:

First, we have the capacity to **teach the skills** forming complex collaborations quickly and connecting them into an ecosystem that speeds resources to entrepreneurs. In other words, by scaling our human capacity to design and guide entrepreneurial ecosystems, we can teach these skills to hundreds of practitioners.

Second, we have a **practical, tested approach** developed over decades with proven success. As we will explain, work on this approach began in 1993 in Oklahoma City. This field work has given us a stable model of how ecosystems form and develop. We power the model with an open source operating system -- Strategic Doing -- that provides a simple approach for practitioners to follow. With ready, practical prompts, we can guide practitioners through the process of designing workshops, launching collaborations, and keeping these collaborations on track as they develop.

Third, with these models, we can create a **stable information architecture** to gather reliable data on ecosystems. Comparable data provides the basis for learning evaluation and research. Until now, we have not had an architecture that can be applied to all types of ecosystems: ecosystems in disadvantaged neighborhoods, rural communities, and those anchored by universities or community colleges. The architecture can be the same across all types of entrepreneurial ecosystems. A stable information architecture provides

The field of entrepreneurial ecosystems suffers from a long list of pilot projects that have failed to replicate and scale. Now, that dynamic has shifted. We can grow, replicate, and scale these systems

With this capacity to scale, we can quickly see the opportunity to connect assets across ecosystems in different geographic regions.

We can illustrate this point quickly with the example of Dave's Markets, a company that operates with locations in inner city Cleveland neighborhoods (https://davesmarkets.com/). Building an entrepreneurial ecosystem in a disadvantaged community presents special challenges. Investors willing to make investments in these communities must first feel comfortable with understanding the dynamics of these communities and the risks involved. Dave's Markets provides a model of how to rebuild the food systems in these disadvantaged neighbourhoods. Each Dave's Market location serves an ethnically diverse neighborhood. They stock the stores with specific grocery needs of the surrounding neighborhoods.

There's no reason this expertise could not be connected to North Flint, a neighborhood that suffers from a lack of grocery stores, or shared with entrepreneurs trying to launch a food co-op in inner city Shreveport, LA. This example illustrates the potential for scaling assets across ecosystems. Specialized entrepreneurial knowledge -- aquaponics to serve inner city markets or ecotourism in rural communities, for example -- can spread far more quickly with shared ecosystem protocols.

## Why do we have to solve this now?

Over two decades ago, Canadian environmental scientist Thomas Homer-Dixon wrote an important book: "The Ingenuity Gap: How Can We Solve the Problems of the Future?" In it he discussed the growing gap between the problems we face and the solutions we produce. Wicked problems – everything from pandemics and opioid addictions to failing schools and climate change -- call for ingenious solutions, and these wicked problems are coming at us faster than ever.

At the same time, our traditional approach to solving problems – slow, bureaucratic, and somewhat risk averse – strangles the flow of innovative solutions. Answers to a growing list of wicked problems demands more ingenuity from us as a society: we need to generate more solutions to these complex challenges. Yet, our current approach to organizations, business, and economic policy stunts the supply of these ideas.

"Complex systems of people and groups linked together in networks...can often adapt well to a quickly changing environment."

Thomas Homer-Dixon

The Ingenuity Gap

That's where entrepreneurs enter the picture. They approach complex challenges with an "effectual logic" (Sarasvathy, 2001). They link, leverage, and align available resources to create new value, and ingenious solutions. They don't take on these challenges by themselves. Rather, they design and guide new networks to generate solutions. If we can build receptive, open, engaging, and dense ecosystems around them, we can accelerate both the volume and velocity of these solutions. We can close Homer-Dixon's ingenuity gap.

We need to work on this challenge now for two critical reasons. First, we can. Network-based models of entrepreneurship and economic development began to appear in the 1980's. Scholars like Arthur, Saxenian, Eisenshardt, Chesbrough, and Cooke pioneered our thinking about networks, ecosystems, regional innovation, and open innovation (Arthur, 1990; Saxenian, 1996; Eisenhardt, 1999; Chesbrough, 2003; Cooke, 2007). We now have a practitioner-developed strategy discipline for accelerating the formation of collaborations in open networks, Strategic Doing. This discipline emerged from developing ecosystems (Morrison, 2021).

There's a second answer to "Why now?": Because we must.

If we are to build more inclusive, innovative, and sustainable economies for the next generation, we must start now. We must experiment now. We must master the skills of collaboration and ecosystem building now. We must scale these skills now.

Our traditional systems are breaking down. Covid only accelerated changes that were well underway. Trying to address growing complexity with the traditional, rusty, Industrial Age tools will simply widen the ingenuity gap. If we are to close this gap, we must empower entrepreneurs.  In community after community, we must develop the civic infrastructure needed to support them. That's what this project delivers, a clear-eyed, practical path to that future.

There's a second answer to "Why now?"
Because we must. If we are to build more inclusive, innovative, and sustainable economies for the next generation, we must start now.

## 1.2 The Gap

When it comes to entrepreneurial ecosystems, we face gaps in our knowledge. How do we develop replicable, scalable, and sustainable approaches to developing these systems? How do we assist ecosystem builders in guiding the many collaborations that make up an ecosystem? How do we design practical community-based solutions that are deeply grounded in the values of inclusion and “equity of voice”? How do we structure solutions across communities to generate practical data for research and evaluation? How can we accelerate peer-to-peer learning-by-doing among ecosystem builders?

Scholars have done an admirable job describing “what” ecosystems are and "why" they are important to entrepreneurs. They have not, however, been able to guide practitioners in "how" to develop entrepreneurial ecosystems. It is not likely they can. As Donald Schön pointed out decades ago, scholars spend their careers on the "high hard ground" of university research focused on manageably defined problems (Schön, 1995). They develop knowledge by applying traditional scientific methods. These approaches maximize certain values, such as logical coherence and rigor, but they can sacrifice practical relevance.

Schön explained the pivotal role practitioners play in creating solutions for complex, wicked problems. In contrast to university researchers, practitioners operate in the "swampy lowlands" of confusing, but critically important situations (Schön, 1995). They generate their knowledge from their experience, learning by doing. Practitioners create knowledge by figuring out what works to solve a problem. Schön made the case that by following a rigorous discipline of inquiry grounded in pragmatism, practitioners can generate both practical and scholarly knowledge.

The evolution of Strategic Doing proves the point. Strategic Doing is a discipline for forming complex collaborations quickly in open, loosely joined networks. This open-source approach, developed through decades of reflective practice in the swampy lowlands, has now entered the high hard ground of university research, engagement, and teaching. The discipline focuses us on our conversations, the key technology we use to generate and distribute our knowledge (Webber, 1993).

## Challenges for ecosystem builders

By following a set of simple, but not easy rules, practitioners design and guide inclusive conversations. These conversations answer the core strategic questions that any collaboration must answer: Where are we going? How will we get there? Through these conversations, collaborations emerge from a process of recombinant innovation: linking, leveraging, and aligning the assets participants can access through their networks. Each of the skills embedded in Strategic Doing is grounded in multiple scholarly research streams. Existing scholarly research explains why Strategic Doing works (Morrison, 2021; Morrison et al., 2019a).

Ecosystem builders face multiple challenges. These are some of the most difficult:

1. **Keeping track of assets.** Building an ecosystem involves linking and leveraging available assets. The number of assets within an ecosystem can grow exponentially. For example, with a core team of 6 people, it’s not too much of a stretch to assume that each member of the core team has access to physical and financial resources. Not all assets are revealed at once, but as networks grow, the number of assets within an ecosystem can easily become too much for an ecosystem builder to track. The “cognitive load” is too great.
2. **Leverage and align assets.** If it is difficult to keep track of individual assets, it becomes even harder to see opportunities that can emerge when we link, leverage, and align these assets. Because practitioners cannot see the networks easily, they have limited ability to spot new opportunities across the network.
3. **Project management.** Once collaborations form, another problem arises: keeping track of projects across the ecosystem. We have learned that nudging plays a vital role in keeping initiatives on track. Yet, it is difficult for ecosystem builders to nudge if they lose track of the progress on individual projects.

4. **Important narratives.** As the ecosystem begins to form, ecosystem builders face yet another problem. They lose track of the stories that can inspire others. Re-constructing the development path of an ecosystem becomes difficult as the key events and critical connections fade into the past. In sum, a lot of knowledge about how ecosystems form is lost.
5. **Learning from failure.** Too often, ecosystem builders also do not want to share the lessons of their failures. They do not have a safe space in which to reflect on their mistakes and learn from them. With limited funding available to support ecosystem building, ecosystem builders can easily view themselves as competitors. This zero-sum game mindset slows learning.
6. **Framing opportunities and sharing successes.** We know, for example, that positive framing – a growth mindset – is an indispensable to shaping the opportunities within an ecosystem. This "opportunity narrative" provides a guide that helps to align resources within the ecosystem. Creating this opportunity narrative is tricky, yet critical to making progress, Equally important, ecosystem builders lack easy ways to share what works. Sharing progress is key to attracting collaborators and building momentum. Keeping track of progress and communicating it in a structured way to a broader audience is difficult.
7. **Critical conversations.** Ecosystem building is a process of managing complex conversations by following simple, but not easy rules. Mastery of these rules and their corresponding skills takes practice. Before mastery takes hold, it's easy to lose track of these conversations, to get lost in the process. When that happens, the ecosystem builder loses track of the logical, practical next steps.
8. **Collaboration and growth.** Equally important, successful ecosystem builders rely heavily on their implicit knowledge of collaborations. Often, they are natural collaborators. At the same time, they face difficulties converting this implicit knowledge into explicit knowledge that they can share. Without being able to share explicit knowledge, the process of ecosystem building will never replicate and scale. We have seen this situation multiple times. A successful team builds a pilot program, lacks the ability to pass this knowledge on to others, inhibiting the ability for the learning to replicate or scale.

We build ecosystems through conversations. By following a set of simple, but not easy rules, practitioners design and guide inclusive conversations to launch and guide their ecosystems.

## 1.3 The Opportunity

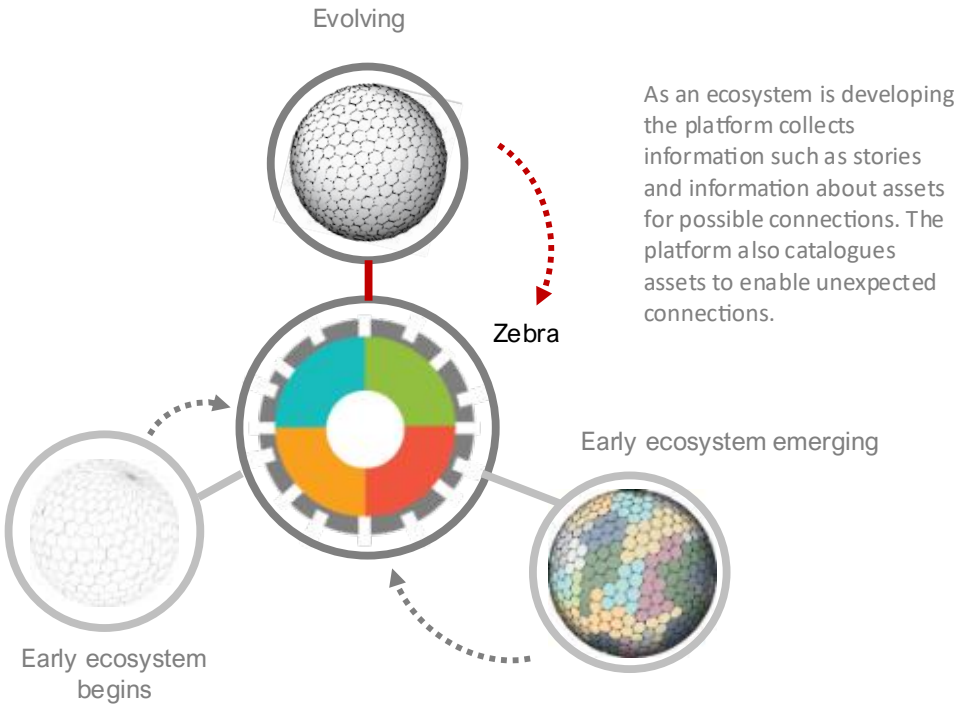
### Zebra, An Open-Source Learning Platform and Exoskeleton for Ecosystem Builders

The lessons of Strategic Doing leads us to a new opportunity to close these gaps. Strategic Doing demonstrates how a practitioner-developed discipline can evolve into a widely shared practice. Fellows of the Strategic Doing Institute, a non-profit organization, teach the discipline globally in multiple languages. University faculty and professional staff at several universities teach the discipline in both credit courses and executive education. Deeply grounded in the values of equity and inclusion, the discipline is open-source. There is no intellectual property to license. Practitioners simply learn the rules and the corresponding skills.

Serving the ecosystem builders throughout their journey also addresses Kauffman's objectives --moving knowledge and resources from the people who have them to the entrepreneurs who need them, and showing meaningful vs. “counting” metrics. This includes preliminary evidence for how increasing efficiency, network density and trust create a flywheel for compounding impact and returning value to the system.

### General opportunities

- Providing support for storing and sharing knowledge and resources from the people who have them to the entrepreneurs who need them.
- Visibility into what is being done to capture learning, and understand, regardless of success or failure, what changed (residual trust, collaboration, etc.).
- Adding support for developing a consistent rhythm to cultivate trust and new collaborative habits across the ecosystem.
- Meaningful metrics - how well knowledge and resources are moving through the ecosystem over time (vs. “counting” vanity metrics), trust scores (e.g., trust scores).




**The Origin of the Term Zebra**

As we were developing this project we began with the concept of a “learning platform”, as defined by Hagel (2021); a safe space for practitioners to generate knowledge and learn from each other. As the project progressed, we saw the opportunity for technology to assist practitioners as they were developing their ecosystems using Strategic Doing and the portfolio model of ecosystems. The term “exoskeleton” captured this feature. Because we could not come up with a term that explained the hybrid “learning and doing” nature of the platform, we began calling our design “Zebra”. We now use Zebra and “the platform” interchangeably.

## Support for ecosystem builders

The Master Platform ("Big Zebra") will be housed at the Agile Strategy Lab. We will clone and configure Zebra for each community or region ("Little Zebras"). A configurable platform provides two major benefits. Ecosystem builders who are just starting their practice can learn how to apply Strategic Doing to develop their ecosystem. The platform provides a range of powerful learning experiences from video training to peer and mentoring networks. Additionally, as our business model makes clear, Little Zebras can be configured to fit local conditions. For example, local practitioners will be able to adjust styles and branding; add their own content and share what they are learning through videos and short courses; and promote sponsorship opportunities.

For more experienced practitioners, their Little Zebra will stand alongside them as they design and guide workshops to develop their ecosystems. We have refereed to this digital assistance as a type of "exoskeleton" for the practitioner. The platform will capture the knowledge being generated by interactions as the ecosystem develops. For example, the platform will provide a convenient way for practitioners to keep track of assets, opportunities, success metrics, Pathfinder Projects, and action plans.

## Support for Entrepreneurs

As entrepreneurs launch their business, they are creating networks -- their own ecosystem – to launch their business. They are developing relationships among people inside and outside their firm to develop and test products and services; design their digital infrastructure and marketing programs; recruit team members, mentors, and advisors; arrange financing and commercial banking relationships; and create legal structures and documents. The platform will accelerate connections to these resources. To expand the pool of resources, entrepreneurs using the platform will be encouraged to share non-proprietary assets and relationships with other entrepreneurs.

Entrepreneurs will enter the ecosystem at different stages of their development. For early entrepreneurs, the platform will provide support as they proceed through various stages of experimentation, ideation, prototyping, developing business model and a pitch. For entrepreneurs moving to a growth or acceleration stage, the platform will provide access to tools, services, knowledge, and expertise. Some of these will be consistent across nearly all start-ups. Others will be less common, but still frequent. Still others will be highly specialized.

Each Little Zebra will deliver a set of core tools and services to local ecosystems and entrepreneurs. These core services include online courses, instructional videos, podcasts, and live events with guest speakers.

The platform will also provide plug-in modules, so that ecosystem builders will be able to tailor the content of their platform. They could, for example, engage a local community college professor to provide an instructional video on social media. Or a program officer from a community foundation could introduce initiatives they are undertaking to support entrepreneurs. The head of a local accelerator or co-working space could introduce services available through their initiatives. Local events, such as One Million Cups, could share upcoming events.

## Support for resource providers

Resource providers – entrepreneurial support organizations, training providers, accounting firms, law firms, and so on – will find many benefits from a Little Zebra platform, and these benefits open the door to sustainable business models. To understand these opportunities, we preview the business model for these Little Zebra platforms.

The Agile Strategy Lab will operate Big Zebra, the Master Platform. The Lab will clone and "tune" the platform for different ecosystems. So, for example, Shoals Shift ecosystem in North Alabama will have their version of the platform, as will Iowa City Area Development Corporation or the University of Alaska. Each will have a look and feel befitting its local situation. The back-end of the platform, which is not visible to users, will be identical to the Master Platform.

These local or "franchised" platforms will provide benefits to resource providers, including access to entrepreneurs, network maps (who is connected to whom), and diagnostics (for example, how well do local entrepreneurs know the service you are providing?). At their option, local ecosystem builders can broker access to this information in the form of sponsorships.

The Greater China Business Network (GCBN), an ecosystem Ed Morrison developed in Boston in the early 1990s, demonstrates the potential. GCBN provided information and guidance to small and midsized companies looking to access the rapidly developing China market. It held regular forums in which larger companies shared their experience and resources in accessing the China market. Morrison sold $25,000 annual sponsorships to the Network to one law firm, one accounting firm, one consulting firm, and one utility. These sponsors gained access to the participants: high growth firms looking to enter the China market. In other words, GCBN delivered potential customers to the doorstep of its sponsors.

## Support for researchers

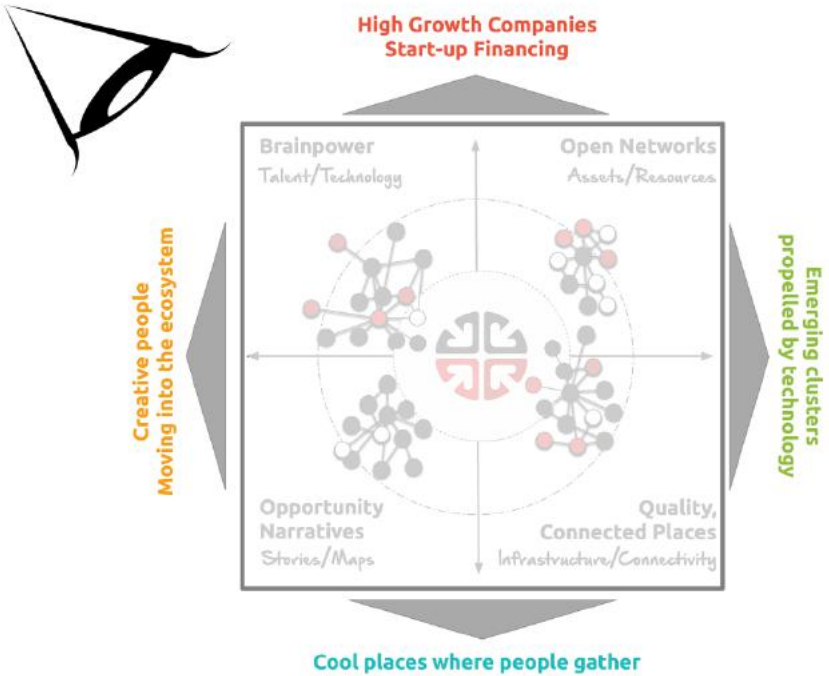
Developing entrepreneurial ecosystems is challenging. The practice is not rocket science. It's harder, more like molecular biology. Like a molecular biologist, ecosystem builders cannot see the networks of the systems they are trying to understand.  Normally, we begin our analysis of ecosystems based on what we can see. We count the outputs: number of new companies starting, occupancy rates for co-working spaces, for example. We measure these variables because they are easy to track. Based on these currently measurable variables, scholars can develop measures of ecosystem performance (Stam, 2018).

However, these variables do not capture the hidden structures and performance --the relationships and flow of knowledge and resources through the ecosystem.  Both researchers and evaluators are limited by the data that are currently available to measure hidden networks and underlying flows. Researchers struggle to obtain data on the multiple aspects of ecosystems to understand their growth and evolution. The lack of empirical data limits their understanding. As Sternberg and his co-authors conclude: "Entrepreneurial ecosystem theory is weak because there is a lack of representative, comprehensive, and sophisticated empirical studies, indicators and methods to measure [these systems]" (Sternberg, et al., 2018). The lack of empirical data on ecosystems has led scholars to look for uncommon forms of data (Feldman et al. 2022).

Zebra changes the game. It will enable us to capture the "deep data" of ecosystems with a standardized model and format: the nodes, the connections or relationships, and the knowledge and resource flows through these networks. We will be able to see below the surface of the ecosystem, mapping the ecosystem as it evolves. Equally important, because of a standard information architecture across Zebra-grounded ecosystems, we will be able to make meaningful comparisons within and across ecosystems.

Zebra will provide collection of data from multiple sources and track the performance and operation of individual, as well as groups of ecosystems. So, for example, the same platform in Iowa City can capture an ecosystem forming around immigrant entrepreneurs, an emerging cluster in educational technology, and the development of entrepreneurs in the creative industries. In separate regions, it will enable the capture and comparison of entrepreneurial ecosystems in regenerative agriculture in Iowa and Indiana.

Finally, Zebra will make evaluation easier, clearer, and more concise. It will enable the consistent capture of longitudinal data as the ecosystem forms over time. These time series data will enable evaluators to spot the impact of "small wins" across the ecosystem. Identifying these small wins provides a promising way to measure the impact of the ecosystem (Vermeer & Dewulf, 2019).




**The Hidden Networks of Vibrant Ecosystems**

We know a vibrant ecosystem when we see one. We see creative people gathering. We see dynamic high growth, or "stage two" companies. We see clusters of organizations collaborating with each other. We go to cool places – accelerators, co-working spaces, for example – to find out more about what's happening.

Some features of an entrepreneurial ecosystem are visible. This has given rise to various prescriptions about how to develop an ecosystem. Some say focus on attracting talent, the "creative class", as Richard Florida proposed. Others say, focus on companies with high growth potential ("gazelles", as David Birch names them years ago). Still others focus on clusters by following the teaching of Michael Porter. And others focus on "place-making" and creating spaces for entrepreneurs – incubators, accelerators, co-working spaces. These approaches are both necessary, but insufficient.

They focus on the evidence we can see. They describe what we see when we see a vibrant ecosystem, but they do not provide an ecosystem builder with practical guidance.

More recent prescriptions focus first on "mapping" an ecosystem, defining all of the players or "stakeholders" in the system. This is also a necessary but insufficient step.

There's a clear reason these approaches are insufficient. They focus on the emergent characteristics of an ecosystem – what we see when an ecosystem begins to develop. But they do not provide guidance on how to build the hidden networks through which knowledge and resources flow. Building these networks involves following a discipline of developing collaborations.

That's where Strategic Doing comes in. Collaboration is a complex process of recombinant innovation (Morrison, 2021). Strategic Doing leverages an important insight from years of reflective practice: collaborations – the process of recombinant innovation – emerges from conversations with a predictable structure. Designing and guiding these conversations involves mastering ten simple, but not easy skills.

Productive ecosystem building begins here: using the skills of Strategic Doing to create new networks that both think and do. What we see as a vibrant ecosystem – talented people, vibrant companies, new clusters, and cool places -- emerges from these conversations. You can think of it this way: Strategic Doing is an open-source operating system for developing ecosystems. It closes the knowing-doing gap by answering the critical "How" question.

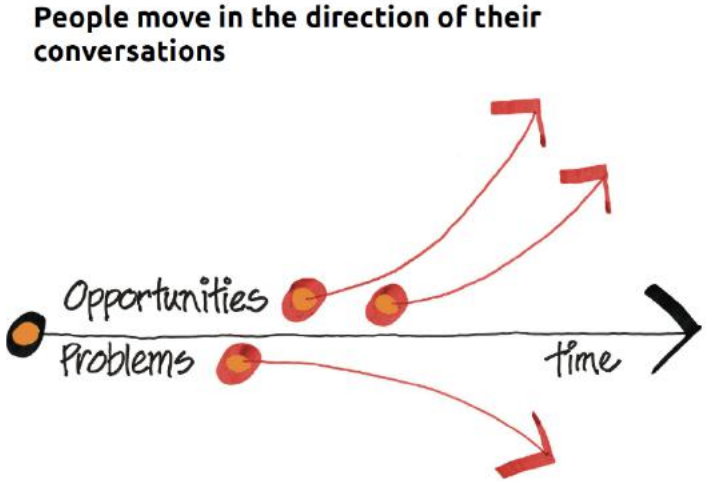
## 1.4 Strategic Doing and EcosystemDNA

### An Open-source Operating System for Entrepreneurial Ecosystems

An ecosystem represents a set of open networks embedded in other open networks. Ecosystems thrive when resources flow through these networks. An entrepreneurial ecosystem has a singular purpose: to speed the flow of resources to promising ideas for creating new value. The nodes in the network are people. Network links emerge from our conversations. Through these links, various resources flow: additional connections, knowledge, legal agreements, and financing are the obvious ones.

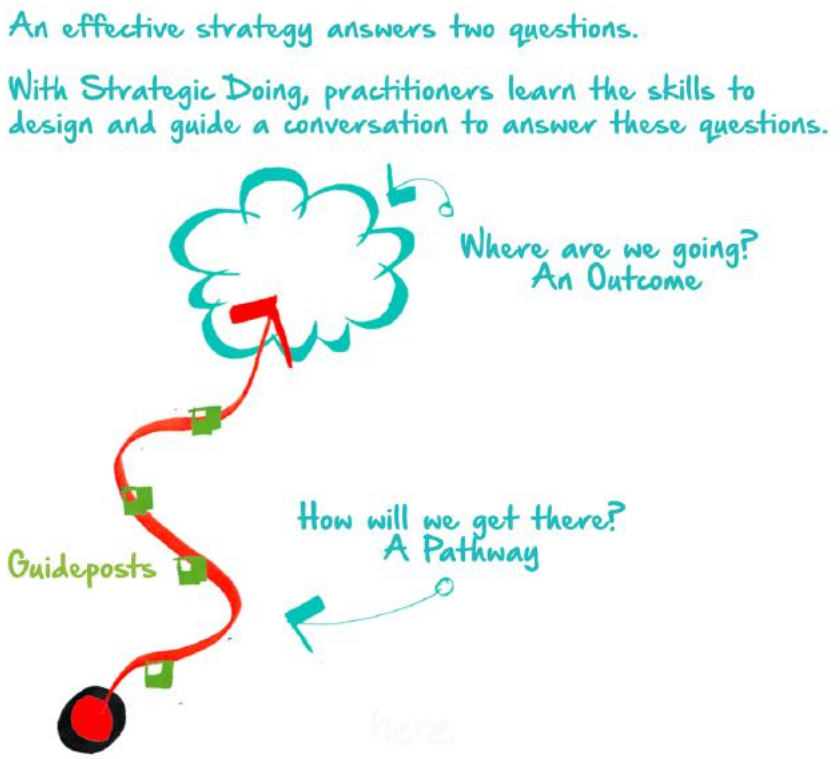
Entrepreneurial ecosystems are important because entrepreneurs create businesses from resources they do not fully own or control. The successful entrepreneurial team connects and aligns these resources to create new value. This value can be measured in money, but it does not have to be. Entrepreneurial teams create civic and social value, as well.


**Collaborations emerge from conversations.** Collaboration supports innovation; and ecosystems emerge through patterns of collaboration. To form a collaboration, participants come together and recombine their available assets. As they do, new opportunities emerge. By moving ideas into action, they create new value. Conversations drive the process. The conversations that lead to collaborations have a predictable, hidden structure. There are skills to learn and practice. We have distilled these skills into the professional practice of Strategic Doing.




Strategic Doing provides a simple discipline for developing strategies in these open, loosely joined networks that make up an ecosystem. Participants learn to form collaborations quickly, move them toward measurable outcomes, and make adjustments as they learn by doing.  Strategic Doing provides a critical insight for ecosystem builders: complex collaborations emerge from conversations with a predictable, hidden structure. By learning and practicing ten rules and the corresponding skills, the practice of ecosystem building becomes more widely accessible.

**A rigorous definition of strategy.** Building an ecosystem requires a strategy. The process for developing and deploying an ecosystem strategy needs to be fast, low cost, and iterative. We begin with a rigorous definition of strategy. An effective strategy answers two simple, but not easy questions: Where are we going? and How will we get there?




**Revising strategy frequently, like software.--** In complex, shifting environments adaptation to new circumstances is critical. Strategic Doing emphasizes the importance of developing a clear action plan and then modifying this plan frequently as circumstances change. As participants in a collaboration learn "what works" they continuously revise their strategy. An ecosystem strategy is like a software program that practitioners continuously revise. So, for example, the first version of a strategy might be an “alpha” version. A “beta” version might follow. Strategies for the first year are version 1.2, 1.2 and so on. Versions for the second year are 2.0, 2.1, 2.2. Practitioners can revise their strategies as often as necessary.

**Teaching the many skills of collaboration.** In the process of developing and implementing an ecosystem strategy, Strategic Doing strengthens the human skills to connect and collaborate. We focus on the smallest unit of system transformation – the team. Within the team, we focus on the smallest unit of team transformation – the conversation. We have found these lessons to be universal. We teach the same discipline to the members of an indigenous co-operative in Ecuador as we teach to multidisciplinary teams of university researchers. The lessons of collaboration are the same.

Practitioners now teach and practice these skills with community residents in inner city neighborhoods and rural communities; with researchers and engagement professionals; and with entrepreneurs and ecosystem builders. The list of communities and regions grows by the week. Multiple universities teach the discipline in both credit courses and executive education. We now teach the discipline in multiple languages:  English, Spanish, Dutch, Chinese.

**Open, accessible, and open-source.** Deeply grounded in the values of equity and inclusion, Strategic Doing is open-source. There is nothing to license. Practitioners simply learn the rules and practice the corresponding skills. Strategic Doing focuses on forming collaborative opportunities by linking and leveraging assets, a process scholars call recombinant innovation or bricolage (Hargadon, 2003; Miner et al., 2001).

**Following an entrepreneurial logic.** Recombinant innovation is fundamental to entrepreneurship. It follows an effectual logic that drives entrepreneurial value creation (Sarasvathy, 2008). The process converts the most promising opportunities into measurable outcomes, initiatives, and action plans. Strategic Doing provides an effective operating system to increase the volume and velocity of collaborations within an entrepreneurial ecosystem.

**Focusing on small wins.** Strategic Doing guides practitioners to take on the complex task of developing an entrepreneurial ecosystem by focusing on small wins. This approach has proven itself as a practical path for developing solutions to wicked problems (Weick, 1984;  Vermaak, 2013; Termeer & Dewulf, 2019).

## Strategic Doing and ecosystem development horizons

By following the disciplines of Strategic Doing, ecosystem builders guide entrepreneurial ecosystems through identifiable development horizons:

**Conversations shift**. Entrepreneurial ecosystems begin to form when conversations focus on shared opportunities, not problems. These conversations are future-oriented and often reveal patterns of hidden assets. As core team members connect and align, these conversations yield an Opportunity Narrative that guides the development of the ecosystem.

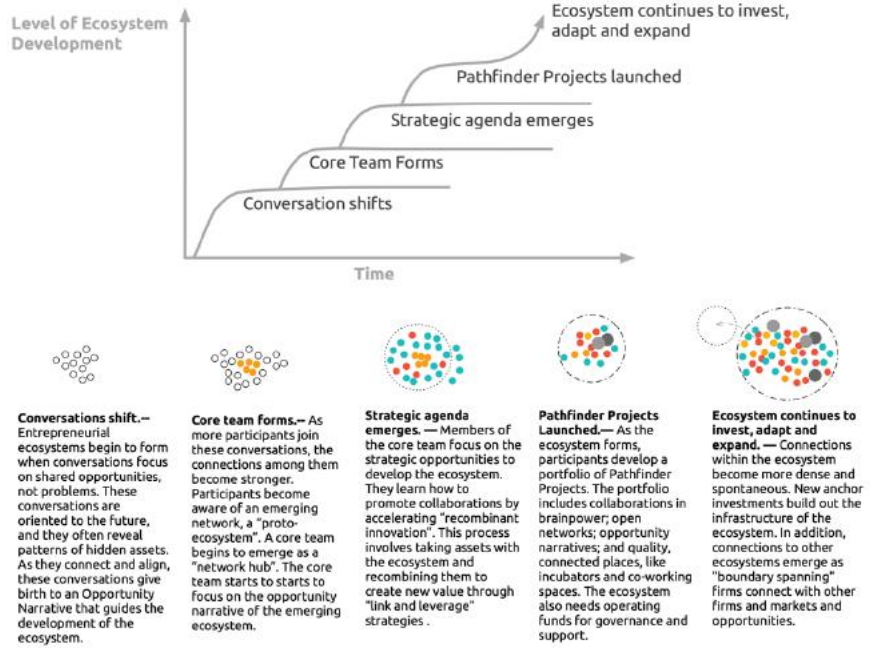
**Core team forms.** As more participants join these conversations, the connections among them become stronger. Participants become aware of an emerging network, a “proto-ecosystem.” A core team begins to emerge as a “network hub.” The core team begins to focus on the opportunity narrative of the emerging ecosystem.

**Strategic agenda emerges.** Members of the core team focus on the strategic opportunities to develop the ecosystem. They learn how to promote collaborations by accelerating “recombinant innovation.” This process involves recombining ecosystem assets to create new value through "link and leverage" strategies.

**Anchor investments made.** As the ecosystem forms, participants develop a portfolio of investments. The portfolio includes collaborations in brainpower, open networks, opportunity narratives, and quality connected places like incubators and co-working spaces. The ecosystem also needs operating funds for governance and support.

**Ecosystem continues to invest, adapt and expand.** With each new action, connections within the ecosystem become more dense and spontaneous. New anchor investments augment the infrastructure of the ecosystem. Connections to other ecosystems emerge with "boundary spanning" firms.

**As Entrepreneurial Ecosystems form, they move through identifiable horizons**



Strategic Doing developed over thirty years of reflective practice. Morrison developed the practice with major economic transformations in Oklahoma City (beginning in 1993); Charleston, South Carolina (beginning in 2001); Milwaukee (beginning in 2008); and North Alabama (beginning in 2014) The discipline is deeply grounded in scholarly research across multiple disciplines from cognitive psychology to behavioral economics. These research streams explain why the discipline works (Morrison, 2021).

**Some of the other applications of Strategic Doing to build entrepreneurial ecosystems include:**

- Developing an entrepreneurial ecosystem around the Mayaguez campus of the University of Puerto Rico.
- Strengthening the entrepreneurial ecosystem in Iowa City, anchored by the Iowa City Area Development Corporation.
- Deploying Strategic Doing across 22 clusters in Ecuador in a competitiveness strategy designed by the Ministry of Production and Trade and Julio Jose Prado, the minister and a Strategic Doing practitioner.
- Creating an innovation zone for agricultural innovation across four cities outside São Paulo, Brazil, anchored by Embrapa, Brazil's agricultural innovation agency.
- Accelerating the development of the entrepreneurial ecosystem anchored by Platform Calgary in Alberta.

At a practical level, Strategic Doing offers an open source operating system for ecosystem builders. As practitioners master the discipline, they learn to design and guide the conversations that strengthen ecosystems. This practice model has been reduced to skills, enabling us to teach and scale the discipline. Over twenty “fellows” of the Strategic Doing Institute deliver Strategic Doing classes, and this teaching corps continues to grow. Universities sponsoring Strategic Doing training include Purdue University, the University of North Alabama, Oregon University, Indiana University, Mississippi State University, Colorado State University, and New Mexico State University. Training can take place either in person or online. Because the model is cross-cultural, we have taught Strategic Doing in English, Spanish, Dutch, and Chinese. Thus far, over 2,000 people have completed basic Strategic Doing training.

As a professional practice, Strategic Doing is deeply grounded in values of diversity, equity, and inclusion. The first rule of the practice addresses these issues. Practitioners are taught how create a safe space for deep, focused conversations. In their training they learn the skills for leveling power differentials, designing conversations to support cognitive diversity, and promoting “equity of voice.” These practices are grounded in deep scholarly research that supports the importance of psychological safety, cognitive diversity, and knowledge creation (Edmondson, 1999; Edmondson & Harvey, 2017; Page, 2008; Nonaka & Konno, 1998). In practical terms, grounding Strategic Doing in the values of diversity, equity, and inclusion supports bringing this practice to communities that have been historically neglected.

The community of North Flint demonstrates how the practice of Strategic Doing can be embedded in the community. Our work in Flint began in 2014. Since that time, we have developed a committed group of leaders who explore new solutions to meet their many challenges. In the words Bob Brown from Michigan state University, “Strategic Doing has become a way of being for us.” So, when the water crisis hit Flint, our team focused on developing food trucks for their neighbourhood. The reason? North Flint is in the middle of a food dessert, and fresh fruits and vegetables mitigates the impact of lead on children. This initiative led to the establishment of The Flint Fresh Food Hub: https://www.flintfresh.com/

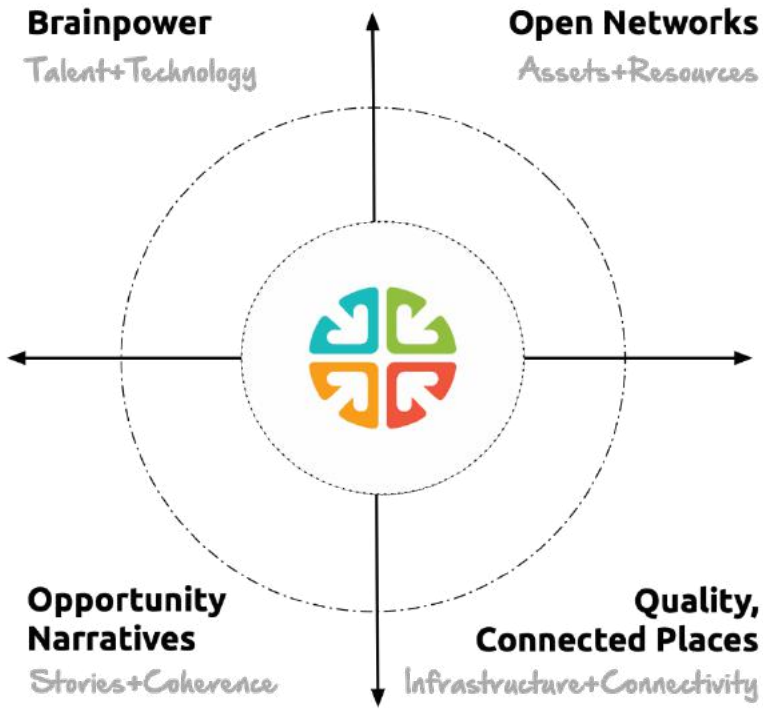
## EcosystemDNA: A Portfolio Model of Ecosystems:

In 1993, Ed Morrison began the development of Strategic Doing to address opportunities, e.g., What if we transform Oklahoma City's economy away from oil and gas and toward an economy that is more entrepreneurial and innovative?

After over a decade of failed attempts to transform the economy through traditional economic development strategies, the business community agreed to experiment with Morrison's approach:  Focus on innovation and entrepreneurship. Launch small experiments, and scale what works. Fast forward to 2010, and The Atlantic magazine published an article, "Why Oklahoma City could represent the future of America" (Thompson, 2010). In 2019, Small Business Trends ranked Oklahoma City the 4th best city in the U.S. for serial entrepreneurs (Hessinger, 2019).

The transformation of the Oklahoma City economy followed a portfolio model that Morrison developed based on a clear theory of change. Building an entrepreneurial economy requires collaborations in four focus areas:

- **Brainpower -** In a global economy, the only truly unique asset of any community is its brainpower: the talent and technology it produces. Collaborations are needed to increase the volume and velocity of these flows into the economy. Collaborations can take a variety of forms from apprenticeship programs to technology transfer initiatives.
- **Open Networks -** Open networks speed the flow of resources and assets to promising ideas. These networks lead to the formation and growth of entrepreneurial companies and can take many forms, from angel capital networks, to mentoring networks, to open innovation alliances with large companies.
- **Quality, Connected Places -** Innovation takes place in "creation spaces;" physical and virtual places where individuals create and distribute knowledge (Nonaka, 1994; Nonaka & Konno, 1998). Creating and distributing knowledge is a social process grounded in conversations.
- **Opportunity Narratives -** To navigate the complexities of an entrepreneurial ecosystem, we need coherence provided by narratives and stories (Roundy, 2016). Opportunity narratives are essential for developing alignment toward shared outcomes. Stories enable us to make




sense of a complex environment. These stories, when woven together, describe a new path for an economy to transform.

After Oklahoma City, Morrison applied this portfolio model to the launch of the Charleston Digital Corridor in 2001, the launch of the Milwaukee Water Council in 2008, and the launch of Shoals Shift, an entrepreneurial ecosystem in North Alabama, launched in 2014 (Morrison, 2021).

The Agile Strategy Lab at the University of North Alabama is now deploying this model internationally. We call the model EcosystemDNA. The Lab has been working with Platform Calgary and Alberta Innovates in Canada (creating entrepreneurial ecosystems in Calgary and Edmonton), the Ministry of Production and Trade in Ecuador (creating entrepreneurial networks across 22 clusters), and Embrapa, the agricultural research and innovation agency in Brazil (creating an agricultural innovation zone outside São Paulo).

The development of Strategic Doing began in 1993 in Oklahoma City. After a lost decade, civic leaders agreed to experiment on a new, network-based model of economic development, designed by Ed Morrison. Over the next two decades, the business leadership followed this model.

By 2010, national journalists saw Oklahoma City as a national model. The strategy, Forward Oklahoma City, continues to make investments, nearly thirty years after its inception.

The Atlantic

BUSINESS

Why Oklahoma City Could Represent the Future of America

DEREK THOMPSON SEPTEMBER 13, 2010

The last time the United States suffered a recession this deep and painful, it was the Great Depression. That was the era of the Dust Bowl, the California pilgrimages out of Oklahoma that John Steinbeck etched into America's memory with *The Grapes of Wrath*. Eighty years later, California's housing market has run dry and Oklahoma is building river parks. As families gravitate back to the heartland, with its cheap homes and lower unemployment, the migration patterns of the Great Depression have turned backward. "It's the Wrath of Grapes," says Oklahoma City Mayor Mick Cornett.

CHARLESTON · SC DIGITAL CORRIDOR WHERE TECH THRIVES

In 2001, Ernest Andrade began building the Charleston Digital Corridor, based on lessons form Oklahoma City. The Corridor is now a widely recognized hub for digital businesses.

THE WATER COUNCIL

In July 2008, with a Strategic Doing workshop the Water Council, based in Milwaukee, launched an ecosystem for fresh water technology companies. It is now a global water hub.

SHOALS SHIFT

In 2014, civic leaders in the Muscle Shoals region of Northwest Alabama followed the lessons of the Charleston Digital Corridor and launched their award-winning ecosystem, Shoals Shift.

PLATFORM calgary

In 2021, civic leaders in Calgary trained over forty leaders in Strategic Doing in preparation for the launch of Platform Calgary. Alberta Innovates, the provincial level innovation agency, supported this training.

Ecuador is Open for Business

Ministerio de Producción, Comercio Exterior, Inversiones y Pesca

In 2021, Julio Jose Prado, Ph.D., the Minister of Production and Trade in Ecuador, arranged Strategic Doing training for leaders across 22 clusters in Ecuador.

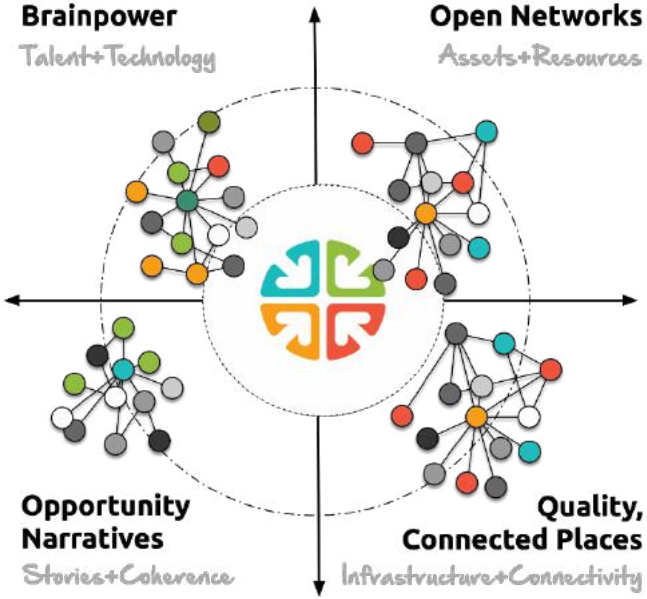
Embrapa

In 2021, Vitor Mondo, head of tech transfer for Embrapa, Brazil's agricultural innovation agency, began using Strategic Doing to develop a large innovation corridor outside São Paulo, Brazil.

The success of EcosystemDNA model, comes down to three principles:

**Ease of understanding -**The theory of transformation is inclusive, clear, and logical.
**Taking a systems view -** A systems perspective transcends the organizational and political boundaries that often hinder ecosystem development.
**Powered by Strategic Doing -** Participants customize their ecosystem based on the assets within their networks. Conversations that lead to these collaborations are inclusive, practical, and oriented to action.

We now have the capacity to share this model more widely through a "learning and doing platform" for developing entrepreneurial ecosystems.




## 1.5 A meta view

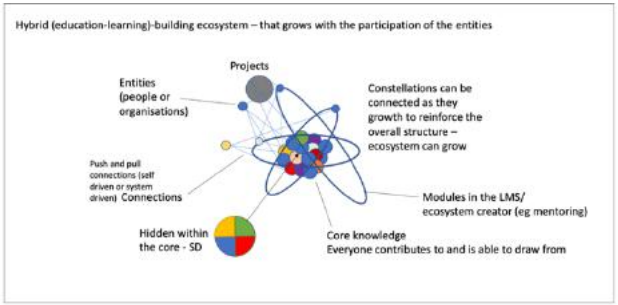
### Integration of design disciplines, ecosystem building and Strategic Doing to address the challenge

Before we explain how Zebra works, let's step back and explain how Zebra evolved from our work over the past six months.

Designing Zebra requires the use of the evolving design methods that include human centred design, systems thinking, and design thinking. These methods, as well as Strategic Doing can be focused inwardly on solving the challenge for developing tools to support and accelerate ecosystem development. The Exoskeleton can be viewed as a form of ecosystem itself, in which we are in the processes of creating a Minimal Viable Product (MPV) that will be used to create a Minimal Viable Ecosystem (MVE).

As stated earlier, our mission is supporting ecosystem builders throughout their journey while also moving knowledge and resources from the people who have them to the entrepreneurs who need them. We must also show meaningful effectiveness metrics to evaluate the success of ecosystem development and the activities within. This includes generating preliminary evidence for how increasing efficiency, network density, and trust create a flywheel for compounding impact and returning value to the system.

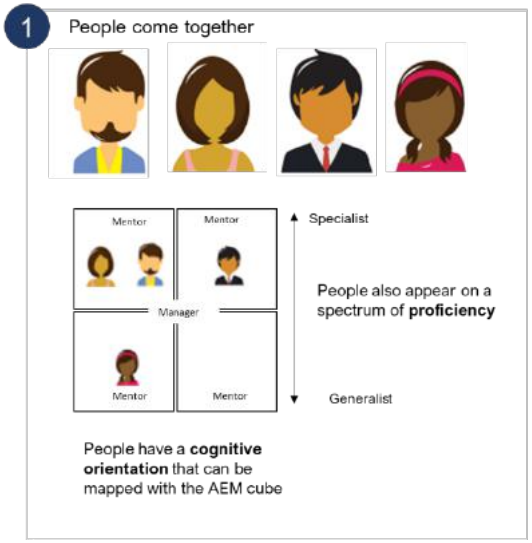
**An early stage conceptual drawing of Zebra. The design work combined Strategic Doing with design thinking, systems thinking, and human-centered design protocols.**



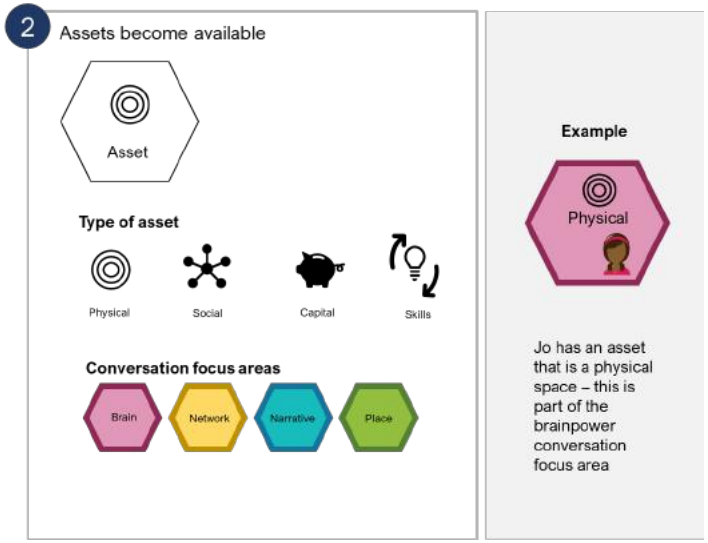
## 1.6 How

### Guiding Strategic Doing: Workflow Support for Strategic Doing

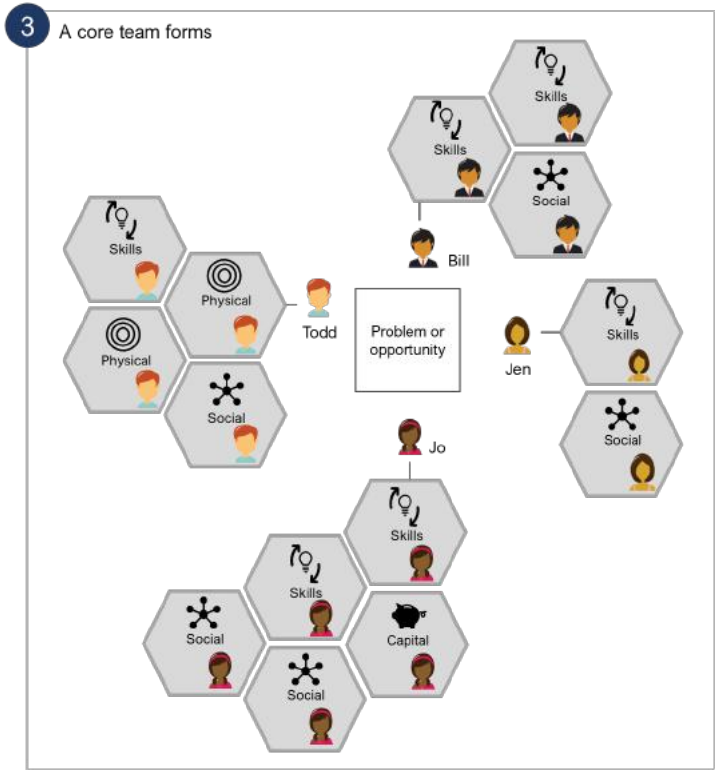
Zebra will provide guided support for ecosystem builders to learn the Strategic Doing process while building and managing an emerging ecosystem. The following visualizations illustrate how the Strategic Doing process supports ecosystem development.




Co-creation of a safe space for respectful dialogue and trust as people begin to consider which assets they want to bring to a conversation to address a challenge or opportunity




Each asset will have a set of **attributes** such as: type of asset, conversation focus area, who is associated with the asset and how long it is available (temporal aspect)

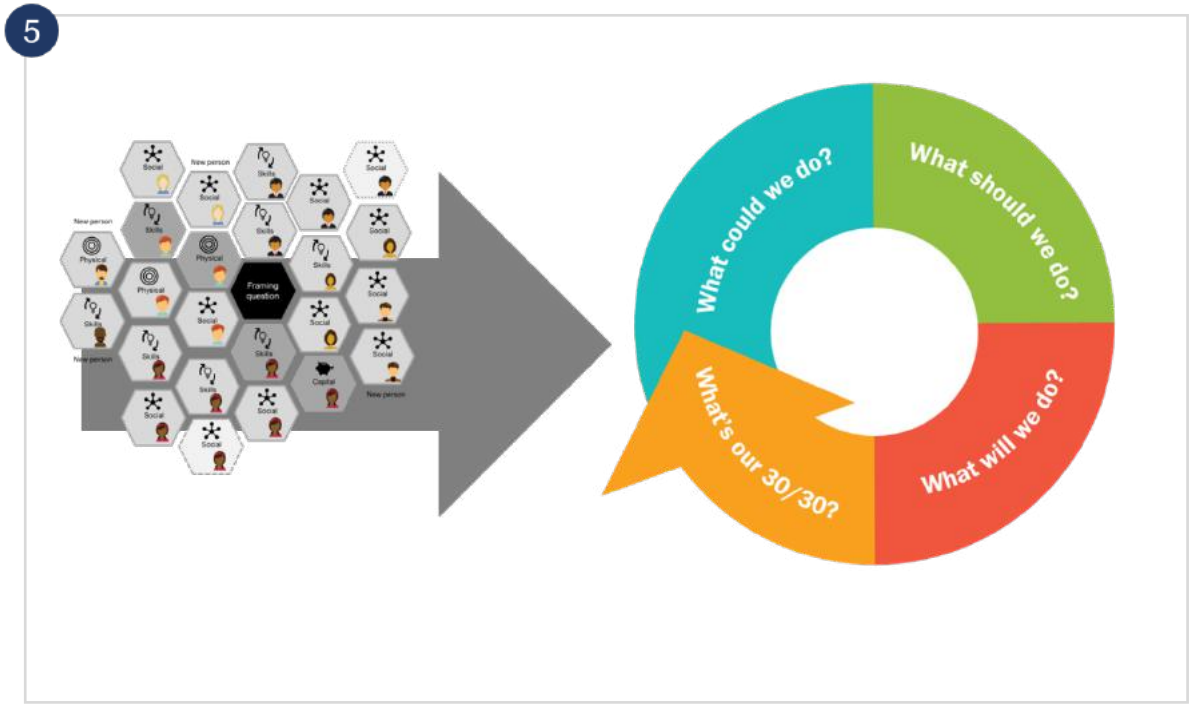



A challenge or opportunity emerges among a small group of people who are willing to bring their own assets and form a core team to take action

**Visual Language - Describing an ecosystem as it grows and develops**

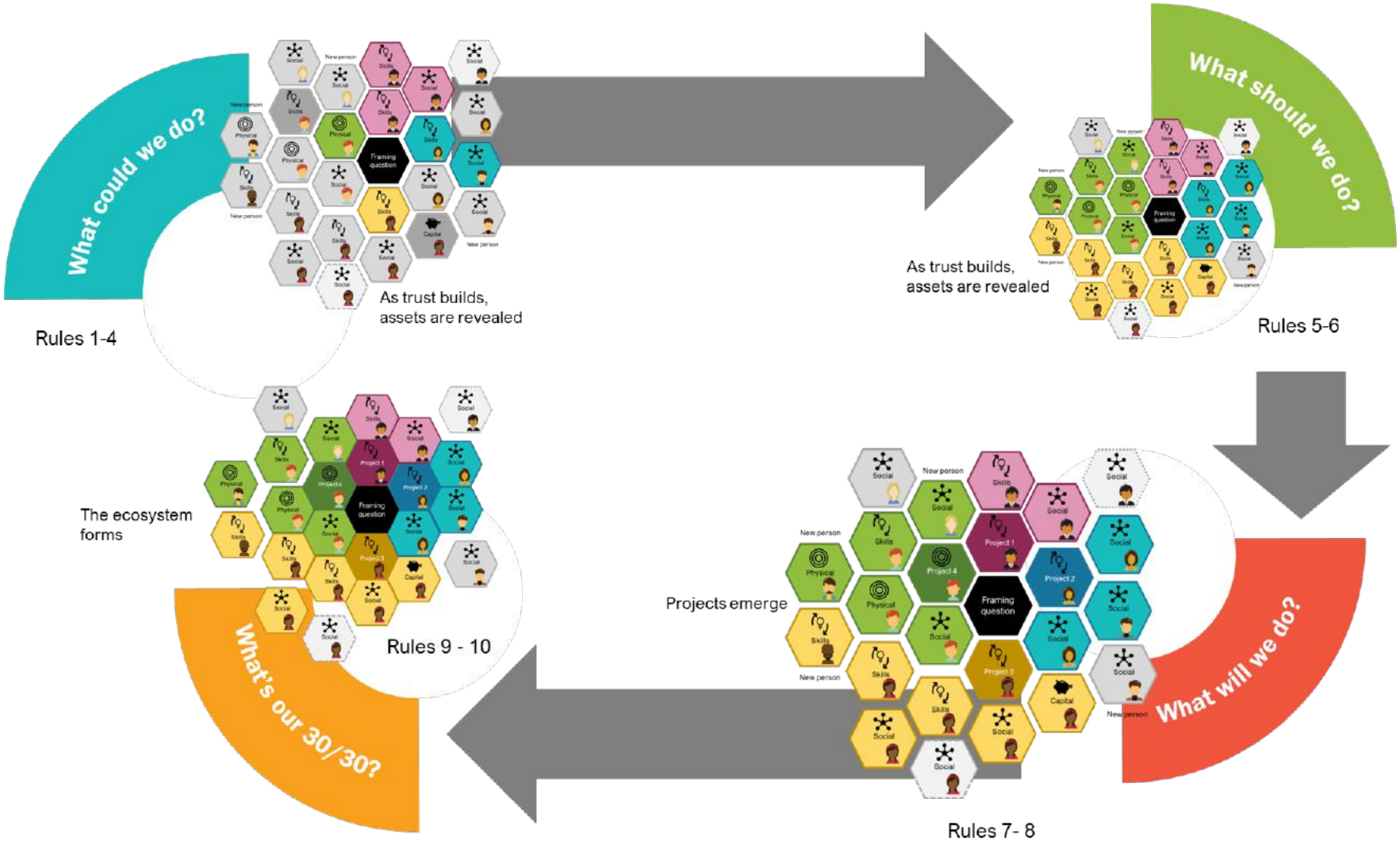
We have created a visual grammar to track actions and assets (people, places, things) over time, so we can begin to visualize and describe an ecosystem. An analogy would be Lego blocks or Tinker Toys, where each element has a distinguishing characteristic, and structures compared to each other.


The core team starts the Strategic Doing process, turning their problem or challenge into a framing question. They invite others to bring their assets to address the framing question. People then volunteer pertinent assets over time, as context and trust evolves.




The team then commits to a Strategic Doing workshop. A date and time are set aside to conduct a half-day session. The workshop is divided into time buckets. About 30% of the time is invested in “What could we do”? Participants uncover assets and connect them in different ways to define new opportunities. About 40% of the time is invested in “What should we do?”, choosing an opportunity and clearly defining an outcome. Approximately 20% of the time is invested in “What will we do?” This step involves identifying a Pathfinder Project and a 30-day action plan. The final 10% of time is spent on “What’s our 30/30”? This step creates commitments to reconvene, reflect and learn from each other.

# INSIDE The Strategic Doing workshop process

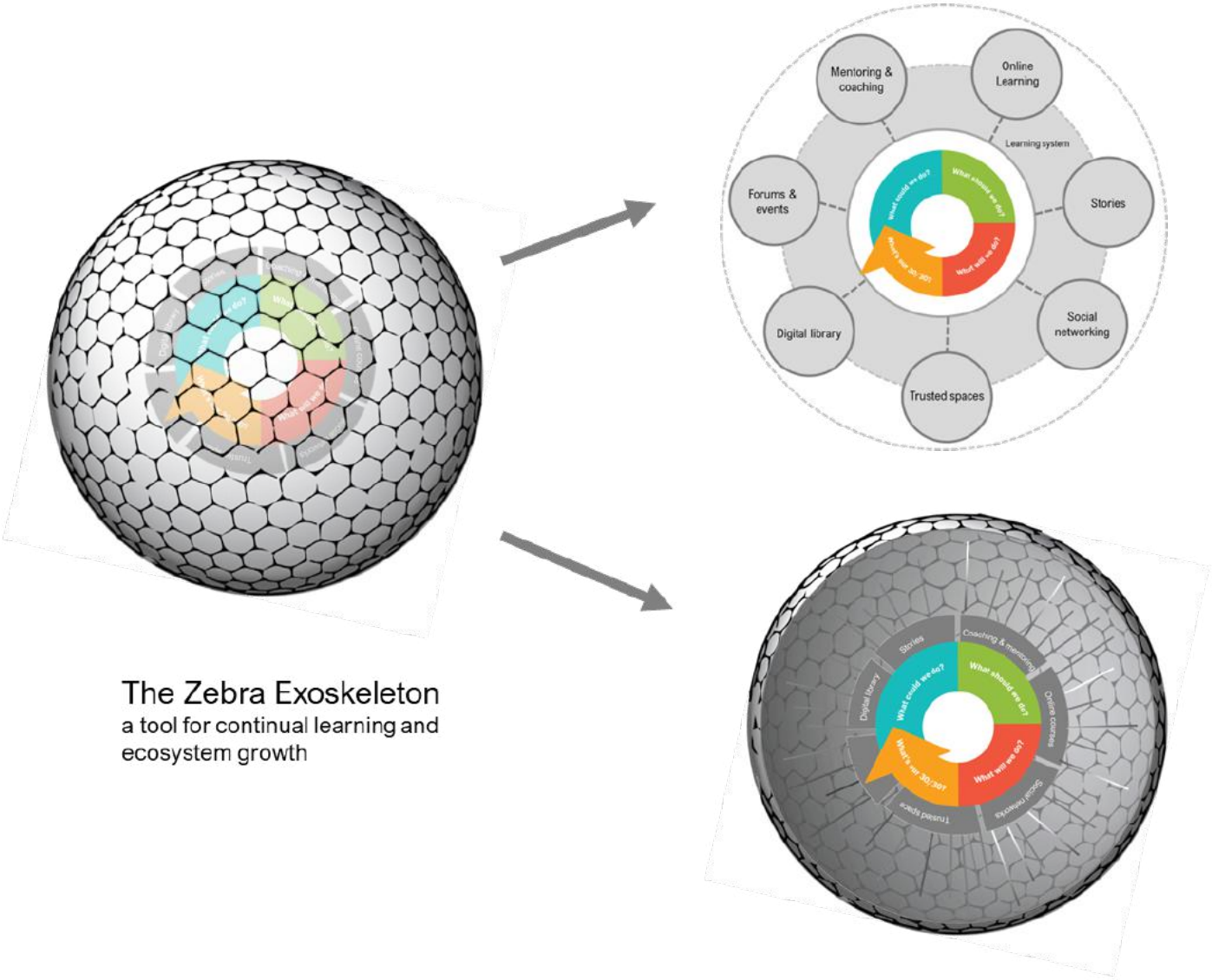



The group follows the four key phases of a strategy process. Ten rules and related skills guide practitioners as they uncover hidden assets, recombine these assets to develop new opportunities. They then focus on one "Big Easy" opportunity and convert it to an outcome with measurable characteristics. The participants then identify at least one Pathfinder Project to move toward that outcome. The process concludes by defining their "30/30" –making a commitment to reconvene within 30 days to evaluate what they have learned in the past 30 days and what they hope to accomplish the next 30 days. By following this practice, participants generate a strategic action plan and move into action.

# The Concept

## 2.1 The Zebra Exoskeleton

Zebra is an active learning and guidance platform that moves practitioners through the process of designing and developing an entrepreneurial ecosystem.




The Zebra Exoskeleton
a tool for continual learning and ecosystem growth

### CORE modules

The tool has a core module that digitally facilitates the Strategic Doing process. The core module is used to support ecosystem builders to connect people, capture information about assets and resources and gain insights into potential and untapped solutions.

Surrounding the core module are learning systems. Each of these systems connect to the core as add-on functionality, which can be tailored to the needs of the participants in the specific ecosystem

### ACTIVATION

The platform is powered by the Strategic Doing operating system. This system will support the activation of the ecosystem and also capture data and insights about the ecosystem as it develops. The Zebra will provide transparency of assets, activities and outcomes.

## 2.2 Planned features

### Key Lessons from concept development

We followed a rapid discovery process to validate the challenge for ecosystem builders and understand fundamental requirements to inform the design and the development process. It is important to acknowledge that this concept development is NOT the design of the MVP. At this stage, Zebra is a simple design that captures core features and potential design elements. The final design may shift significantly after fully engaging ecosystem participants in the next phase: an MVP design process. The central features we have discovered through our initial exploratory research have been initially tested with a small group of entrepreneurial ecosystem builders who are potential Zebra users.

The Zebra Exoskeleton concept has a core operating system designed around the Strategic Doing protocol. Strategic Doing focuses on conversations and the sharing of assets in an organic, rigorous, and systematic process. Zebra provides support to guide the core steps in the Strategic Doing process as practitioners use this process to launch ecosystems.

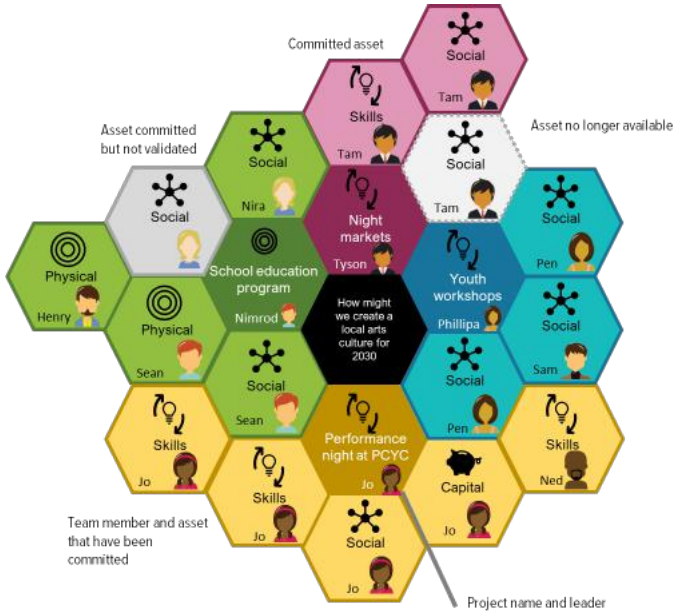
### Overview of Zebra

An ecosystem builder can create a new ecosystem in the Zebra. The platform will enable experienced Strategic Doing practitioners to apply their skills and knowledge through the workshop interface. For new ecosystem builders, or those unfamiliar with the Strategic Doing process, the interface will provide guided questions, as well as facilitated steps for planning and conducting Strategic Doing workshops to develop their ecosystem.

The platform will also enable Pathfinder Projects to be defined, managed, and visualised using the dashboard and the reporting functions. Ecosystem builders will be able to observe, analyze, and track changes in the projects, identify gaps and inconsistencies in delivery, and identify sources for additional support.

Contributors will be able to participate easily in the process, including taking a profile assessment using the AEM cube (see https://bit.ly/AEMCube) and managing and controlling their assets supported by back-end platform validation and security. The validation process will also serve to increase trust between people as well as in the platform.

Visualization and reporting features will leverage the visual language created through the Strategic Doing process. This visual grammar communicates the core elements of an ecosystem, providing a simple yet easily understandable view of an ecosystem for anyone familiar with the language.




**Example:** A visual depiction of an early-stage ecosystem focused on the growth of an arts culture in a local community area. The diagram uses the ecosystem components to tell a story of assets and connections over time.

## Critical features of Zebra: Our design principles

Critical features of Zebra include:

- Trust and equity of voice (psychological safety)
- Accountability through transparency
- Self-organization: Support for core team assembly, maintenance, invitations
- Continuous reporting on progress / learning (metric 1) and outcomes (metric 2)
- Support for practitioners through the process, including logging commitments
- Ecosystem asset tracking and management
- Data trust and security
- Measurement – accountability and markers of progress

These features will enable ecosystem builders to:

- Manage the Strategic Doing workshops, strategic action plans, and Pathfinder Projects
- Learn about Strategic Doing while also creating new or strengthening existing entrepreneurial ecosystems
- Capture and track all the information in the ecosystem development process and save significant time during and after a workshop
- Visualise projects and networks to quickly identify strengths, weakness, and gaps in the ecosystem
- Automate asset management and fast track connections to strengthen the network by “closing triangles” (scholars call this process “triadic closure)
- Request information about how other ecosystems have solved problems like yours, to enhance rapid growth and development
- Connect with similar ecosystems and ecosystem builders around the world
- Grow the innovation network across regions, demographics and languages
- Access to the workshop mode to conduct workshops virtually, face-to-face, or in hybrid mode.

For detailed list of features see the Appendix

### Connecting, learning, guiding and managing

Zebra is not simply a learning platform. Many learning platforms already exist. Instead, the platform provides a “just in time” learning mode. Based on the individual profile and the self-assigned, validated role in the ecosystem, Zebra will provide screens with instructions for each step in the Strategic Doing process, supporting learning by doing. The expert mode will enable experienced practitioners to rapidly tailor their workshops and manage the knowledge being generated in the workshop.

The platform will also enable the connection and sharing of ideas and resources (where enabled) within individual ecosystems and amongst ecosystems. Sharing ideas, reflections, concepts, and solutions will enable early-stage ecosystems to build on ideas from other ecosystems. This sharing will likely accelerate ecosystem development.

Zebra will also automate many of the manual tasks and functions required in the Strategic Doing process. In our exploration with ecosystem builders, we identified many places in the Strategic Doing process in which technology can be used to eliminate or manage mundane work. We anticipate Zebra will assist practitioners manage routine tasks, while unleashing their individual creativity.

### Interface configuration

The Zebra interface will enable ecosystem builders to express the personality of their ecosystem, while also conforming to the steps and procedures of Strategic Doing. The ability to configure the interface enables communities to build and promote their own identity.

Most importantly, the interface will enable self-directed learning. It will provide orientation cues to navigate and establish where users have been, where they are, and where they might go next.

### Proven, Practical Protocols

The platform guides ecosystem builders with two practical, proven protocols. The first protocol – Strategic Doing – follows the logic that complex collaborations emerge from conversations with a predictable structure.

Ecosystem builders can accelerate the volume and velocity of their collaborations by following simple rules. To do that, they learn and practice the skills associated with ten rules.

The second protocol focuses on the EcosystemDNA model of ecosystems. Relying on this model, practitioners learn to develop an ecosystem with a balanced portfolio of collaborations in four strategic focus areas: brainpower; open networks; quality, connected places; and opportunity narratives. We have used this model to build ecosystems in Oklahoma City, Charleston, SC, Milwaukee, and North Alabama. The model provides simple, compelling logic for practitioners to follow.

## Universal Information Architecture

Entrepreneurial ecosystems are complex to understand and analyze. There are hidden networks embedded within other hidden networks. It is difficult to analyze these networks, and data are sparse.

The platform we are developing changes this landscape. As part of this project, we have developed a standardized approach to the collection of network data for entrepreneurial ecosystems. Our approach is detailed in a white paper by Scott Dempwolf, entitled “Network Analysis for Entrepreneurial Ecosystems.” We will embed this approach in a universal information architecture and deployed across ecosystems.

**A stable data flow.** Strategic Doing creates a disciplined flow of information as collaborations form. Data moves through a clearly defined protocol: from assets to opportunities to outcomes, to success metrics, to “Pathfinder Projects,” and action plans. Zebra enables practitioners to manage these flows.

**A standard system for data collection.** For the first time, ecosystem builders will have a standard system for collecting information on their networks. They will be able to “see” their networks at a single point in time. They will also be able to understand – with data, not simply anecdotes – how their ecosystem is evolving over time. They will be able to spot gaps (or “holes”) in their networks and develop initiatives to fill these gaps. Key network connectors or “influencers” who can provide efficient connections to people and resources will also be made visible.

**Connecting ecosystems.** A universal information architecture also provides efficiencies in linking ecosystems together. This means that an ecosystem builder working on downtown development in rural Kansas will be able to find resources uncovered by an ecosystem builder working on downtown development in rural Mississippi. Inner city ecosystem builders will be able to share lessons on how to overcome the structural racism that has led to depressed commercial real estate values in these neighborhoods. The ecosystem builder who has developed a promising educational initiative for her ecosystem will now have a pathway to scale her initiative to other ecosystems.

**Better research on and evaluation of ecosystems.** A common data infrastructure provides enormous benefits to evaluators and researchers. Evaluators will be able to measure the impact of specific interventions over time. Researchers will be able to examine multiple ecosystems and generate more practical theories about how they grow and develop.

**Background on the architecture.** Our white paper explains how we have designed this infrastructure. In brief, networks are composed of nodes and relationships, or links. In our universal information architecture, nodes consist of people, organizations, places, events, artifacts, and ideas. People, organizations, and places are straightforward. Events can be a simple point in time, like a milestone, or they can span time with a specific duration. Artifacts represent outputs of an entrepreneurial ecosystem: documents, reports, patents, and financings, for example. Ideas represent knowledge streams generated by the ecosystem. They most often take the form of topics, classifications, keywords, and hashtags. Including ideas as nodes in our architecture gives us more flexibility and greater accuracy.

Relationships (also known at ties, links, or edges) have multiple characteristics. They can flow in one direction or two. Another important chrematistic is their value. For example, we can characterize a relationship along a continuum from “strongly likes” to “strongly dislikes.” Relationships are not only between people. We can characterize a relationship between a person or an event. In summary, by carefully thinking through an information architecture that can be applied to all types of entrepreneurial ecosystems, we have solved a major problem in designing, guiding, evaluating, and researching entrepreneurial ecosystems.

## 2.3 Key Zebra actors

Zebra is designed to maximize the potential for a range of role types such as ecosystem builders, entrepreneurs and other key players in the development and growth of ecosystems. The role types will also be considered through the lens of the AEM cube (a tool the Lab uses to assure cognitive diversity in a team; see https://bit.ly/AEMCube).

The following core role types have become apparent during our work over the past six months as we developed the Zebra concept. We will validate and develop these roles further in the Discovery stage of MVP design.

**Ecosystem Builder**: The person who initiates the ecosystem building process and begins to grow networks of people to address a wicked problem or seize a potential opportunity. This person convenes others to begin the process of ecosystem building by "changing the conversation."

**Chief Doing Officer (CDO)**: The person who is charged with coordinating and managing the progress of the group progressing the ecosystem. The CDO may also be the ecosystem builder or an entrepreneur.

**Core Team:** A group of approximately five to seven individuals who work together to design a strategy process using Strategic Doing, including an initial strategic action plan and implementing the first Pathfinder Projects.

**Entrepreneur and Entrepreneurial Team:** The entrepreneur is the person driving the change idea and has a solution approach for the challenge. The entrepreneur assembles a team of people (the "entrepreneurial team") to move the idea into action.

**Contributor:** Contributors are people who provide value in the ecosystem by providing assets to the ecosystems, such as skills, physical spaces, social networks, access to revenue, or other tools and methods.

**Investors:** Investors are a specific type of contributor, who specializes in providing finance. They are looking for opportunities to profit from the growth and expansion of ecosystems.

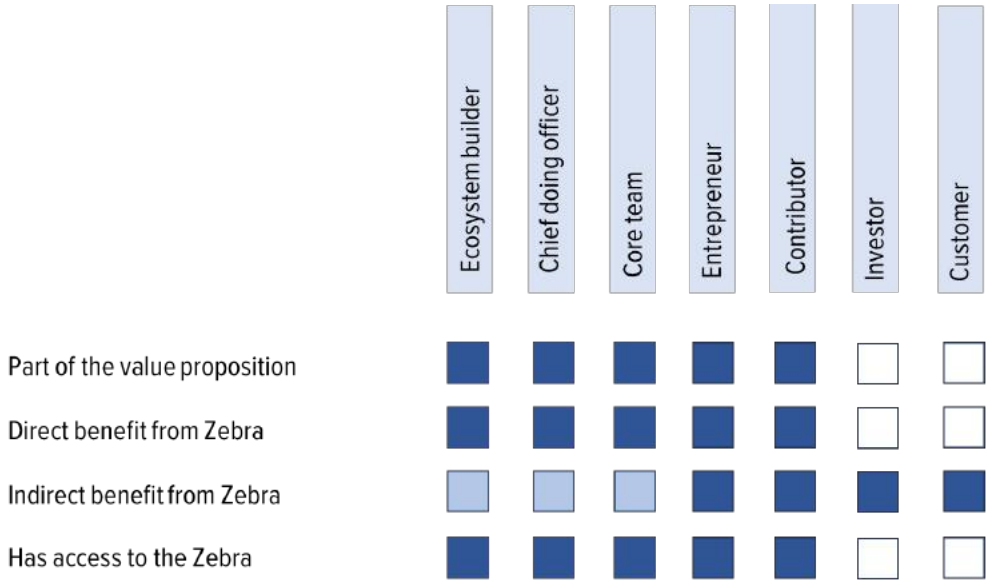
**Customer:** The customer is a person (or group of people) who pay for the services or product produced by the ecosystem.

### Other ecosystem role concepts

**Resource Networks or Resource Providers:** A resource network represents individuals interested in supporting entrepreneurs. They each have resources that can speed the development and reduce the risks of a start-up. Resource providers form networks to link and leverage their assets to increase the velocity and volume of resources flowing to start-ups. Examples of resource networks include angel capital networks, start-up competitions, mentoring networks, incubators, accelerators, and co-working spaces.

**Start-up networks:** Entrepreneurs create businesses from resources they do not fully own or control. To gain access to the resources, they need design and build their own start-up network. Effective resource networks help entrepreneurs form their start-up network more quickly. A firms start-up network could include mentors to advise the start-up, friends and family who invest in the start-up, a co-working space that enables the start-up to operate efficiently, and professionals who provide legal and accounting services.

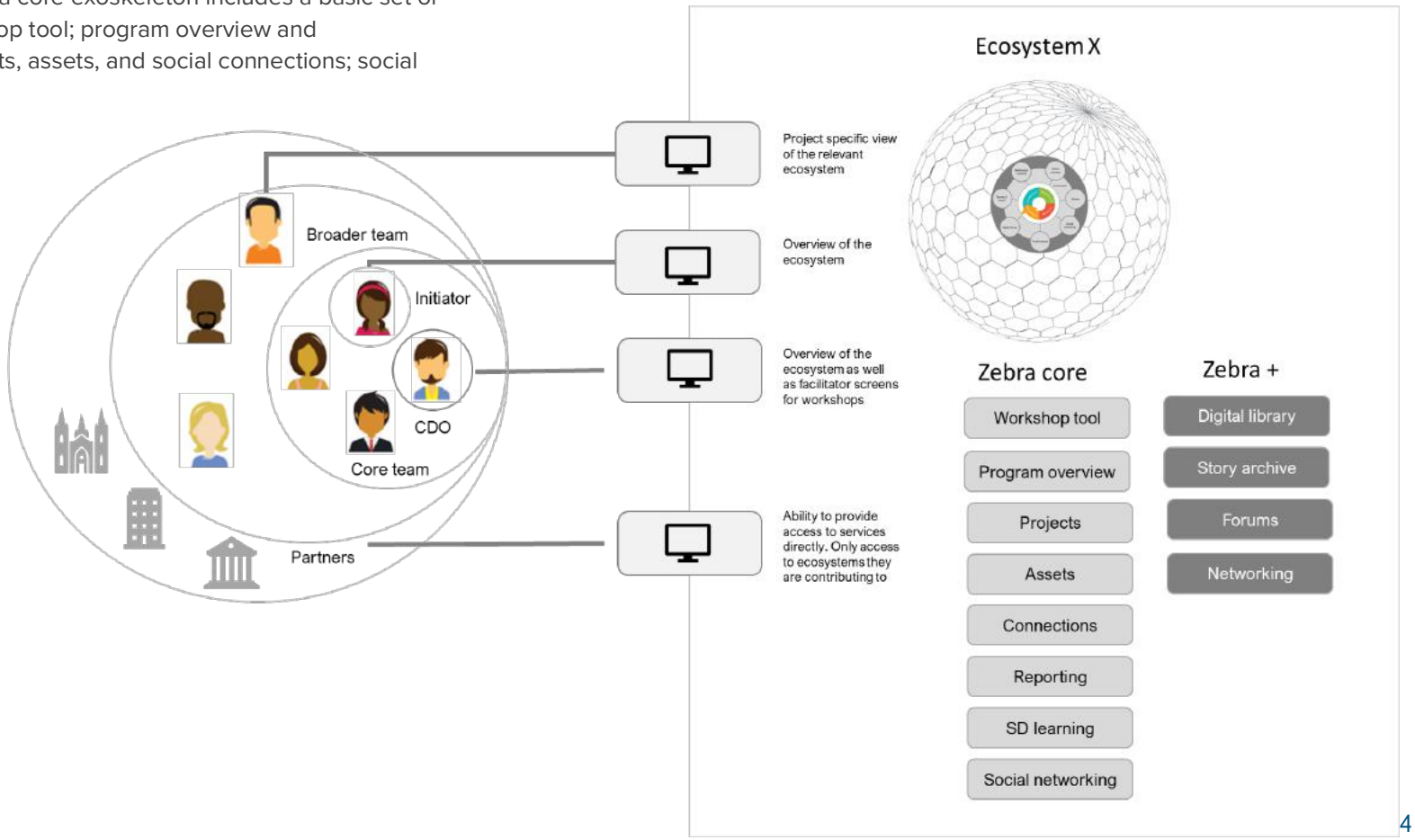
### Zebra will provide a flexible array of tools that create value for multiple actors across the system



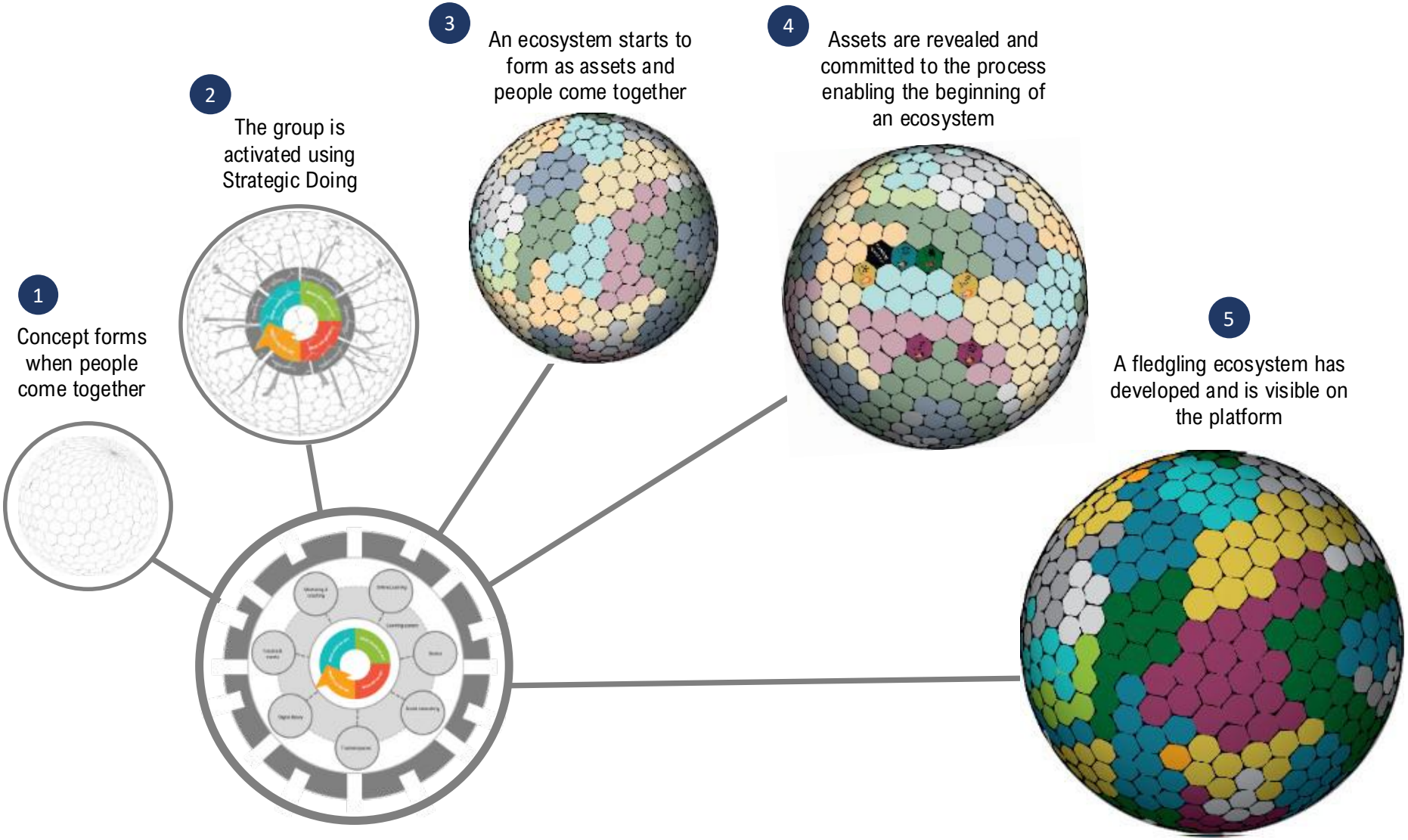
## 2.4 Conceptual functions

Ecosystem Builders will be able to tailor the interface to their local context. For ease of use, there will be role types assigned for different views within Zebra. The Core Team and the Chief Doing Officer (CDO) will have administration access to the platform which will enable access to reporting, overview of projects and assets.

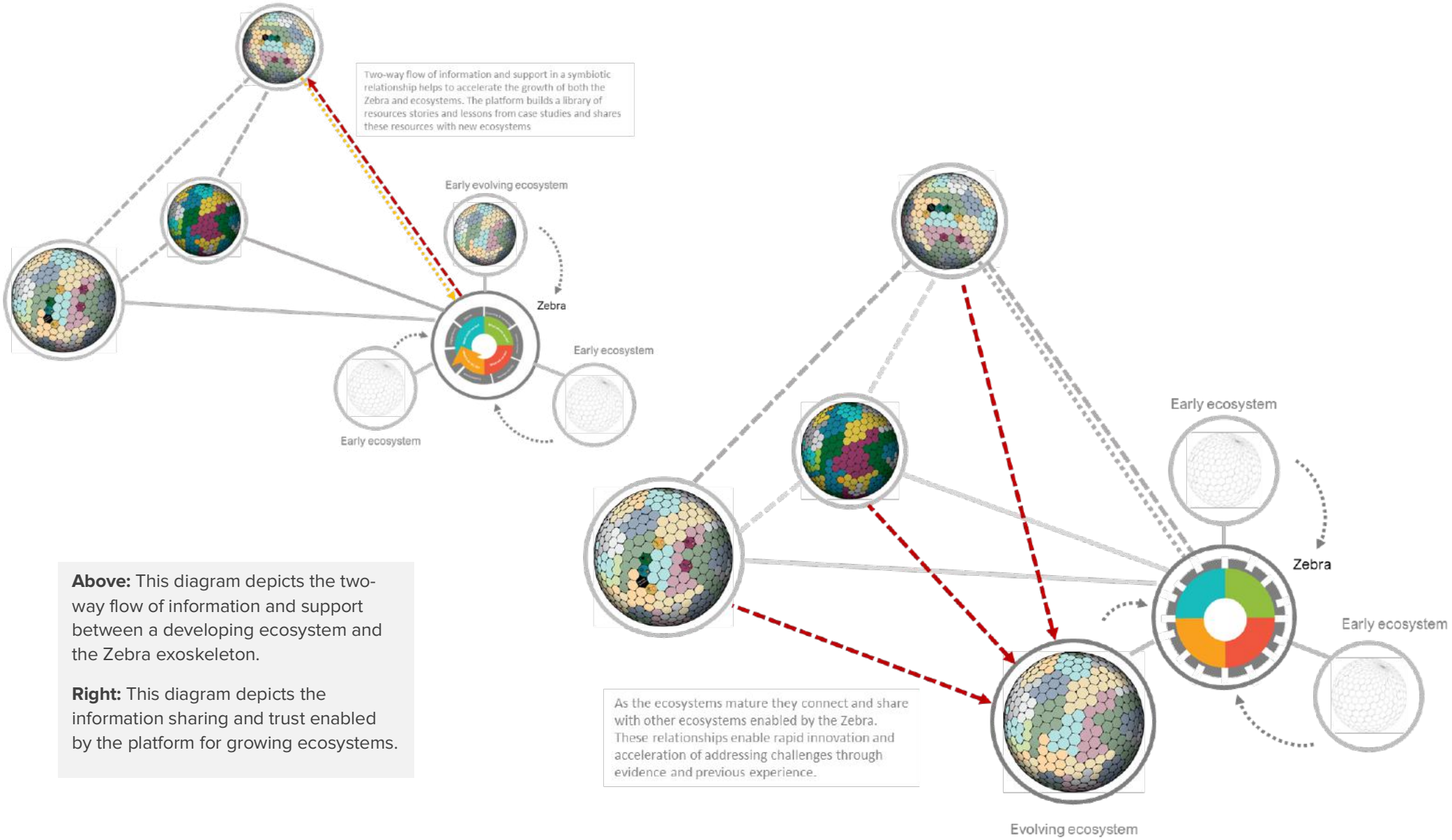
Zebra is modular and extensible. Each ecosystem will be able to add Zebra features based on the requirements of its members. For example, inner city ecosystem builders will be able to add components that address challenges posed by structural racism.  The Zebra core exoskeleton includes a basic set of modules: the Strategic Doing workshop tool; program overview and management; visualizations of projects, assets, and social connections; social networking; and reporting.



## 2.5 How Zebra Accelerates Ecosystem Development



## 2.6 Zebra Promotes Interactions Among Ecosystems




**Above:** This diagram depicts the two-way flow of information and support between a developing ecosystem and the Zebra exoskeleton.

**Right:** This diagram depicts the information sharing and trust enabled by the platform for growing ecosystems.

## 2.7 The Early Business Model

After an investment to develop this platform is completed, how will the platform become sustainable? What value will the platform be creating and how will it capture a portion of this value?
What is the business model?

This section addresses these questions.

We started our exploration of the business model with a set of assumptions, based on our field experience:

1. Ecosystems form on platforms (Jung et al., 2021; Morrison, 2018a). While we cannot manage ecosystems, we can design and guide the platforms on which entrepreneurial ecosystems grow.

2. Entrepreneurial ecosystems can grow on platforms that combine two key protocols. Ecosystem builders can put these two protocols, or models, into practice by learning, practicing, and mastering a set of skills. In other words, the protocols are replicable and scalable. They are currently being taught to hundreds of practitioners globally.
    a. Strategic Doing: A discipline to accelerate collaboration (Morrison, 2021)
    b. EcosystemDNA: A portfolio model of ecosystems with four focus areas: brainpower, open networks, quality connected places, and opportunity narratives.

3. The Master Platform will be designed and maintained by the Agile Strategy Lab. Ecosystem builders will enter into an agreement with the Lab to launch their own platform based on the Master Platform (or "Big Zebra"). The Local Platform (or "Little Zebra") is easily tailored; practitioners will be able to add local content and adjust the style and branding.
    a. The Master Platform will include all the content, tools, and exoskeleton supports practitioners need to design and guide their ecosystem.
    b. The Lab will clone versions of the Master Platform for ecosystem builders. Local Platforms will be configured by the Lab in collaboration with ecosystem builders.
    c. Local Platforms can be maintained with elementary web design skills (such as Wix or WordPress).
    d. Technical assistance for the Local Platforms will be provided by the Lab.

4. Ecosystem builders will be able to generate revenue from their Local Platform through sponsorships, memberships, and other revenue streams.

5. Ecosystem builders will pay a flat annual fee to the Lab to configure and provide technical service and content for the Local Platform.
    a. The annual fees will be charged on a sliding scale based on population.
    b. Ecosystem builders will also be able to contract with the Lab for customized analysis of their ecosystem.
6. Ecosystem builders and the Lab will enter into a data sharing agreement. The agreement will provide for sharing of **ecosystem metadata** from the Local Platform to the Master Platform.

These assumptions lead us to a business model that:

- **Provides maximum flexibility** for ecosystem builders to use their Local Platform to build an ecosystem and generate revenue from their Local Platform
- **Eliminates the need for the ecosystem builder to hire** dedicated staff to manage the Local Platform
- **Allows for a stable cost structure** for both the Agile Strategy Lab and the ecosystem builder
- **Enables the Lab to aggregate ecosystem metadata** from multiple ecosystems for research and evaluation purposes without creating privacy concerns from local users

Our early business model is designed to achieve high operating leverage. We achieve break-even in Year One (2024) and generate net cash of nearly $500,000 by Year Three (2026). We see an opportunity for sponsorship revenues. But the real "driver" of the business model comes from ecosystem

builders who generate cash from their Local Platform. We will not restrict practitioners from generating cash from their Zebra platform; indeed, we will encourage them and share promising practices across networks.

For example, a rural practitioner in a small community can deploy a Local Platform for an annual fee of $1,000. The practitioner could use the platform to generate a $5,000 sponsorship from a local bank. In return for the sponsorship, the bank could get access to the analytic reports on the emerging entrepreneurial ecosystem. The same logic applies to practitioners operating in larger regions. They can use the platform and the insights it generates to generate sponsorships or memberships.

In another scenario, an ecosystem builder could generate revenue from courses that she designs and guides. These courses can capture the insights and knowledge she is generating as she guides the development an ecosystem.

## 2.8 Key Benefits of the Zebra Exoskeleton

Ecosystems develop and grow naturally as people work to address opportunities in their location or interest-based communities. Strategic Doing provides a proven and practical approach to engage team members in identifying assets and skills enabling ecosystem builders to intelligently leverage, connect and recombine assets, people and solutions.

The Zebra Exoskeleton accelerates the development of ecosystems. The platform is both a learning and a development tool. The exoskeleton does the heavy lifting for connecting communities, creating visibility of assets, tracking activities and facilitating unexpected connections between people and resources. The platform removes the friction often found in socially created ecosystems by reducing power dynamics and silos created by political or organizational structures. Following are specific benefits the platform will provide.

### Benefit 1: Accelerating the Deployment of Entrepreneurial Ecosystems

Zebra connects people and assets quickly and provides visibility into other actions in the ecosystem. Without the use of a digital tool, ecosystem builders rely on social networks, memory and an array of other loosely connected documents to store, manage and share information.

Although knowledge management systems can provide efficiencies in systematizing information for easy retrieval, Zebra will also identify gaps in the network, opportunities for collaboration and through AI, offer solutions that have been tested and applied in other ecosystems. As ecosystems grow, Zebra will also enable advancing ecosystems to connect, evolve and collaborate. Through the combination of existing trusted networks and visibility of the effectiveness of other strategies, the platform will create an exponential effect of connection and growth for communities. Trust is passed through the system directly through small-group interactions as well as by proxy.

Instead of learning and failing from the same mistakes others have experienced, Zebra will create a basis of trust supported by the use of blockchain, enabling direct validation of actions taken, other measures of progress, assets, stories and narratives to educate participants in embryonic ecosystems. The development of each ecosystem creates a network effect, creating exponential value in the form of collective intelligence and network density.

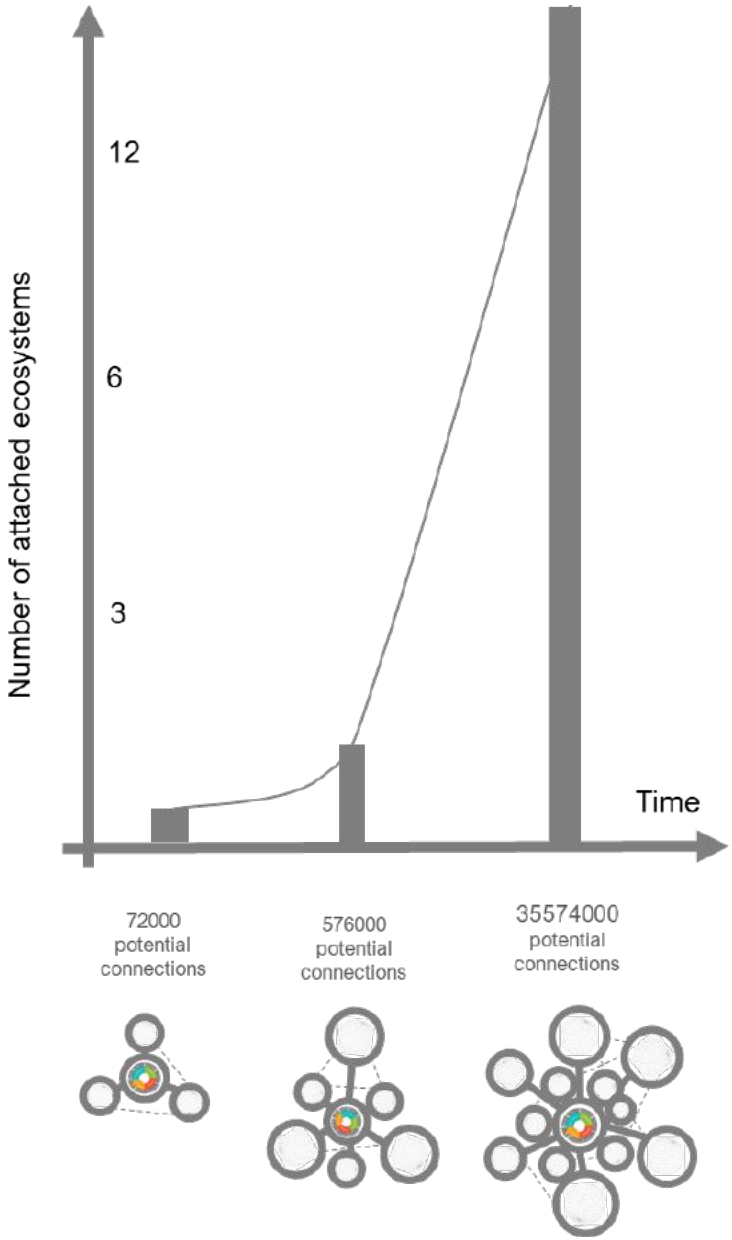
### Opening the Door to Advanced Technologies

Zebra opens the door to the application of advanced technologies to building entrepreneurial ecosystems: Artificial Intelligence, Web3 and Blockchain.

In the course of our work, an AI firm based in Latvia that does work for Bloomberg has expressed interest in contributing their technology to Zebra.

Here's how AI could help ecosystem builders. As we compile a digital repository of useful documents and templates for ecosystem building, we create a problem: how do you search the repository for information that can help you solve a problem? Natural language processing enabled by AI allows ecosystem builders to pose a question and quickly find helpful resources.

Web3 technology can accelerate trust-building across ecosystems through data ownership and enhanced security. Each ecosystem participant's reputation and digital identity (including the assets to which they have access) may be stored and managed on the blockchain.




An open-source learning platform can provide design guidelines for creating more accessible entrepreneurial ecosystems. Much like our standards for the physical accessibility of public and commercial spaces, Zebra enables us to develop guidelines for accessible entrepreneurial ecosystems. The development of these guidelines — sharing what we already know works — will accelerate both the volume and velocity of ecosystem development.

As adoption of these guidelines spreads, network effects take hold. More and more people will find the guidelines useful, so they share them. This sharing accelerates adoption and increases the value of the platform. This network effect is currently accelerating the growth of Strategic Doing around the world. The discipline is spreading despite the absence of any concerted marketing program. Word-of-mouth stimulates adoption. The same adoption path can emerge for entrepreneurial ecosystems.

## Benefit 2: Supporting Diversity, Equity, and Inclusion

We can best understand the value of diversity and inclusion when we consider its opposite: uniformity and exclusion. We make classifications to make sense of our world, but the pattern of classifications that we use is highly dependent on our culture. We can easily fall into the trap of assuming that other people share our same perspective and mentality. Scholars in cultural anthropology have clearly seen shown that this is simply not true. A Chinese proverb captures this pitfall: a fish cannot see the water it is in.

In contrast to uniformity, research has shown that teams with cognitive diversity solve complex challenges faster. Because ecosystems are complex systems, we benefit from teams composed of individuals who see the world differently (Page, 2008; Reynolds & Lewis, 2017). However, we often exclude these individuals either intentionally or unintentionally. Researchers have captured the risk in the concept of "group think" (Janis, 1991). Zebra can mitigate the risk of both uniformity and exclusion.

Uniformity and exclusion are usually enforced in hierarchical arrangements that reflect power differences. Faculty exclude students from discussion on curriculum. Doctors exclude patients from discussions of treatment options. These power dynamics are often communicated through rituals and social cues.

Zebra reduces both social cues and power dynamics, enabling connections to be made across silos and ecosystems. The removal of hierarchical structures, replaced with free-flowing social connections enables a greater diversity of ideas and supports the inclusion of those who would not necessarily appear in the spotlight. Assets can be identified and tracked through smart connections via the platform, with governance in place to ensure no asset is over-tapped. Collaboration within an ecosystem can become lopsided over time. Collaboration overload presents risks for ecosystems that fail to diversify their connections (Cross et al, 2018).


Zebra reduces both social cues and power dynamics, enabling connections to be made across silos and ecosystems. Replacing hierarchical structures with free-flowing social connections enables a greater diversity of ideas and supports the inclusion of those who would not necessarily appear in the spotlight.

## Benefit 3: Supporting Underserved Communities

Both the Kauffman Foundation and the Case Foundation have pioneered work to lower barriers to entrepreneurship in underserved communities. The platform provides ecosystem builders in underserved communities with flexible supports to address systemic discrimination. Because the operating system -- Strategic Doing -- is both open source and cross-cultural, participants can learn how to build ecosystems in any language. Finally, entrepreneurship in underserved communities offers significant paybacks in strengthening social networks, and these returns can be captured through the platform. As we capture these returns, the case for investing in entrepreneurship in these communities becomes stronger.

### Let's explore each of these issues in turn.

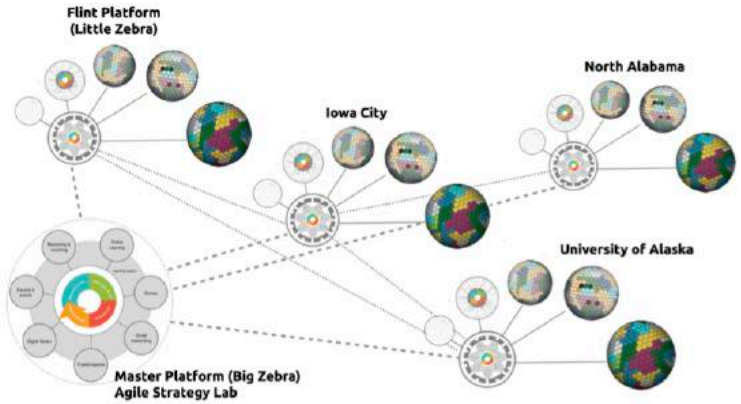
**Overcoming barriers with new networks.** Underserved communities are underserved because individuals within these communities face barriers to accessing resources. In many cases, barriers arise out of systemic discrimination. In other cases, the barriers are rooted in the difficult life circumstances that individual entrepreneurs face. We can overcome these barriers by weaving new networks.

By accelerating the formation of these new networks, Zebra can increase access to critical resources: training, professional networking and mentorship, and investors. We can also focus on the formation of networks to overcome barriers such as transportation, health care, personal counselling, childcare, and other essential supports.

**Cross-cultural pathways.** Collaboration sits at the heart of ecosystem development. Strategic Doing, the operating system that powers the platform, is cross-cultural. Strategic Doing support is available in multiple languages, enabling practices to spread across communities. For example, we teach Strategic Doing in both Ecuador and Puerto Rico in Spanish. This cross-cultural feature of the platform means that we are not limited in reaching immigrant communities.

**Capturing paybacks from entrepreneurship in underserved communities.** Recent research supports an important finding: teaching entrepreneurship reduces the social costs of crime and recidivism (McDaniel et al., 2021; McDaniel et al., 2022). Creating successful role models in communities lead to lower levels of violence. Further, Black-owned businesses are more likely to hire Black employees. These findings have significant implications for making public investments in entrepreneurship in underserved communities. The platform can strengthen the case for increased investment in entrepreneurship in these communities by providing new data sources currently unavailable to scholars.

**Ecosystem builders can license and adapt their platform…they can also raise revenues through sponsorships and memberships…they control the user interface**



## Benefit 4: Solving Chronic Problems Faced by Ecosystem Builders

Ecosystem builders face difficult information management problems. They spend their days looking for opportunities to strengthen their network by making new connections. These networks are invisible, however, so the insights they generate are trapped inside the head of the ecosystem builder. They are what scholars call “implicit knowledge,” or knowledge gained from experience that is not easily shared.

To the extent that ecosystem builders make this knowledge explicit, they rely on paper based systems or inefficient digital tools like email. Existing digital collaboration platforms – Google docs, Trello, Slack, and so on – provide marginal benefits. While they can be helpful while working on a short term project, these platforms create information silos.

A digital platform specifically designed for entrepreneurial ecosystems can address some of these serious information challenges through the following benefits:

- A platform will enable implicit information on network connections -- information embedded in the ecosystem builder's head -- to become explicit and shareable. Making this information explicit also reduces risk for the ecosystem; when an ecosystem builder leaves the ecosystem, their knowledge walks out the door with them.
- A platform will facilitate and accelerate lateral connections across the ecosystem. People will be able to connect with each other more easily. Equally important, a platform will encourage "Boundary spanning," a practice scholar's call "Tr-A-A closure." Participants strengthen their networks when they are introduced to people who don't know each other. This simple practice strengthens ecosystems by linking networks.
- Finally, a platform will help ecosystem builders explain the evolution of their ecosystems to others. During our preliminary research we learned ecosystem builders are so busy building their ecosystems, they rarely document their progress regularly. A platform will assist ecosystem builders develop a more rigorous story of the evolution of their ecosystem. Describing how ecosystems evolve will provide value to practitioners and researchers, new core team members, and the media for positive press.

The insights an ecosystem builder generates are gained from experience and not easily shared. Scholars call this knowledge “implicit knowledge."

Zebra can convert implicit knowledge into explicit knowledge so it can be shared.

## Transforming SD into a digital system for ecosystem development using human centred design

| FROM | | TO |
|---|---|---|
| Problems keeping track of hidden assets and who is sharing these assets | Asset management → | Tracking captured by the platform |
| Opportunities that arise from recombining assets get lost | Opportunity tracking → | Opportunities can be captured on the platform |
| Keeping track of multiple Pathfinder Projects: their milestones and the next steps | Project visibility → | Platform projects and next steps (action plans) can be easily accessed through the platform |
| Forgetting the stories of how an ecosystem developed over time | Story telling → | Longitudinal capture of ecosystem events will enable artifact capture and story development. The platform will prompt ecosystem builders to capture reflections and short videos |
| Sharing failures – what did not work and why – is not easy. So, reflective practice is not supported | Collaborative learning → | Peer-to-peer learning can be routinely developed through sharing and events on the platform |
| Keeping track of successful designs for workshops – including framing questions | Improved re-use of ideas → | A combination of story-telling and a digital archive makes examples and templates accessible |
| Losing track of the process in complex and dynamic environments – "where are we in the process?" | Guided method → | Zebra can keep track of the process and protocol |
| Sharing practical skills of building networks – including nudging and closing triangles – is not scaled across the ecosystem | Network growth → | Zebra can automate nudging actions and next steps for building networks |

## Benefit 5: Visualizing Ecosystems and Their Development

Ecosystems are comprised of networks, but these networks are largely hidden. The fact that these networks are not visible creates a range of problems from management, data collection, research, and evaluation. Zebra is designed to address these challenges.

At its simplest level, entrepreneurial ecosystems are comprised of people (nodes) and relationships (links). At a more complex level, we can characterize entrepreneurial ecosystems with additional data: organizations, places, events, artifacts, and ideas. Currently, there are not standard protocols for collecting these data across entrepreneurial ecosystems. The hidden nature of networks, combined with the lack of standard protocols for collecting data, create a range of practical problems:

- We cannot easily visualize entrepreneurial ecosystems. Without maps, practitioners cannot share much of what they know about an ecosystem. They also cannot spot gaps or opportunities to link and leverage assets across the ecosystem. In sum, managing the ecosystem so it can grow and scale quickly is difficult. As one scholar comments, "A sustainable ecosystem cannot be instantly implemented, it takes decades of effort to achieve this" (Ianioglo, 2022).
- We do not have standard protocols for collecting data for entrepreneurial ecosystems. We lack methods to gather reliable longitudinal data that enable ecosystem builders to manage an ecosystem. Currently, data for ecosystems comes from three sources:
    - First, we can collect primary data from a network. These methods are typically loose and informal. For example, we can collect attendees from an event.
    - The second source of data for modeling networks is administrative data held in public and private databases. For example, the US federal government maintains accessible records on patents, research grants, and contracts.
    - The third source of data is metadata from social networks.

The absence of practical data protocols limits our ability to evaluate the productivity of entrepreneurial ecosystems. These data sources also limit our capacity to conduct research across ecosystems.

Zebra addresses these challenges by enabling us to collect data as the ecosystem evolves, while protecting privacy. Zebra opens the door to unprecedented opportunities in ecosystem management, evaluation, and research. In addition to capturing three traditional sources of data, Zebra will generate metadata from interactions and activity on the platform. It builds and analyzes network models from that metadata. These network models can include user-supplied data with their express consent. The platform then analyzes the network models and provides personalized visualizations, analyses, and recommendations to each user. Zebra will enable ecosystem builders, evaluators and researchers see patterns, network structures, and network analytics while retaining anonymity.

Complex systems or complex adaptive systems differ from most of the systems studied in physical sciences and engineering, for example, because the agents in the system have the capacity to adapt or change their behavior. This makes analysis much more difficult. Typical analytic approaches (linear systems, for example) used widely in physical sciences, engineering, and even social sciences, cannot produce consistent, replicable results. Analysis of complex systems often requires probability-based models and methods. These new opportunities become available through the way Zebra structures its information architecture and enables network visualizations that help practitioners see opportunities or problems created or revealed by the network structure.

## Benefit 6: Strengthening the Research Base for Entrepreneurial Ecosystems

As originally conceived in the literature, entrepreneurial ecosystems are geographically bounded areas with mutually dependent components. They are dynamically stable networks of interconnected nodes. These nodes typically represent people or organizations. While networks provide the conceptual basis for ecosystems, scholars have not been able to link entrepreneurial ecosystems with the extensive literature on networks (Alvedalen & Boschma, 2017).

That's not to say that scholars have ignored the connection between entrepreneurship and networks. Indeed, research starting in the late 1980s explored the role of different networks on start-up activity. As Alvedalen and Boschma point out, there's a gap to be filled. Although ecosystems promise a more systematic approach for supporting entrepreneurship, scholars have struggled delivering practical insights. How do we develop these ecosystems? How do we design and guide them? Alvedalen and Boschma suggest that network theory and analysis can provide these insights.

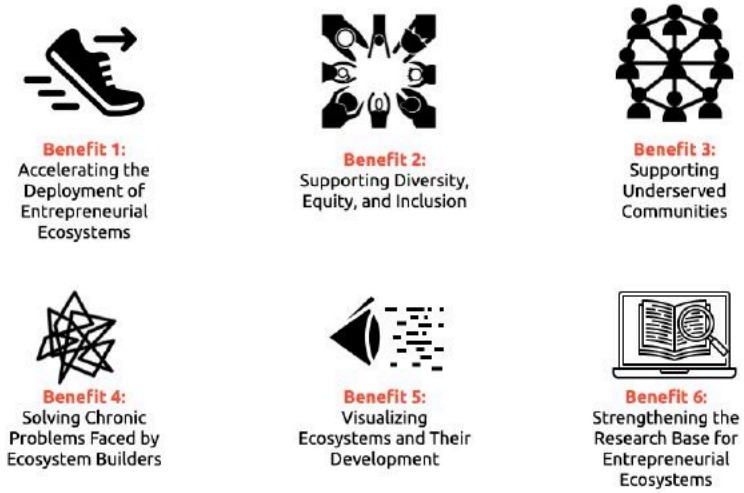
Other scholar agree. "Social capital and networks effectively act as the arteries circulating the lifeblood of information, ideas and tacit knowledge enabling ecosystems to function appropriately" (Rocha et al., 2021). But capturing the data that enable network analysis poses difficult challenges for researchers. Feldman and her co-authors conclude, "A key challenge in measuring entrepreneurial ecosystems and causal relationships is a lack of informative data" (Feldman et al., 2022).

Zebra addresses the challenge of capturing three forms of network data: primary data, administrative data, and metadata. To develop practical, visual models of entrepreneurial ecosystems that practitioners can use, we will rely on all three. Primary data represents data collected specifically for the purpose of depicting a network. So, for example, an ecosystem builder could collect names and emails of people attending specific events, like One Million Cups. There are a variety of ways to collect primary data, but the challenges are real. Primary data collection can be very time and labor intensive.

Administrative data are held in public and private databases. So, for example, the U.S. government holds accessible records on patents, research grants, and contracts. Many universities, foundations, and non-profit organizations are willing to make their data available. The major downside of administrative data is that they are not collected for networking purposes. Significant investments can be required to make the data useable and reliable for drawing practical network model in a specific situation.

Metadata is the third type. In a breakthrough for scholars, evaluators, and practitioners, our platform will generate this type of data. Metadata is associated with online activity: emails, messages, web site visits, and so on. Metadata does not include the content of the activity, but rather the standardized characteristics of the activity: dates, times, durations, locations, nodes.

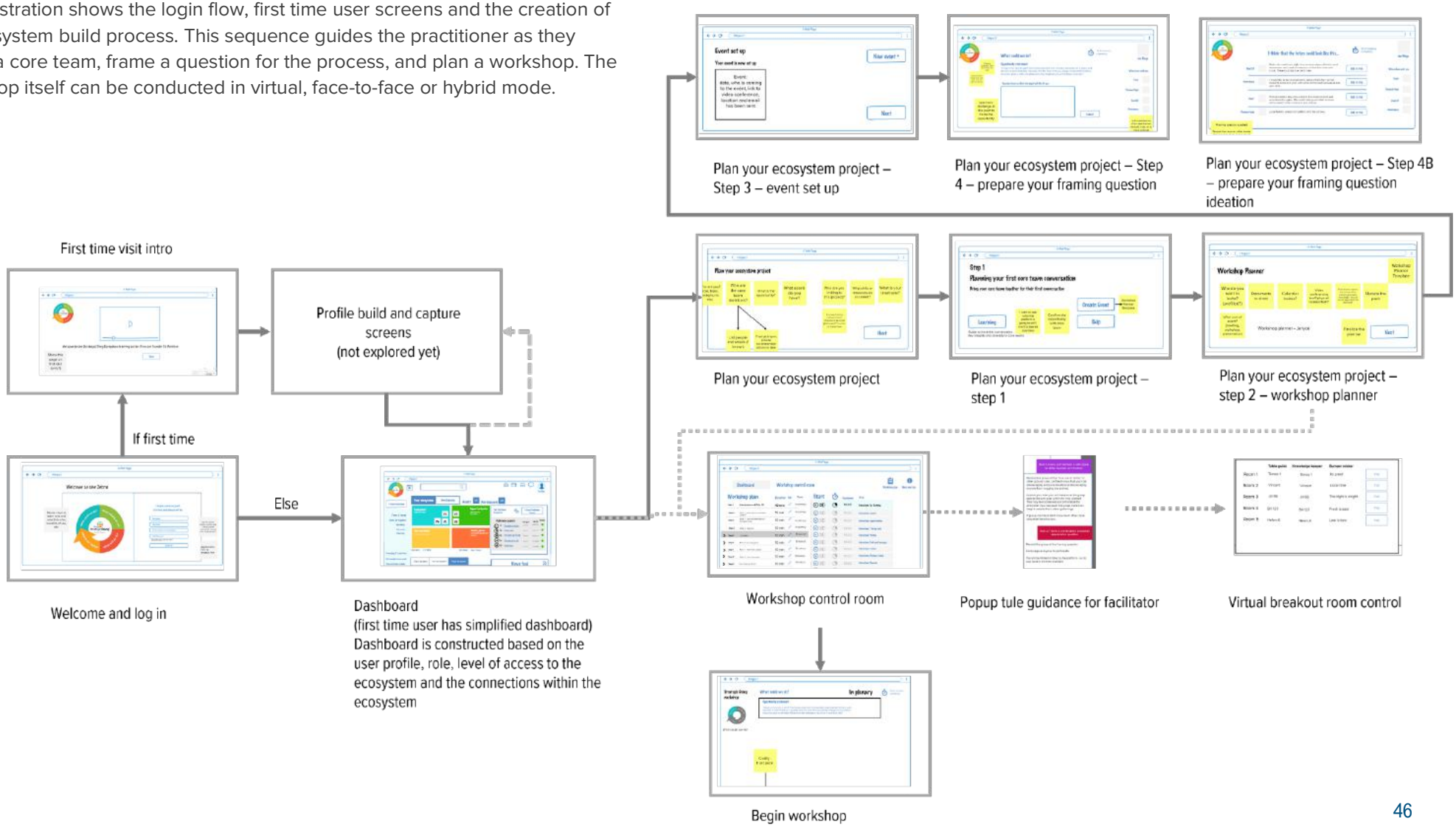
Virtually every website collects metadata. Until now, however, we have not had a platform that enables us to collect metadata on entrepreneurial ecosystems. Our platform changes the game. With standard protocols in place for designing and guiding entrepreneurial ecosystems, we now have a way to collect metadata safely: without violating legal and ethical privacy standards. These data will uplift and accelerate research on entrepreneurial ecosystems. The platform will generate metadata from interactions and activity on the platform.



## 2.9 Ecosystem Management: Details on the Wireframe

The concept design for Zebra has focused on the ability to utilize the Strategic Doing method as a core operating system for the exoskeleton. The following is a depiction of a low-fidelity screen flow and the functions that were depicted in the collaborative prototyping sessions. This illustration does not show visual design, but rather shows potential interactions for actors in the experience.

This illustration shows the login flow, first time user screens and the creation of an ecosystem build process. This sequence guides the practitioner as they create a core team, frame a question for the process, and plan a workshop. The workshop itself can be conducted in virtual, face-to-face or hybrid mode.



**Begin workshop – participant screens**

Rule 1 & 2 in plenary

Rule 3 in plenary

Rule 4 in plenary
(with supported ideation)

Rule 5 in plenary
(with supported rating management)

Rule 5 in plenary
Select Big Easy - Leaderboard

Rule 5 in plenary
Leaderboard alternative

Rule 5 – Team/room selection

Participants move into
virtual/physical break out
rooms

Facilitator can enter,
manage or move
people around in the
breakout rooms if
required

Rule 6– Allocate role

Rule 6– Success goals

Viewing a shared screen

Rule 7– Guideposts

Rule 8– Short term action plan

Rule 9 – Set 30/30

Review project

**Control workshop – facilitator screens**

Workshop control room

Facilitator pushes
each step and
controls a timer for
the group.

In Plenary – review projects

EE strategy Map

## 2.10 Network Analysis for Entrepreneurial Ecosystems

The platform opens the door to network modeling of entrepreneurial ecosystems. A network is structured as nodes and relationships. In addition to the three types of data we discussed above -- primary data, administrative data, and metadata, a network model could also include data from users who provide their express consent. The platform then constructs and analyzes network models based on these data and provides personalized visualizations, analyses, and recommendations for ecosystem builders. At the same time, for research and evaluation purposes, we can suppress identifying information and examine patterns, network structures, and network analytics.

The platform can create near real-time network models as the ecosystem evolves. A network model is a data model that is structured as nodes and relationships. Network models take the form of matrices (like a spreadsheet) or a picture of connected lines and vertices (like a subway map).

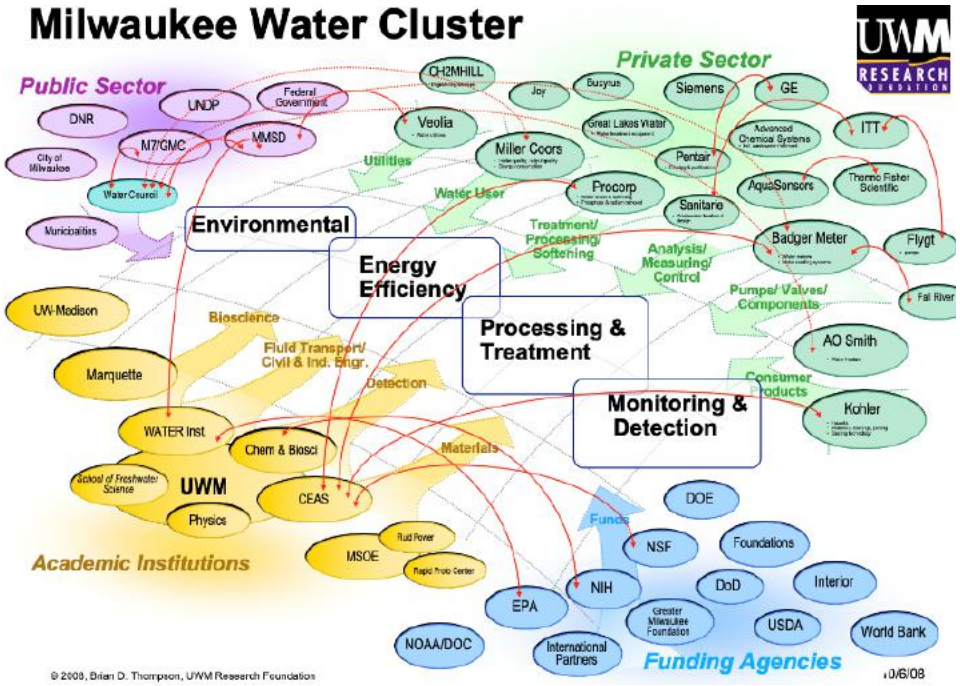
How we model, visualize, and analyze networks is based on extensive theory and methodology from three related but distinct disciplines. The first is Graph Theory, a mathematical discipline focused on the analysis of matrix structures composed of nodes and relationships. The second is Social Network Analysis (SNA), a sociology discipline focused on the analysis of interpersonal networks. SNA applies graph theory and sociological knowledge to develop sound methods of network analysis. The third discipline is Complexity Theory, which studies complex systems including ecosystems.

Our network models will handle this complexity behind the scenes so ecosystem builders don't have to think about it. A practitioner's network model will typically be visualized as a network with relevant information and metrics according to the practitioner's preferences. However, all of the additional information is available in the background if the practitioner wants to view it.

In most situations, ecosystem builders will rely on network visualizations or maps, which help practitioners see opportunities or problems that are created or revealed by the structure of the networks. An example will help explain the opportunity. In 2017, we began building an ecosystem of researchers and practitioners at Purdue interested in addressing a wicked problem: reducing the loss of feed grains in Sub-Saharan Africa. Our initial map included a wide range of disciplines from agricultural economics and anthropology to mechanical engineers and agronomists. As we began mapping the network, however, we found a significant gap: transportation and logistics. We had not yet engaged these scholars in the network.

In 2008, practitioners at the University of Wisconsin-Milwaukee Research Foundation drew a network map three months after a Strategic Doing workshop with the emerging Water Council. The map quickly outlined out assets from different sectors -- public agencies, private companies, funding agencies, universities -- could be brought together in four focus areas: environmental regulation, energy efficiency, processing and treatment, and monitoring and detection.

The main benefit of network visualizations comes in understanding the structure of our networks and developing productive network strategies. With our networks, we can run community-finding or clustering algorithms that find communities, clusters, or subnetworks in our larger network model. As with visualization in general, clustering can help practitioners see groups in their networks that they already knew existed. But sometimes, clustering reveals groups they missed or that may be emerging. Visualizations also help practitioners quickly assess whether their larger network is cohesive or fragmented. Visualizations are also useful in identifying a "path" to a node practitioners might want to connect to. For example, how might we most efficiently connect to an investor who might be interested in a particular start-up? There are many more things we can do with visualizations.  But first, we need to collect the data. That's why the platform is so important.




In October 2008, three months after a Strategic Doing workshop in Milwaukee, civic leaders drew this map of their emerging ecosystem.

## 2.11 Online Education

The platform will include modules to provide online education to ecosystem builders. These modules will cover the basics of Strategic Doing and ecosystem building. The ecosystem building components will follow the portfolio model of ecosystems. These online modules will take different forms: practice briefs, stories, and online courses.

**Practice briefs.** Practice briefs provide guidance to practitioners based on case studies we have developed using Strategic Doing to build ecosystems. Each practice brief explores a key concept in the context of a case study. We have developed two prototypes.

The Milwaukee Water Cluster represents an entrepreneurial ecosystem that we started in 2008 with a Strategic Doing workshop in Milwaukee. The practice brief explores how the ecosystem evolved over a set of horizons. This model provides ecosystem builders with an understanding of the journey they must guide to build an ecosystem. Generating a dynamic ecosystem for Entrepreneurs takes time and focus. The Milwaukee case study illustrates the different phases that ecosystems go through before they develop positive feedback loops and become sustainable.

The Charleston Digital Corridor practice brief tells the story of how we developed a dynamic and real ecosystem in Charleston, South Carolina beginning in 2001. As we have described previously, the portfolio model of ecosystem developed emerged out of our work in Oklahoma City from 1993 to 2000. In 2001, Ed Morrison began working with Ernest Andrade, an economic developer and employee of the City of Charleston. Through monthly sessions stretching over a year, Ernest and Ed plotted a strategy for the Charleston Digital Corridor. The practice brief demonstrates how ecosystem builders can use the portfolio model to build an ecosystem.

**Stories.** Each of these practice briefs provides a backdrop for podcast episodes. These podcast can provide the entry point for ecosystem builders to learn the skills of building ecosystems. We have developed two podcast episodes based on Milwaukee and Charleston.

**Online Courses.** Our experience with online courses began at Purdue University. The first course we developed explores the basic shifts underway in our economy. This introductory course consists of a series of four modules of about 15 minutes each. These modules explore the move from an industrial economy based on hierarchical organizations to a knowledge economy based on networks. The course provides the basic answer to the question: Why networks?

In a second course, developed in preparation for the launch of our book, Strategic Doing: Ten Skills for Agile Leadership, we introduce some of the skills related to managing networks. Launched on the FutureLearn platform (https://www.futurelearn.com), we provided a free introduction to the practice of strategy in networks. Over 4,000 learners took the course from 146 countries. (We have subsequently taken down the course).

In a third course, Building an Agile Economy, we introduced the portfolio model of ecosystems. This three-week course, developed at the University of North Alabama, was delivered through the executive education program at UNA through its Learning Management System, Canvas. The course begins with a focus on S-Curves, moves on to introduce the portfolio model of ecosystem building, and then takes a deeper dive into each of the quadrants. Participants walk away with a clearer understanding of how ecosystems form.

Ky Holland, an ecosystem builder in Alaska commented after taking the course: "The course provided a remarkable number of critical concepts and practical tools that I've used weekly in my conversations with community activist, students, leaders, policy makers and politicians to help them see our economic situation with new clarity."

## 2.12 Connectivity

Ecosystem builders probably learn best from other ecosystem builders and professionals who have been there before: experienced mentors.

**Peer-to-peer coaching.** Peer-to-peer coaching networks are already forming within the Strategic Doing community. Over 2,000 professionals have taken introductory Strategic Doing training. This training consists of a 2.5-day in person course or an online course with nine modules. Following this course, participants have started to form their own coaching networks. The Agile Strategy Lab has begun to promote this work through the annual Strategic Doing Practitioners' Conference.

To apply these insights to ecosystem building, we asked Strategic Doing practitioners to draft and test a peer-to-peer protocol for managing peer-to-peer coaching.

**Mentoring.** The literature on mentoring in start-up ecosystems is scarce (Sanchez-Burks et al., 2017), and evidence on the use of mentors in ecosystem building is likely to be very thin. However, research is beginning to build that the mentoring relationship for entrepreneurs can improve their chances of success (Kuratko et al., 2021). In other fields, such as teaching and nursing, we know that mentors can accelerate professional development. The learning platform we are designing can facilitate the formation and evaluation of these mentoring relationships. We see no reason why promoting mentors in the professional development of ecosystem builders would not follow a similar path.

**Zebra will include plug-in content modules to support the Ecosystem Builder**


ONCE UPON AN ECOSYSTEM
A PODCAST

ECOSYSTEM DNA
FORGED BY THE AGILE STRATEGY LAB

**Scaling Zebra will take place through our expanding Strategic Doing network of 2,000+ practitioners, which includes a number of universities**

College of BUSINESS and TECHNOLOGY
University of NORTH ALABAMA

OHIO STATE

UNIVERSITY OF OREGON

STATE
MISSISSIPPI STATE UNIVERSITY

INDIANA UNIVERSITY

AGGIES
NEW MEXICO STATE

PURDUE UNIVERSITY

Colorado State University

OHIO UNIVERSITY

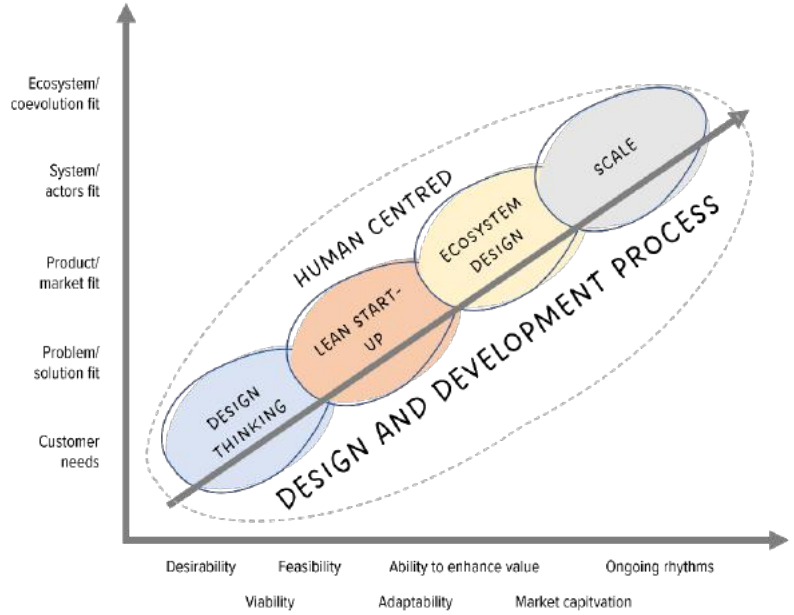
# Our Process

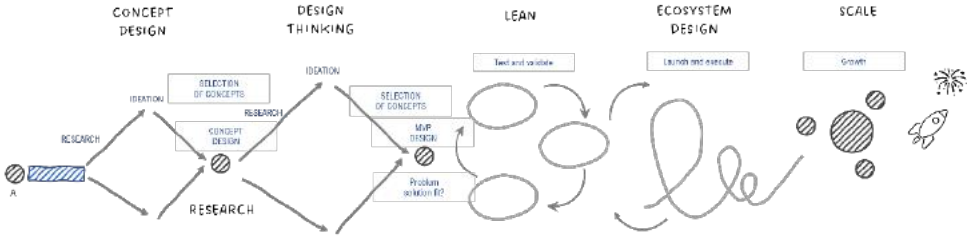
# 3 Our Challenge-led Design Process

Designing a system to support ecosystem builders and integrate the use of Strategic Doing requires an agile, human centred approach. Human centred design (HCD) focuses on making the experience design simple and seamless. The method incorporates systems thinking and acknowledges the context of use for any design: all components are designed as part of the larger system.

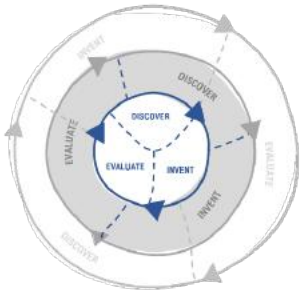
Humans are complex and flawed. It is important to design to reduce errors, support good decisions and remove unnecessary effort. We use a well-known and tested human centred design methodology based on three core phases: DISCOVER, INVENT and EVALUATE (DIE). This method is compatible with a variety of development methodologies, minimizes jargon and is based on simple techniques to encourage all people to innovate. The method is also scalable and can be used for simple product development or for shaping complex systems.

Our challenge-led approach follows the multiple phases of innovation and development from concept and individual product/service development, through Minimal Viable Product (MVP), to Minimal Viable Ecosystem (MVE) and finally for scaled use.




Our approach is also tailored for every engagement. Each project has different requirements that must be explored, tested and refined. The project starts with **DISCOVERY** which focuses on understanding the challenge: the problem to be addressed, the opportunity to be developed, the context of use and the needs of the people involved. After understanding the problem, reframing the challenge and understanding the actors involved, we then **INVENT,** ideating and experimenting with ideas and concepts to bring solutions to life. Experiments reveal wins and failures in the design. By experimenting early and often we can learn quickly about the essential core functions and eliminate unnecessary or pointless features. Finally, we **EVALUATE** and refine our thinking, concepts and understanding of the experience we are creating. At all times we remain focused on the human: the way they feel, their understanding of the task, how to remove obstacles and how to support their outcomes. These phases occur at every stage in the design and development process.

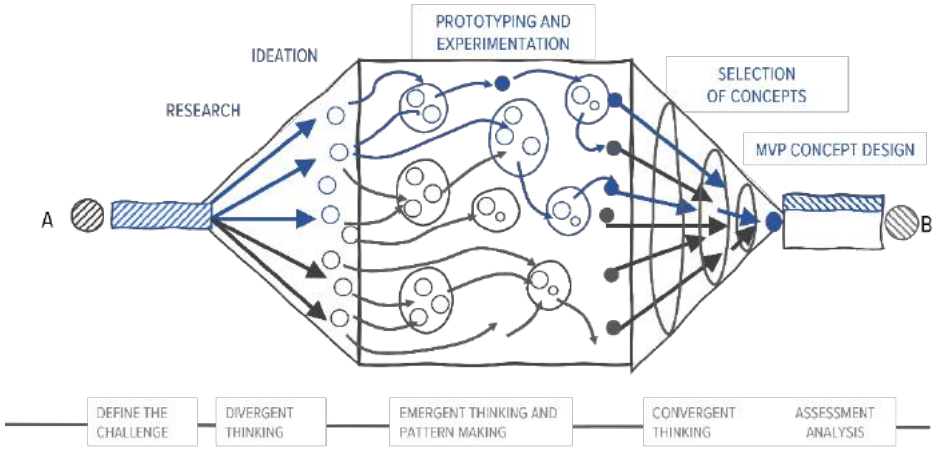



**ABOVE:** The **DIE design method** is a human centred approach that is applied in conjunction with other methodologies for different stages of the development process. This experimentation and learning design method is based in understanding systems and context of use.

## 3.1 Our Approach to Concept Development

We want to create a platform that can be used to enhance the natural characteristics of ecosystem builders and entrepreneurs. To do this while also maintaining perspective on the complete ecosystem process, we utilized a challenge-led design approach based on research experimentation and evaluation. To do this we used a simplified version of design thinking.

To understand the challenge for ecosystem builders and entrepreneurs we conducted a first stage cycle through the Discover, Invent and Evaluate process. Through this process we were able to understand the core issues and develop a first cut “strawman design” of the possible ecosystem exoskeleton. A strawman is designed to be “knocked down,” it is a test concept used in conjunction with a realistic core scenario of the experience that encompasses all potential actors in the system. This is intended as a proof and is not a final design. Each pass through the process reveals more about the design and ensures that the solution is fully tested in its conceptual state before any development begins. Low-fidelity prototyping before costly development ensures fewer coding changes during development.




**Stage 1** The first iteration of the process was to EXPLORE the concept of an ecosystem builder learning and development tool.

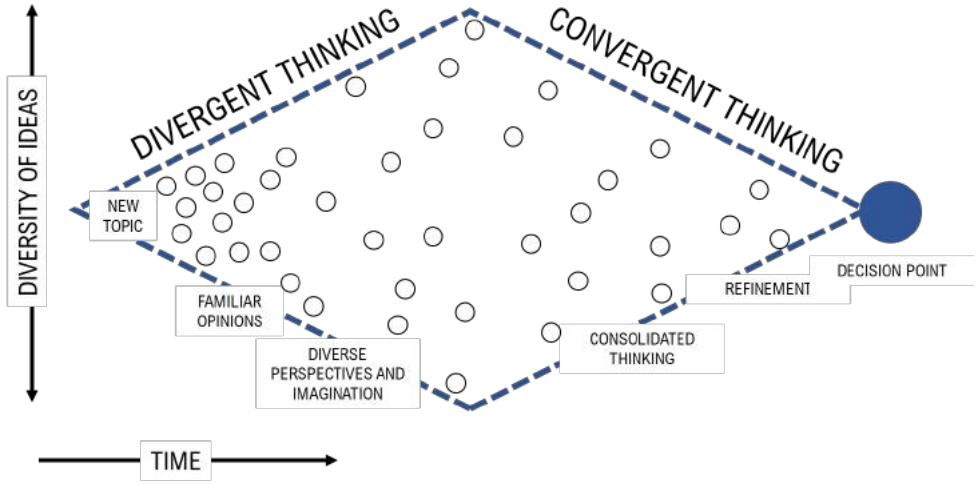
### Research

During the research phase of the concept development, we collected data through several methods: secondary data reviews, semi-structured interviews, monthly/quarterly forums, workshops interview, observations and ideation sessions.

The design and research team reviewed material created for Strategic Doing lessons and workshops and observed training workshop sessions. Existing material developed to describe and explain the Strategic Doing Method was also reviewed. Interviews were conducted with several ecosystem builders from several case studies to understand the core issues and critical features in the challenge for ecosystem builders. From these conversation, personas, scenarios and journey map drafts were developed.

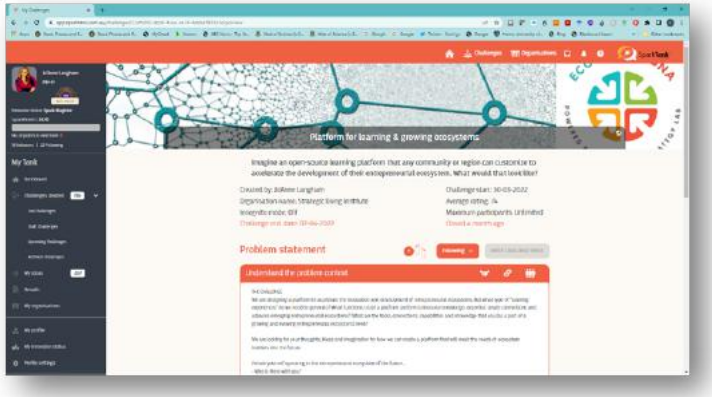
### Ideation

Ideation sessions were conducted with SparkTank. SparkTank uses the divergent-convergent process from design thinking and enables individuals or groups to participate in ideation in a digital environment. SparkTank sponsored the ideation process for the Strategic Doing Institute.



From these sessions 160 new ideas emerged from 27 participants. These ideas ranged from nomadic “edu-entrepreneur facilities” to “Tinder for mentors and mentees.” These ideas have been captured for potential use in the second stage development process.

“Imagine a platform that could support ecosystem builders and entrepreneurs to learn and build ecosystems…”




**THE CHALLENGE**

We are designing a platform to accelerate the incubation and development of entrepreneurial ecosystems. But what type of "learning experiences" do we need to generate? What functions could a platform perform to increase knowledge, expertise, create connections and advance emerging entrepreneurial ecosystems? What are the tools, connections, capabilities and knowledge that you (as a part of a growing and evolving entrepreneurial ecosystem) need?

To generate ideas, we encouraged participants to picture themselves operating in the entrepreneurial ecosystem of the future using a series of prompts.

THE PROBLEM Ecosystems are invisible and difficult to navigate as an entrepreneur, investor, contributor or supporter. How do you (as an individual) see how you can help, what you can contribute, where your solution might help solve someone else’s problem? Technology can be used to enhance and accelerate the creation of entrepreneurial ecosystems. We just have to imagine it. We want to innovate how we connect, build and grow ecosystems, so that they are accessible, self-sustaining, diverse, well connected and robust.

**Focus area for the challenge:**

Online Courses

Think about the best (and worst) online courses or sessions you have attended. What were the features, activities, or elements that make for a successful online course? Can you describe the attributes or the experience and what worked so well? Please provide any suggestions for what should be included in online learning.

Coaching or Mentoring

Peer-to-peer coaching and mentoring are helpful ways to learn. But ecosystem builders don't really have an easy way to set up these relationships. What would make it easy to create these relationships? How would it work?

Gatherings or Forums

Regular forums and gatherings are a key element of any vibrant ecosystem. As we explore how to develop a vibrant ecosystem of ecosystem builders, it makes sense to consider regular online forums. Imagine that you were put in charge of developing a regular forum for ecosystem builders. How would you do it? Where would you start?

Stories

It's often said that entrepreneurs learn best from the stories of other entrepreneurs. Is the same true for ecosystem builders? Would a learning platform benefit from sharing stories from successful (and perhaps not so successful) ecosystem initiatives? How do you imagine stories to be most helpful? How should they be delivered (e.g., print, podcasts, videos)?

Social networks

When you dig into the world of ecosystem building, it appears really fragmented, almost chaotic. Of course, it's not. Ecosystem builders have their own social networks. The problem is that these networks are invisible. How could social networks tools be used to enable entrepreneurial ecosystems?

Digital Library

We've all experienced the frustration of not finding what we are looking for. Imagine a digital library or repository of shared content that ecosystem builders could use easily: a library that was easy to use because it is so well organized. There is no question that an ideal library could be useful, but the mechanics of organizing and keeping it up to date seem daunting. Imagine you were asked to organize a digital repository for ecosystem builders. What would a digital library that was really helpful for you - what would that look like?

Other Ideas

These are only some of the learning experiences that could be designed into a platform. There are others. Imagine, for example, a 1-800-HELPME number, or a more formal Ecosystem Builder Academy with stackable credentials, or, a summer camp for ecosystem builders. If you had a magic wand and could build the most important and useful features to support learning, what would you include?

Trusted space

To build an ecosystem and ensure that relationships are maintained and commitments met, we need to have a trusted environment. How might we ensure that the platform creates trust between participants and provides a psychologically safe space? How would you imagine this working? What could be added to make it psychologically safe?

Some of the concepts that emerged from the ideation session in SparkTank

## Badges

Create a color badge system that enables ecosystem builders interested in forming peer-to-peer coaching networks,


## Problem focus

Submit the profile of the project / problem you are solving to provide the context

## A scenario simulator

- a live 'game' where entrepreneurs can test out likely outcomes of a decision. The simulator has the ability to focus on the role of being stakeholder, mentor, or participant as roles and decision making are different and to understand the impact on these stakeholders. Could possibly be multi-player. It should have the ability to also score decisions against SDGs.

## Nomadic Edu-entrepreneurs

- The ecosystem diagnostic could identify where gaps exist in technical/professional expertise. This would allow companies and universities to define the scope of projects/learning needed to launch and scale initiatives that support local engagement in advancing technology-driven solutions. Corporations can volunteer expertise and sponsor communities that have needs related to their target market. A resource like SAS institute uses to identify broken links in supply chains and reroute surpluses.

## TWIN city night

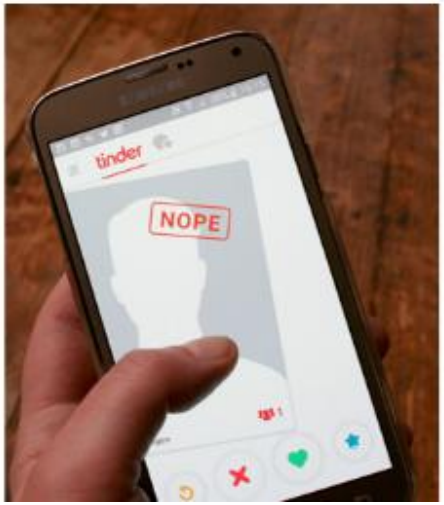
Design a special from of activity for a global network: Twin City Night.
1. Each time, a city chapter invited another city chapter to join as a team.
2.Each city chapter has one ecosystem builder and a startup founder.
3.The meet is shared with online channels.
4. Later, build a mentor network.

## Helpline

Create an 800 number for ecosystem help. Have people available all around the world 24/7.

## Tinder for mentoring

The mentoring relationship could be done like tinder - swipe left or right when reviewing profiles of mentors. Then they can reach out if they see a possible match. Of course only people who wanted to mentor would be set up in the pltform




## Training assessment help

I would want a just in time training system that delivered exactly what I needed at the time. The problem is often we don't know what training we need. So searching on it is silly because we look for what we think we need - not actually what we need. So the platform would ask you questions and help you assess what type of training you needed - this could be done with AI. AI could also be trained to give basic mentoring or answer questions for start ups

## Define the Challenge

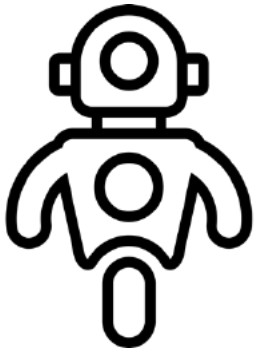
Based on the premise and proposal created by Ed Morrison and team we conducted a rapid design process to understand the challenge and develop insights into the critical features as well as the feasibility of a learning system based around Strategic Doing. The proposal was to develop a digital learning platform for ecosystem builders based on the Strategic Doing model.

> Ecosystem builders face a daunting problem: How do I learn how to develop entrepreneurial ecosystems? Designing and guiding the development of entrepreneurial ecosystems is a new and fast evolving field. While there has been extensive and growing research interest in entrepreneurial ecosystems, there is relatively little insight into HOW to build ecosystems. Strategic Doing, an open-source model for developing collaborations and ecosystems helps fill the gap. We have evolved this discipline since 1993 and applied it successfully to the development of entrepreneurial ecosystems in Oklahoma City, Charleston, and Milwaukee. Ecosystem builders are currently applying this approach in Iowa City, Calgary, and across both Alberta and Ecuador.

The rapid solution design was conducted around existing case studies that the research and design team had already collected including: Flint (an inner city neighborhood), Iowa City (a metro region), and Shoals Shift in North Alabama (a rural region). The research team co-designed the core platform component to explore the likelihood of use, the practicality of a digital tool as part of the process, and whether the platform would enhance the ecosystem development process. We discovered that the concept co-created with participants could have dual functionality as both a learning and a development tool.

### Why an 'exoskeleton'?

The concept evolved to operate as an 'exoskeleton.' Initially the platform would act to teach and enable the development of the first core ecosystem group, asset management, pathway projects and automate many of the manual tasks such as calculations and data capture. However, what participants wanted was for the platform to do "the heavy lifting" required to accelerate ecosystem development. This included capturing, cataloging and visualizing assets, potential connections for value streams, sparking new collaborations, and accelerating trust and the spread of insights through the platform infrastructure.



Zebra, an Ecosystem Exoskeleton, can guide the ecosystem builder through the simple rules of designing and guiding a complex entrepreneurial ecosystem.

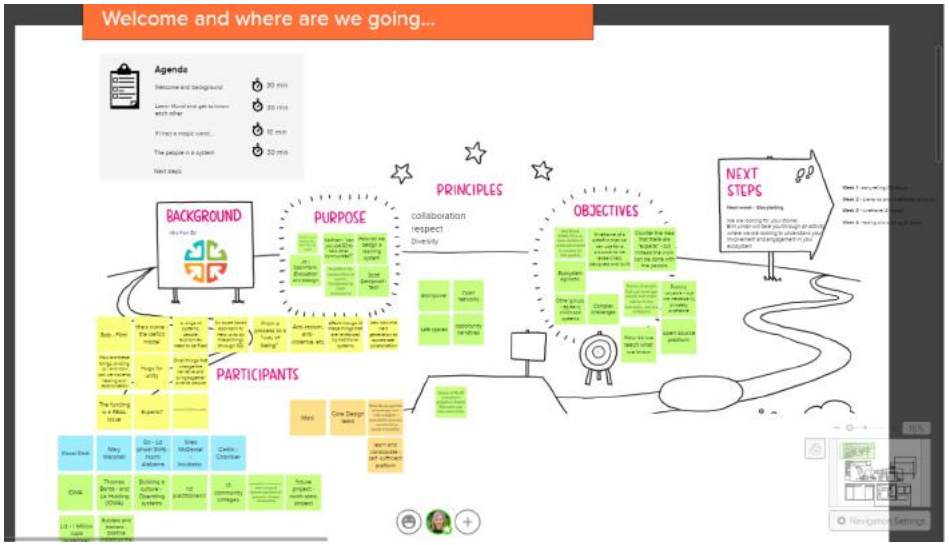
The platform also provides security through blockchain for managing and validating assets, resources, and value chains. Thus, an exoskeleton which is a frame used to "support", "protect" and "enhance capabilities" is in this case enabling teams to support, protect and enhance their abilities to collaborate, work together and add value to the community. This is where the exoskeleton diverges from the tradition concept of an individual supported by machine. Instead, the Zebra exoskeleton is a platform for the support, protection, and enhancement of communities.

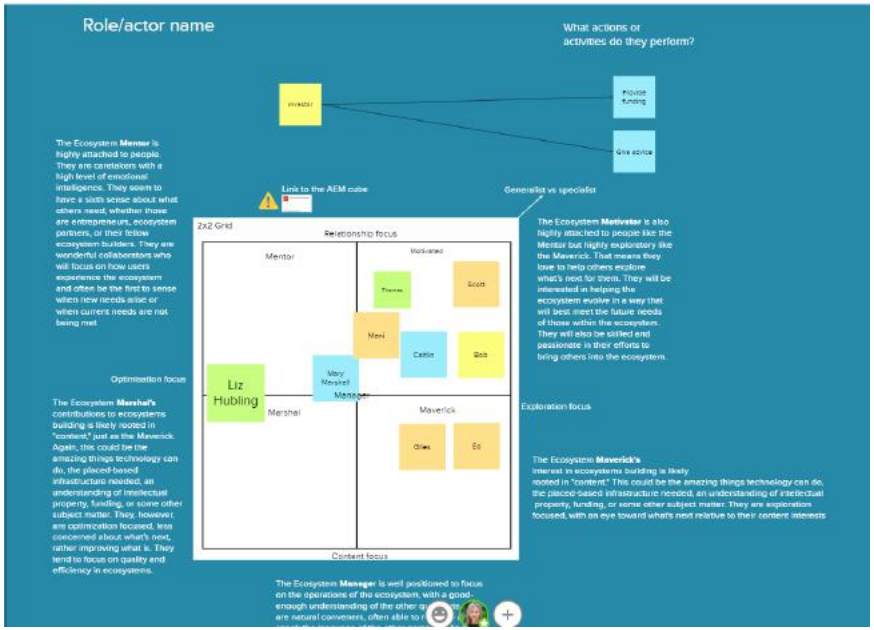
## Prototyping and experimentation

During the concept prototyping and experimentation exploration we worked quickly in a virtual environment to gather data and test concepts. We conducted several online workshops with a number of ecosystem builders and mentors. We then created a detailed activity scenario for several of the role types. These scenarios are used to guide the development process and to test the real-world functionality in a design. Participants in the workshops simulated a Strategic Doing conversation and set up process using the low fidelity mock-ups. Mock-ups provide a way for people to interact and imagine how the experience will unfold. The mock-ups consisted of wireframes that illustrate the information

organization and process logic. Low-fidelity, “unfinished” designs are useful in collaborative sessions, as they afford participants implicit permission to comment, make changes and provide feedback. Such wireframes are used to iteratively develop and evolve the user interface and the platform structure. We only progressed these to concept stage. Further research and design will be conducted during prototype development.

These sessions provided critical insights into the primary functions of the proposed platform.



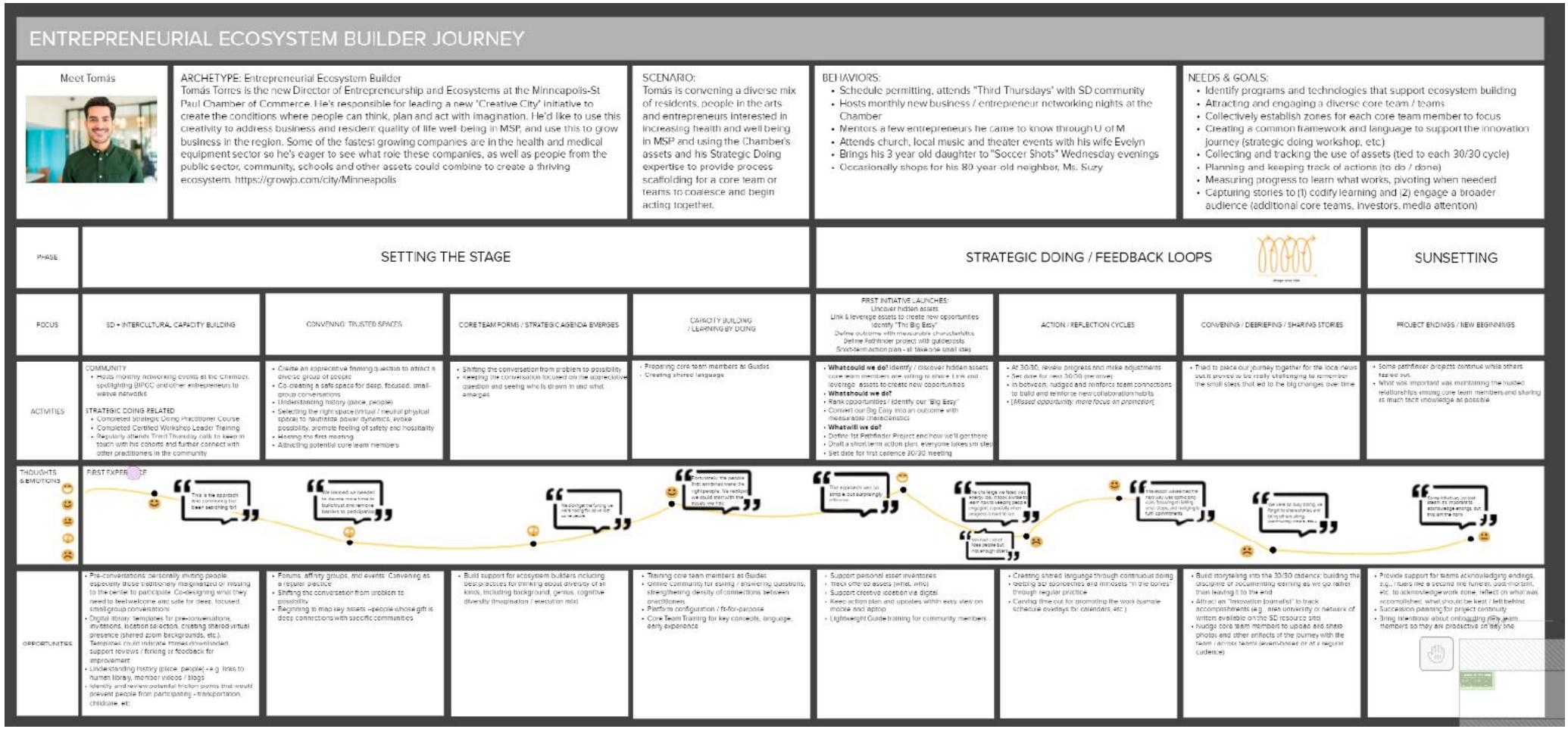

## Selection of concepts

At the conclusion of the collaborative sessions the team had sufficient information to demonstrate the potential of the platform and identify potential benefits and opportunities to enhance the ecosystem development process.

The following pages outline a small part of the experience for an ecosystem builder, including part of a scenario and storyboard of how the platform may work from that user perspective. This is not a comprehensive description of the use cases for the platform, rather it is a demonstration of the rich data and the collaborative human-centre design approach we will use to continue development.

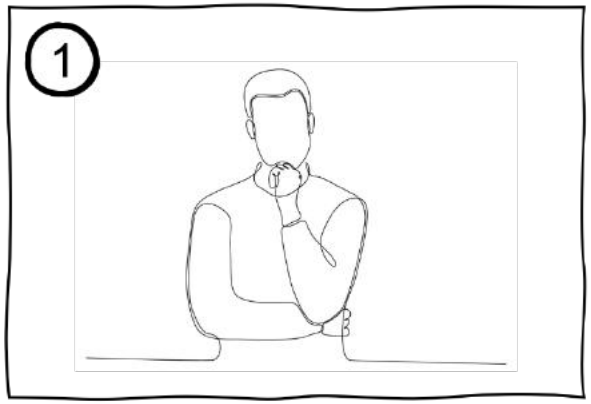
## 3.2 Our Use Case: Meet an Ecosystem Builder

Understanding the perspective of the participants in an ecosystem



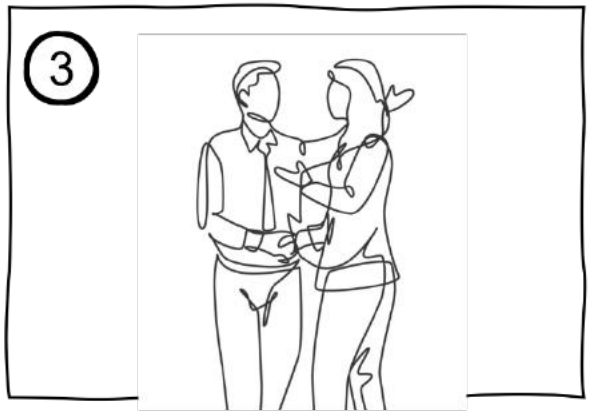
# Tomás the ecosystem builder

## Becoming aware of Strategic Doing




**Tomás, 35 years old**, has just been hired by the regional chamber of commerce to lead a new initiative on entrepreneurship and ecosystems. He's excited about the opportunity. Prior to starting this job six months ago, Tomás was the assistant director of a start-up incubator run by the local university. In that role, **he interacted with a wide range of entrepreneurs. He is convinced that entrepreneurship provides the path to future prosperity for the region.**


Tomás studied business as an undergrad and since then, has taken some online certificate courses in innovation and entrepreneurship. **He recently completed his online certification to become a Strategic Doing workshop leader**. He has been practicing Strategic Doing, and has become an active member in that community.




**Diana**, the president of the Chamber of Commerce selected Tomás for this role primarily for his creativity and enthusiasm.

Diana knows very little about entrepreneurship and ecosystems, but she learned from a recent conference that more and more chambers were investing in this approach to economic development. When she reached out to her network at the U of M, Tomás' name surfaced as a good candidate. **After one interview, she hired him.**

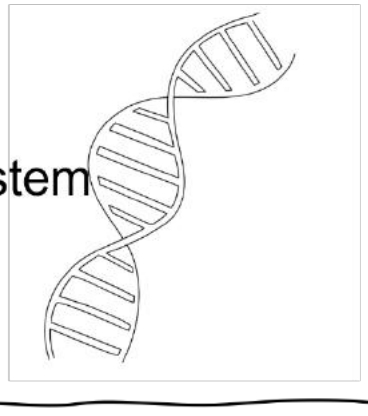
# Becoming aware of Strategic Doing

4

Tomás has long been a critic of traditional economic development, which focused on recruiting large companies into the region. He believes that the incentives invested in these recruitment projects are largely wasted. He points to the example of recruiting the computer manufacturer three years ago, where the city provided over $2.3 million worth of incentives. The manufacturer recently closed, and there's a little chance that the city will be able to claw-back its incentive money. Tomás thinks to himself, **"If only we had that investment in our incubator, we could've shown the city how to really do economic development."**

5

Ecosystem DNA



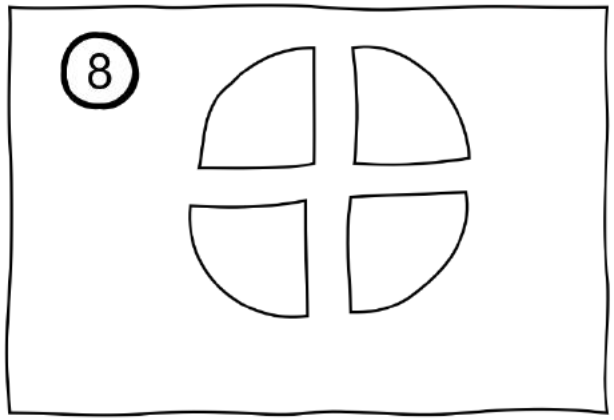
Tomás learned from his colleagues in the Strategic Doing community that Strategic Doing professionals were moving toward a new model for ecosystem building, called Ecosystem DNA. The model builds on work completed over the last 30 years in building dynamic ecosystems in places like Milwaukee, Charleston, and Oklahoma City. To learn more, Tomás signed up and took an online course in Ecosystem DNA. He's now eager to put these insights to work.

6

The Ecosystem DNA online course introduced Tomás to an open-source platform that he could tailor to the needs of his community as they build new entrepreneurial ecosystems. Over a period of three months, he worked with professionals at the Agile Strategy Lab to tailor the platform for his use. It now integrates well with both the Chamber of Commerce and the city's economic development websites. He is eager to try it out.

# Becoming aware of Strategic Doing


Back when he was working at the U of M incubator, Tomás learned about many creative assets in the region, and he believes that this focus provides an excellent place to start. After reading Charles Landry's book, *The Creative City*, he saw an opportunity to follow what cities in Europe have done -- leverage the economic power of their creative industries. **He ran this idea by his boss Diana, at the chamber, and she gave him the green light to proceed. She doesn't have a budget for this new initiative, but assured Tomás that if he can produce measurable results, investments from the business community and the city will follow.**



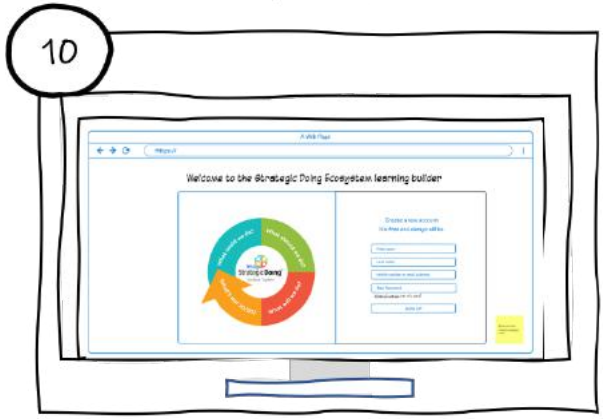

Tomás learned the Strategic Doing method five years ago when he first joined the university incubator, and has been an avid practitioner ever since. It was no surprise that when the Strategic Doing community began exploring the application of Strategic Doing to ecosystems, Tomás was very interested. Soon after he joined the Chamber, Tomás took an online course, called Ecosystem DNA, which introduced him to the idea of developing a portfolio of collaborations supported by a platform. Ecosystems emerge as ecosystem builders design and guide conversations on a shared platform. The platform itself focuses on four different types of collaborations: Brainpower, Open Networks, Quality Places, and Opportunity Narratives.


Tomás spends some time thinking about how he is going to manage the power dynamics in his ecosystem and also make sure that all people who need to be involved feel included.

Tomás learned how to map assets across this platform and begin conducting Strategic Doing workshops to strengthen collaborations between platform members. He heard ecosystem orchestrators from Oklahoma City, Milwaukee's water cluster, Charleston's Digital Corridor, and the Shoals Shift initiative in Alabama share stories about their respective journeys.

Thomas the ecosystem builder

# First time use




**TASK: While in class, Thomas received an introduction to the ecosystem building platform (the "Ecosystem DNA platform"). Thomas is given a link to register and log into the platform they will use for class exercises. He does this and also answers some questions to set up his account profile. He also begins working on his EE Strategy Map.**


Log in to the SD platform

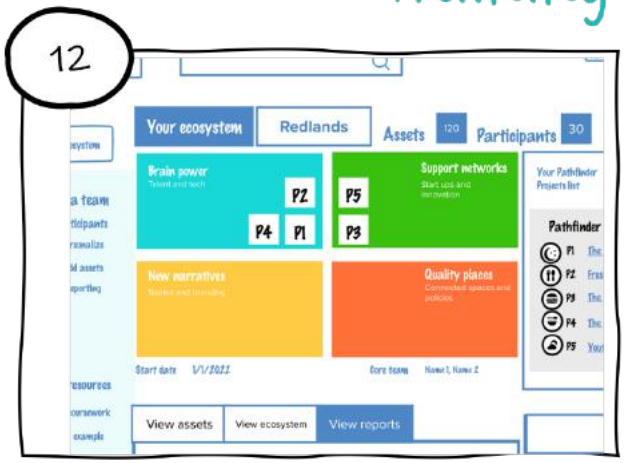

When entering the platform new users can choose to set up a new account with a range of profile questions. These questions will also include questions to develop an AEM cube profile which can be generated as a report and stored in their profile in the platform. The interface may take the form of a "typeform" approach, where one question is asked at a time.

Note screens are wireframes and do not have a visual design applied


As part of an exercise in this course, Thomas is asked to map out a six-month strategy process for launching and developing an entrepreneurial ecosystem (an "EE Strategy Map") using the platform. At the end of the course, he indicates that he would like to move ahead with building an entrepreneurial ecosystem in his community.

Thomas the ecosystem builder

## Training




Upon completing the ecosystem course, Thomas is invited to schedule up to three design sessions with the professionals at the Agile Strategy Lab. They use this time to tailor the platform for his use and context. They also help him revise the EE Strategy Map (aka the "Four Quadrants") he created in class.

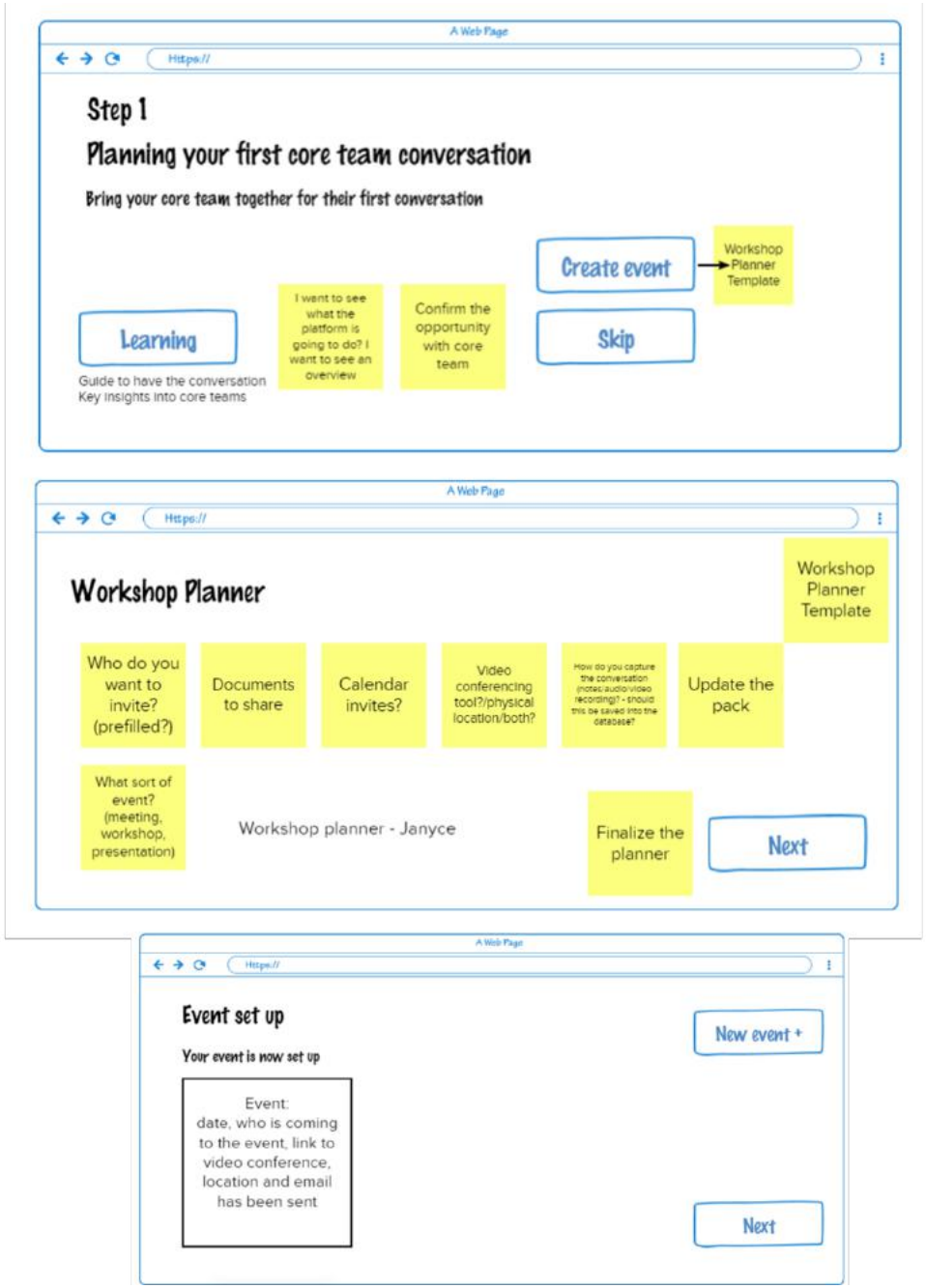
He now has a platform he can use in developing an entrepreneurial ecosystem for the creative industries in his region. Thomas isn't much of a technical guy, so he relies on support FAQs and Agile Strategy Lab staff to provide technical assistance when he needs help. Logging into the platform, he embarks on the first task of designing an entrepreneurial ecosystem: building a core team. As part of the initial customization process, Thomas sets a graphic look and branding for his initiative.

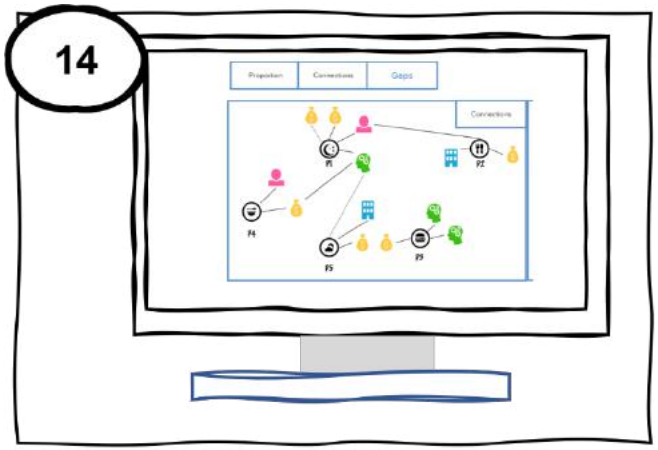
13

| QUESTIONS | COMMENTS |
|---|---|
| the audience or group. Who will be hearing the presentation and participating in the workshop? | |
| 2. What is the size of the group? | |
| 3. Type of room and seating arrangement. | |
| 4. What is the convening (or framing) question? | |
| 5. Describe how the Strategic Doing process will be used in the workshop. | |
| 6. What does a successful outcome look like? | |
| 7. How will the process be managed after the workshop? Who is responsible for following up with the initiative work groups? | |
| 8. Begin designing your presentation. Jot down some notes about what the group needs to know about SD and what success stories might resonate with your audience. | |
| 9. How would you modify the basic slide deck for your specific workshop? What would you add? What might you eliminate or give less emphasis? | |
| 10. What challenges do you anticipate? | |

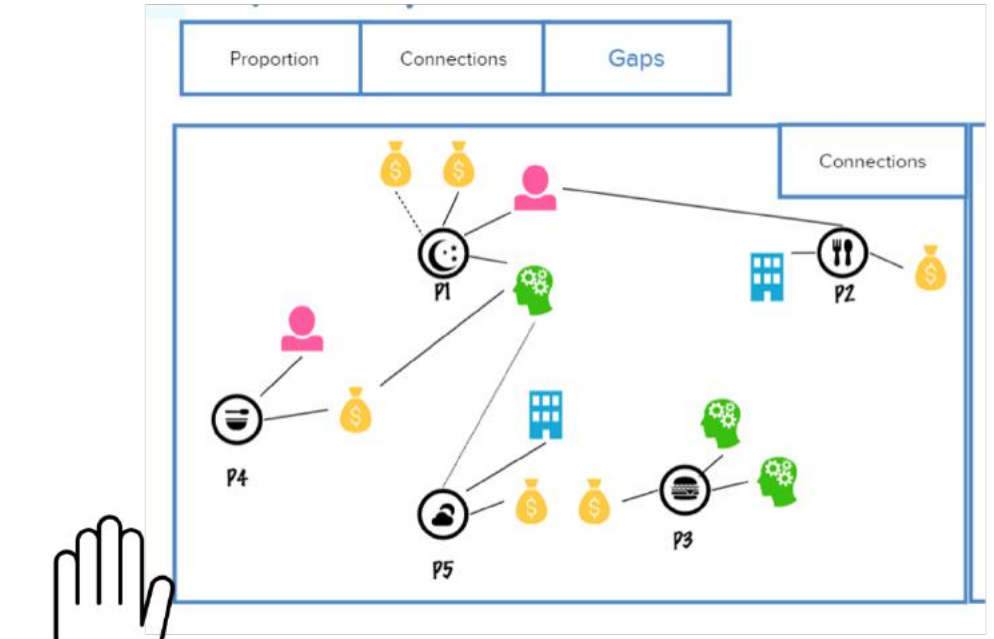
TASK: Before his first meeting with the Agile Strategy Lab team, Tomás works through a checklist to be sure he has what he needs before bringing together a core team. He also notes some thoughts on who he might invite in his personal notes on the platform.

After his meeting with the Agile Strategy team he feels confident he will be able to start building his team, using the platform to support next steps.






**TASK: To begin thinking about how he might recruit a core team, Tomás uses asset mapping function provided by the platform. He begins mapping the creative assets he knows about in the region, using an online template provided by the platform. The template provides four quadrants on which he places digital sticky notes. On each sticky note, he writes a contact name or initiative that he knows about, and draws links between people and the assets.**




Connect Assets

Add Assets

Delete Assets

Define Assets

15


In the Brainpower quadrant, **he places notes about the university's creative arts program.** He knows the assistant professor who runs the program is very interested in supporting entrepreneurial businesses for graduates of his program. In the Support Network quadrant, he makes a note about the annual arts festival which brings together networks of people to celebrate both the visual and performing arts. In the Quality Places quadrant, he puts a note about the university incubator. Finally, in the New Narratives quadrant, he places several notes about different student projects he's aware of, including short documentary films on the arts and crafts history of the region.

16

**From this initial mapping of assets, Tomás looks for potential members of a core team** that could help him build an ecosystem. Seeking as much diversity as possible in terms of background, cognitive style, skill set and genius, he selected four people to approach. Cathy, the assistant professor at the university; Teresa, the executive director of the arts festival; James, another assistant director at the university incubator; and Lakshmi, the volunteer director of a local non-profit that focuses on music education for young children.

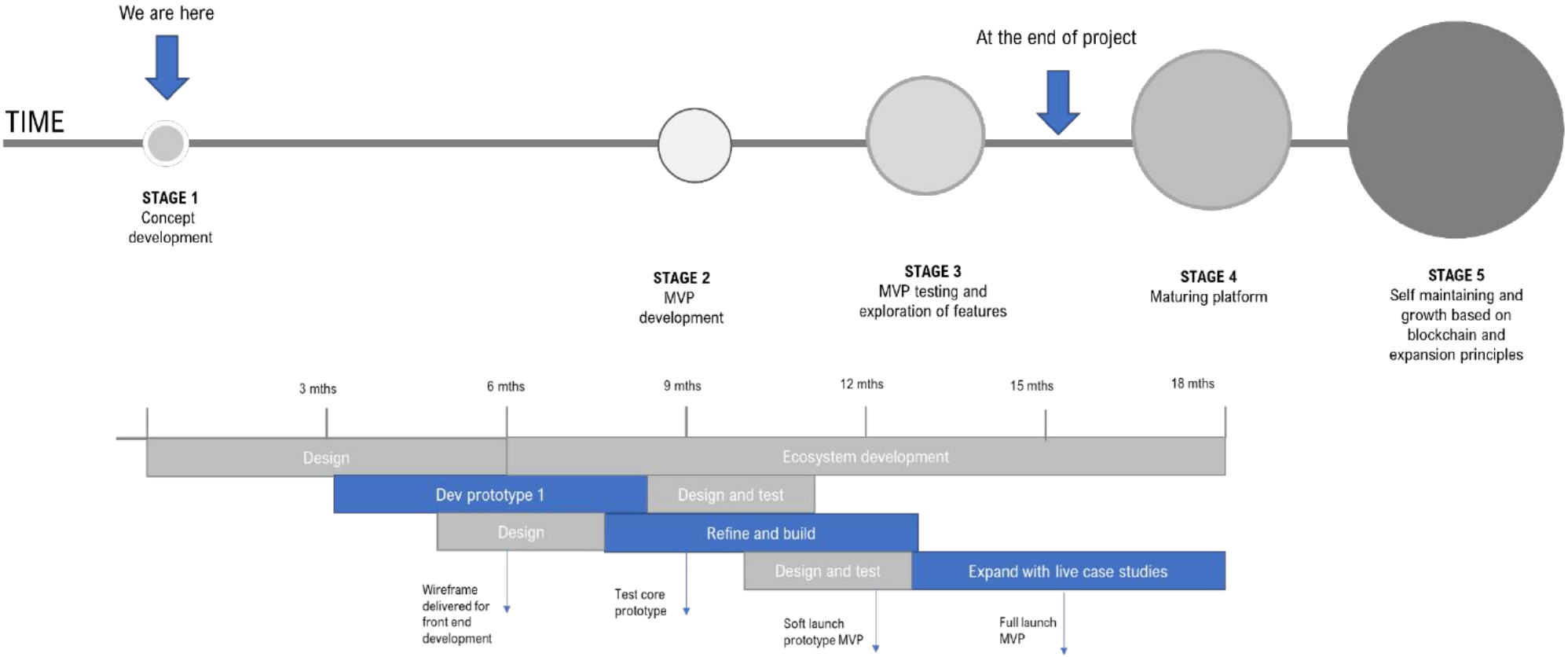
Tomás knows each of them, although not equally well. He is closest to Cathy and James. He calls Cathy and James and introduces the concept. He relies on talking points from a template that he downloads from the platform. Both Cathy and James are enthusiastic about Teresa and Lakshmi, so he reaches out to them. All four agree to commit about 5 hours per month for a year to see if they can get this initiative off the ground.

Tomás gets a commitment from each member of the core team to invest four hours on a Saturday to walk through the online course on ecosystem development as a team. The online course is available through the same platform as the Ecosystem DNA course, and is guided by a member of the Agile Strategy Lab (ASL).

# Our Action Plan

## 4.1 Our Action Plan: A Summary

We propose a 5 stage evolution of the exoskeleton. We anticipate that the proposal will cover stages 2-4 which includes development for the core platform and primary learning modules. We anticipate that the successful development of the platform to stage 4, when fully tested will lead to a self-sustaining platform that will continue to evolve and will also be regenerative.



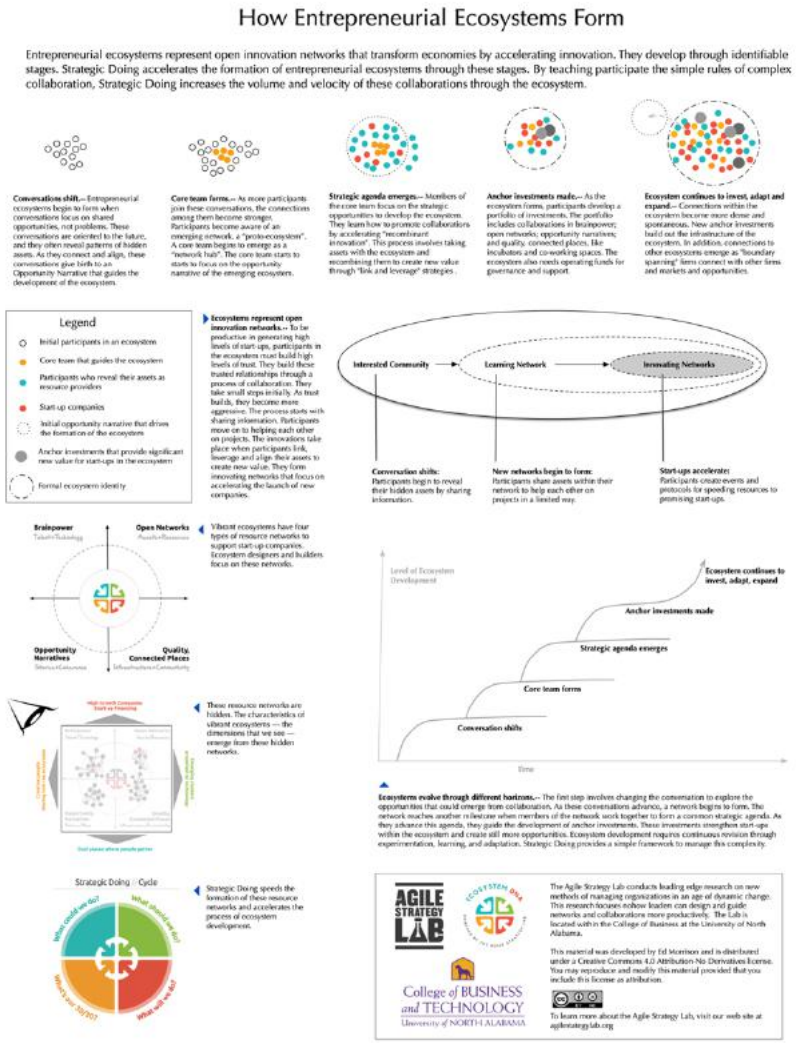
## 4.2 Moving Strategic Doing Practitioners to Ecosystem Builders

Over 2,000 people have taken Strategic Doing practitioner training (2.5 days of in-person training or an online course a varying lengths). The course introduces practitioners to the concepts of developing strategies in open, loosely connected networks. They perform exercises to practice the ten skills. Each skill is associated with a rule for designing and guiding a complex collaboration. Strategic Doing practitioners come from a wide variety of backgrounds. Some work rebuilding rural communities. Others are embedded in inner city neighborhoods. Still others are engagement professionals at universities.

Our university partners propel this work forward. Purdue University incubated Strategic Doing for over fifteen years, and Scott Hutcheson leads a team that continues to teach the discipline in both academic courses and executive education. After retiring from Purdue University, Ed Morrison joined with his colleagues Liz Nilsen and Janyce Fadden to establish the Agile Strategy Lab at the University of North Alabama. They have pioneered delivering Strategic Doing training online.

The following universities use Strategic Doing in the communities they serve: University of Oregon, Colorado State University, Ohio State University, Ohio University, Mississippi State University, Indiana University, Michigan State University, University of Alaska, and Kansas State University. This foundation of university-based practitioners provides a base for testing and scaling the deployment of Zebra.

To do this, we have prototyped a three-unit course on ecosystems, and launched this course in 2021 to test our concepts. The reaction to this course was overwhelmingly positive. We see the opportunity to expand ecosystem training under the EcosystemDNA brand.



## 4.3 Proposed Plan to a Minimum Viable Platform

The following costs are an estimate based on the concept proposed for development to a Minimum Viable Platform.

| Number | Work category | Primary group | who | Cost | Output/outcome |
|---|---|---|---|---|---|
| 0 | Project management & admin | | Jo + extra | $10,000 | Oversight of project and planning |
| 1 | User experience research | Iterative interviews with stakeholders & target users | Erin + researchers | $90,000 | requirement functions |
| 2 | Prototyping | Interviews with key stakeholders | Jo + Erin | $100,000 | requirement functions |
| 3 | Front-end design | | Jo + developers | $196,000 | |
| 5 | Back- end design | | Scott + developers | $1,100,000 | |
| Sub | MVP costs | | | $1,496,000 (one off) | |
| 1 | Marketing | | | $30,000 (per year) | |
| 2 | Hosting and IT related services | | | $10,000 (per year) | |
| 3 | Content development | | | $80,000 (per year) | |
| Sub | Ongoing management costs | | | $120,000 (per year | |
| Sub | Module development | | | $200,000 (One off - approx) | |
| Total | | First 18 months | | $1,616,000 | |

## 4.4 Ongoing Management and Development

The Agile Strategy Lab at the University of North Alabama will continue to provide management for the project. The Lab brings together pioneers in the fields of agile strategy, collaboration science, and leadership to develop new tools, frameworks, and disciplines to for a network-based economy. The need has never been greater. We see this project – the development of Zebra from concept to a Minimum Viable Platform – as a keystone project. If successful, Zebra holds the opportunity to sift the trajectory of scores of local economies.

The team this project includes:

- Ed Morrison, Director of the Agile Strategy Lab
- Janyce Fadden, Director of Strategic Engagement at the UNA College of Business & Technology
- Greg Carnes, Dean of the UNA College of Business & Technology
- Scott Hutcheson, Director of Content, Agile Strategy Lab
- Scott Dempwolf, Information Architect, Agile Strategy Lab
- Jo'Anne Langham, Strategic Designer, Agile Strategy Lab, Founder SparkTank
- Erin Liman, Experience Strategist, Agile Strategy Lab
- Mani Vannan, Senior Consultant, Agile Strategy Lab
- Dmitry Nedovis, CEO and Founder, SummarizeBot
- Etay Gafni, Development Lead and Product Manager

# The Team

# 5. The Zebra Exoskeleton Core Team

## Ed Morrison

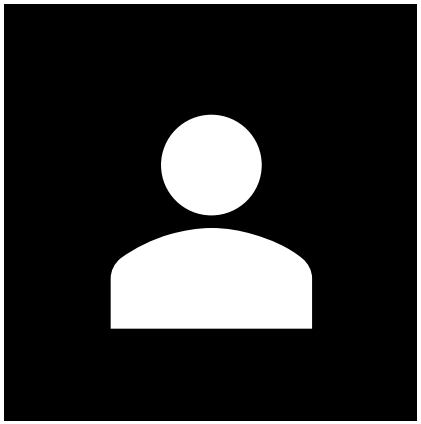
### TEAM LEAD

**Ed Morrison** (PhD) is director of the Agile Strategy Lab at the University of North Alabama. The Lab develops new approaches to managing complex collaborations and networks. After his work as a corporate strategy consultant, Ed consulted with communities and regions on how to tackle the complex challenges of building a prosperous economy in an era of globalization. Out of this work, he developed Strategic Doing.

## Scott Dempwolf

### INFORMATION ARCHITECT

Scott Dempwolf (PhD) is an Assistant Professor in the Urban Studies and Planning Program at the University of Maryland. His research focuses on understanding innovation ecosystems including the networks of people and organizations that comprise them and the activities that they engage in. Scott uses network and temporal analysis tools to visualize and analyze these innovation ecosystems and their patterns of innovation activities.



## Scott Hutcheson

### CONTENT LEAD

For nearly 30 years Scott Hutcheson (PhD) has been helping leaders design, manage, and strategically transform organizations and ecosystems to make them more adaptive, innovative, and competitive. For 15 years at Purdue, he worked closely with Ed Morrison to incubate Strategic Doing, run testbeds to validate the model, and develop teaching materials to translate the model into practical skills. He teaches at Purdue University and serves as a visiting faculty member at other universities, both in the U.S. and abroad.

## Jo Langham

### STRATEGIC DESIGNER

Jo'Anne Langham (PhD) is a human-centred designer with 28 years of experience in private and public sector organisation solving complex systems problems. Jo'Anne is also a lecturer in design, innovation and entrepreneurship at the University of Queensland. At heart, Jo'Anne is an innovator. Her passion is finding new and inventive ways to improve people's lives through better products, systems, and services. She also believes in design for the betterment of the world – that we have the capability to solve the world's problems if we utilize our imagination.

## Erin Liman

### EXPERIENCE STRATEGIST

Erin Liman is a design and business strategist with a 25+ year track record of creating human-centered products, services, and experiences that measurably enrich people's lives. She is also a sought-after entrepreneurship coach and lecturer (Stanford d.school, Babson WIN Lab).

Erin is known for her expertise coaching entrepreneurs and teams as they navigate from ambiguity to rapid experimentation to "small wins" and evidence-based results. Outcomes include breakthrough solutions and repeatable business results for a variety of organizations including Genentech, Infosys, Intuit, JPMorgan Chase, SAP, and USAID/QED.

## Mani Vannan

### SENIOR CONSULTANT

Mani is an Explorer, Connector and an Ecosystem Orchestrator. He has extensive background in software engineering, data modeling, information architecture and decision intelligence.

Mani is the Founder & CEO of AnalyticsWise Inc, co-founder of the SenseMaking360.ai platform and founder of Digital Foundry 360, an innovation ecosystem to accelerate borderless value creation focused on human potential well-being, leveraging emerging digital capabilities. Mani has been serving as Advisor and Connector in the design of Strategic Doing Digital platform and evangelist driving use cases in Corporate & Social innovation (ESG) and the federal BEAD program to address Digital Equity.

## Etay Gafni

### DEV LEAD / PROD MGMT

Etay Gafni has been an executive, serial entrepreneur, and leader for over 20 years. His career history ranges from startups to large corporations to nonprofits and back.

He's passionate about leading design, product, and development teams to create innovative products and services that delight customers.

Using pragmatic methodologies, he creates cohesive teams that consistently deliver. He focuses on 'good karma' and impactful projects and on getting things done.

# Appendix

# Required features

The following is a list of core features uncovered during the initial conceptual design phase. These will need further refinement and consideration as part of the MVP development process.

## AEM Cube profiles for users

Registration, contact details, related organization and SD generated profile from the AEM cube will ensure members are able to identify their strengths, grow and also support and enable others.

## Tools

- **Action pack templates:** to use and follow as a beginner or experienced practitioner
- **Event calendar:** providing an overview of the 30/30s and other events (would include filters that are ecosystem wide, community, initiative, and project specific)
- **Dashboard:** view of what people have committed to and what they have done (and when)
- **System calculations:** to identify the Big Easy to find projects with impact and ease.
- **Playoff:** support a runoff between ideas with tied scores
- **Big Easy visualization:** Support display of ideas in the Impact/Ease 2x2 to compare them to each other
- **Spell checking:** ability to spell check, add words to dictionary
- **Community:** Support for meeting and connecting, seeing activity feeds, activity reporting, getting and providing help

## Resources

- **Video orientation to ecosystems:** Be able to see a short video on what ecosystems are and why they matter
- **Video core team dynamics:** Be able to learn about cognitive diversity, link to AEM Cube and option for assessments, worksheet to ideate team composition and be able to get a quick orientation to forming core teams.
- **Ecosystem model:** get quick orientation to the quadrants of an ecosystem
- **Brainpower:** Get quick orientation to Brainpower collaborations: talent and technology with examples
- **Open Networks:** Get quick orientation to Open Network collaboration: open innovation and entrepreneur support
- **Quality Places:** Get quick orientation to Quality Places: Quality, connected place examples
- **Opportunity Narratives:** Get quick orientation to Opportunity Narratives: Definition and examples
- **Ecosystem horizons:** Get a quick orientation on how ecosystems develop
- **Platforms:** Get a quick orientation to platforms: what are they and why they are important to ecosystems
- **Workshop timing:** Ability to enter or adjust start time and have start times for all workshop activities ripple through to adjust timings on modules
- **Templates:** Ability to save a template for re-use (e.g., an event plan, etc.) and contribute to the commons for broader use
- **Activities / Icebreakers:** Library of icebreakers for building trust / psych safety in person and online. We would encourage people to share these across the network and use them at the start of meetings, etc.
- **Video:** Resources for converting a Big Easy into an outcome with measurable characteristics

## Collaboration

- **Define a core design team**: Be able to invite people to a Core Design Team (CDT)
- **Roles:** Display who to contact for what (quadrants?)
- **Network visualization:** Visualize the network - community
- **View assets:** See your assets and be able to update assets
- **Assets:** willing to share what assets are you willing to share - "actionable assets"
- **Assets photos:** The ability to associate an attachment (photo, audio, document) with an asset, e.g., to show layout and capacity of a venue
- **Asset Mapping:** which assets were combined with others, and related ontology: action item, guidepost, pathfinder project, Big Easy
- **Shared Asset Tracking:** Tracking to know when asset was used/contacted and by whom (private/shared with specific people/visible to all) to prevent overtapping
- **Feedback videos:** Record, tag, share feedback videos (personal uploads or from YouTube or vimeo)
- **Social connection chat function:** Be able to talk to other people through the platform - daily story share - and a feed

## Actions

- **Share an opportunity:** Be able to list an opportunity so other people can help solve with their assets
- **Mentors:** Become a mentor: Be able to get listed as a mentor for other people based on your experience and skills
- **Mentors:** Access a mentor: Request for mentoring and advice (initially supported by Agile Strategy Lab?, and
- **Community member:** Ability to connect with another member
- **Community member:** Ability to follow another member (e.g., someone from a different network working on similar things)
- **Learning for Strategic Doing:** Ability to register for online training a workshop date for an initiative
- **Workshop:** Ability to register for a workshop (for an initiative)
- **Shared Learning for SD:** Ability to train together, remotely (core team as cohort), storing team artifacts and whiteboards (digital)
- **Learning co-contribute:** Be able to comment and post information about your own experience and lessons (audio, video, text)
- **Story capture (e.g., 30/30 intervals):** Be able to provide information on your own experience as a story (audio, video, text), with tips
- **Story nudge:** Following scheduled events, follow up with core team to capture top-of-mind recaps and insights while still fresh
- **Story learning:** The platform should provide you with guidance on sharing and structuring your story, key elements
- **Story sharing and feedback:** Enable captured stories to be reviewed, shared with select people, publicly released (e.g., to media, social media, etc.)
- **Elevating positive deviance stories:** Have the platform promote stories about new ideas and "cool people doing cool things" (e.g., via likes or other interactive mechanism)
- **Metadata tags:** Enable different people viewing the same data, insight, artifact etc. to tag it. This would enable bridging vocabularies and languages so that people have a better chance of finding what they seek
- **White labeling:** Ability to tailor default landing page with own branding (logo, nice to have: font set, color palette)
- **Community settings:** Way to select whether a community is open or closed, and have a protocol for switching if needed
- **Auto-transcription:** Record conversations for me, my team, etc.  (e.g., otter for zoom meetings, invited by default)
- **Trust settings:** Ability to set default trust settings (share all 30/30 conversations with my core team)

- **Baseline tracker:** Easy way to upload data to be used in tracking changes over time - ideally with suggested metrics to enable comparison across cities / communities
- **Shifting meeting intervals:** Way to shift subsequent meeting date interval (e.g., from 30/30 to 14/14, 7/7)
- **Ask a question:** this brings up the broader question of where conversations will take place (see social connection and chat, meeting and connecting)
- **Answer a question or post response:** (see above)

## Also requested (for consideration)

- **Brokered AI:** When someone is seeking knowledge or another asset, they could as the AI (as we would Alexa or Google Home) and the AI would ping people who are most likely to have those assets to broker an introduction to the seeker.
- **Random Networker:** Spark "collisions" with others speaking about the same things across the network (local, global) - like a context aware slack donut
- **Story stitching:** Use time stamped assets and event recaps to create a team highlights reel for others to add captions/perspectives/learning/artifacts to make it easier to re-tell the story later
- **Workshop timing:** Have the platform prompt with timing and updates for workshop facilitators
- **Zendesk-like help for tech support:** Ability to search for answers to content and technical questions
- **Workshop timing:** Ability to see workshop timings formatted for use on phone

## References


Alvedalen, J., & Boschma, R. (2017). A critical review of entrepreneurial ecosystems research: Towards a future research agenda. *European planning studies*, *25*(6), 887-903.

Auerswald, P. P. (2015). Enabling entrepreneurial ecosystems. Kansas City, MO: Ewing Marion Kauffman Foundation.

Cao, Z., & Shi, X. (2021). A systematic literature review of entrepreneurial ecosystems in advanced and emerging economies. *Small Business Economics*, *57*(1), 75-110.

Cross, R., Taylor, S., & Zehner, D. (2018). Collaboration without burnout. *Harvard Business Review*, *96*(4), 134-137.

Eisenhardt, K. M., & Sull, D. N. (2001). Strategy as simple rules. Harvard Business Review, 79(1), 106-119.

Farren, M. D., & Mitchell, M. D. (2020). An Interstate Compact to End the Economic Development Subsidy Arms Race. *Mercatus Research Series*.

Feldman, M., Fleming, L., Heaton, S., Desai, S., & Teece, D. (2022). Uncommon methods and metrics for local entrepreneurial ecosystems. *Research Policy*, 104583.

Harford, T. (2011). *Adapt: Why success always starts with failure*. Farrar, Straus and Giroux.

Hargadon, A. (2003). How breakthroughs happen: The surprising truth about how companies innovate. Harvard Business Press.

Hessinger, S. (2019). Best cities for serial entrepreneurs, Small Business Trends, June 3, 2019. Available at https://smallbiztrends.com/2019/06/best-cities-for-serial-entrepreneurs.html

Janis, I. (1991). Groupthink. In E. Griffin (Ed.) A First Look at Communication Theory (pp. 235 - 246). New York: McGrawHill.

Jung, S., Wortmann, F., Bronner, W., & Gassmann, O. (2021). Platform economy: Converging IoT platforms and ecosystems. In *Connected Business* (pp. 35-54). Springer, Cham.

Kuratko, D. F., Neubert, E., & Marvel, M. R. (2021). Insights on the mentorship and coachability of entrepreneurs. *Business Horizons*, *64*(2), 199-209.

Martinsuo, M. (2013). Project portfolio management in practice and in context. *International journal of project management*, *31*(6), 794-803.

McDaniel, M., Ge, J., & Yuan, W. (2022). Social impacts of entrepreneurship: Does entrepreneurial ecosystem support reduce homicide?. *Journal of business venturing insights*, *17*, e00315.

McDaniel, M., Sutter, C., Webb, J. W., Elgar, F. J., Parker, K. F., & Nwachu, J. (2021). Breaking the cycle of crime: Promoting the positive social spillover potential of entrepreneurship. *Journal of Business Venturing Insights*, *16*, e00249.

Miner, A. S., Bassof, P., & Moorman, C. (2001). Organizational improvisation and learning: a field study. Administrative Science Quarterly, 46(2), 304-337.

Morrison, E., (2018). Three perspectives on regional economies: A convergence on ecosystems and platforms, Australasian Journal of Regional Studies, 24(3) 369-400.

Morrison, E.F., (2021). Strategic Doing: A strategy model for open networks (doctoral dissertation). University of the Sunshine Coast.

Morrison, E., Hutcheson, S., Nilsen, E., Fadden, J., & Franklin, N. (2019a). Strategic doing: Ten skills for agile leadership. John Wiley & Sons.

Morrison, E., Barrett, J. D., & Fadden, J. B. (2019b). Shoals Shift project: an ecosystem transformation success story. Journal of Entrepreneurship and Public Policy. 8 (3) 339-358.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization science*, *5*(1), 14-37.

Nonaka, I., & Konno, N. (1998). The concept of “Ba”: Building a foundation for knowledge creation. California Management Review, 40(3), 40-54.

O'Connor, A., Stam, E., Sussan, F., & Audretsch, D. B. (2018). Entrepreneurial ecosystems: The foundations of place-based renewal. In Entrepreneurial ecosystems (pp. 1-21). Springer, Cham.

Page, S. E. (2008). The difference: how the power of diversity creates better groups, firms, schools, and societies. Princeton University Press.

Reynolds, A., & Lewis, D. (2017). Teams solve problems faster when they're more cognitively diverse. Harvard Business Review digital articles, March 30, 2017, 2-6.

Rocha, A., Brown, R., & Mawson, S. (2021). Capturing conversations in entrepreneurial ecosystems. Research Policy, 50(9), 104317.

Roundy, P. T. (2016). Start-up community narratives: the discursive construction of entrepreneurial ecosystems. Journal of Entrepreneurship, 25(2), 232-248. http://doi.org/10.1177/0971355716650373.

Roundy, P. T., & Bayer, M. A. (2019). Entrepreneurial ecosystem narratives and the micro-foundations of regional entrepreneurship. *The International Journal of Entrepreneurship and Innovation*, *20*(3), 194-208.

Sanchez-Burks, J., Brophy, D. J., Jensen, T., Milovac, M., & Kagan, E. (2017). Mentoring in startup ecosystems. *Ross School of Business Paper*, (1376).

Sarasvathy, S. D. (2008). What makes entrepreneurs entrepreneurial? Darden Business Publishing, University of Virginia, UVA-ENT-0065.

Spigel, B., & Harrison, R. (2018). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 151-168.

Stam, E. (2018). Measuring entrepreneurial ecosystems. In *Entrepreneurial ecosystems* (pp. 173-197). Springer, Cham.

Stam, E., & Van de Ven, A. (2021). Entrepreneurial ecosystem elements. *Small Business Economics*, *56*(2), 809-832.

Sternberg, R., von Bloh, J., & Coduras, A. (2019). A new framework to measure entrepreneurial ecosystems at the regional level. *Zeitschrift für Wirtschaftsgeographie*, *63*(2-4), 103-117.

Termeer, C., & Dewulf, A. (2019). A small wins framework to overcome the evaluation paradox of governing wicked problems. Policy and Society, 38(2), 298-314.

Thomke, S. H. (2003). Experimentation matters: unlocking the potential of new technologies for innovation. Harvard Business Press. Boston.

Thompson, D. (2010). Why Oklahoma City could represent the future of America, The Atlantic, (September 12, 2010). Available at https://www.theatlantic.com/business/archive/2010/09/why-oklahoma-city-could-represent-the-future-of-america/62897/

Vermaak, H. (2013). Planning deep change through a series of small wins. In Academy of Management Proceedings (2013)(1), 10947.

Walshok, M. (2013). A systemic approach to accelerating entrepreneurship. *Innovations: Technology, Governance, Globalization*, *8*(3), 7-17.

Wang, Q. (2021). Higher education institutions and entrepreneurship in underserved communities. *Higher Education*, *81*(6), 1273-1291.

Webber, A. M. (1993). What's so new about the new economy? Harvard Business Review, 71(1), 24-33.

Weick, K. E. (1984). Small wins: Redefining the scale of social problems. American Psychologist, 39(1), 40-49.