BEKETOV NATIONAL UNIVERSITY OF URBAN ECONOMY IN KHARKIV
Educational and Research Institute of Economics and Management

Department of Entrepreneurship and Business Administration

EXPLANATORY NOTE

to the master's degree qualification thesis

on the topic: **"Identification and evaluation of competitive advantages in startups"**

Written by: student group MBA 2024-3a

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The qualification thesis of the student is completed in full in accordance with the task and the established requirements.

It is allowed for defence in the examination committee.

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TASK
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1. Topic of the qualification thesis	Identification and evaluation of competitive advantages in startups
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4. Contents of the settlement and explanatory note (list of issues to be developed): Introduction Chapter 1 Theoretical and applied approaches to identifying competitive advantages in startups Chapter 2 EcoSphere startup description Chapter 3 The ecosystem advantage lifecycle framework for startup competitive advantage development Conclusions References	
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CALENDAR PLAN

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6	Submission of the applicant's qualification work to the department	20.05.26	

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CONTENTS

INTRODUCTION

The emergence of digital ecosystems has fundamentally restructured the competitive dynamics of modern markets, creating both opportunities and existential challenges for new ventures. In these networked spaces, a particular type of enterprise has surfaced, known as ecosystem startups and they are defined by reliance on keystone platforms and their activity is inseparable with the rest of the digital or business ecosystems in which they are embedded. In the case of such undertakings, standard strategic management models, which were built upon the basis of an age of sector-is-king, become more and more ineffective. The facts of co-creation with complementors, reliance on platform governance, and competition over attention in networked forms all require a new vision of strategy that recognizes that competitive advantage is no longer an internalizing process but a relationship outcome based on the position and flexibility of the venture in a highly complicated architecture of interdependencies.

To help fill this strategic gap, this research paper will target the methodological basis of identifying and developing competitive advantage that is expressly relevant to ecosystem startups. The research questions that will be used to conduct this research are: How can classical strategic theory be modified to diagnose the competitive potential in a networked world? Which combination of methodological tools can transform these theoretical insights into practical strategy work in resource-bound ventures? And what ways can such a framework be applied in a systematic way to expose the channels by which an ecosystem startup can progress through dependency to defensibility?

To respond to these questions, this research paper synthesizes and applies three theoretical perspectives as the foundation to the specific environment of ecosystem ventures, namely Positioning School, Resource-Based View, and Dynamic Capabilities Theory. It subsequently combines complementary assessment methodologies, i.e. Business Model Canvas, Lean Startup Methodology, and Moat Analysis into a unified diagnostic system. Based on this theoretical and

methodological synthesis, the analysis comes up with the EAL a new four-stage framework that ecosystem startups can use to undergo the iterative process of mapping their environment, auditing their capabilities, stress-testing their business model, and accruing defensible advantages continuously. The latter part of the study uses this framework on the example of EcoSphere, one of the startups in a sustainability-oriented digital ecosystem, and proves its effectiveness in identifying strategic position and crafting testable hypotheses about sustainable competitive advantage.

The object of the study is the process of developing competitive advantages in ecosystem startups operating within networked digital environments.

The subject of the research is the theoretical, methodological, and practical approaches to identifying, developing, and sustaining competitive advantages for ecosystem startups.

To achieve the goal set in the thesis, the following tasks were set:

1. To adapt foundational strategic theories (Positioning School, RBV, Dynamic Capabilities) to the ecosystem startup context;
2. To synthesize an integrated methodological toolkit combining Business Model Canvas, Lean Startup Methodology, and Moat Analysis;
3. To propose a coherent four-stage framework for systematic advantage development;
4. To apply the proposed framework to a case study (EcoSphere) to demonstrate its diagnostic and strategic utility;
5. To formulate specific, testable advantage hypotheses for ecosystem ventures based on resource-position analysis;
6. To validate the framework's capacity to translate theoretical insights into actionable experimentation pathways.

The information base consists of the works of scientists on strategic management, competition in the ecosystem, and platform dynamics, which include the fundamental works of Porter, Barney, Teece, Osterwalder, and Ries, and are complemented by the operational details and strategic assumptions of the case

venture EcoSphere.

The science novelty of the received research findings is the building of the EAL framework, which unanimously brings combined theory of different approaches to strategy with the practical methodology of evaluation in an iterative, specifically designed process, i.e., adjusted to the limitations and dynamics of ecosystem startups. The study introduces an organized methodology of interpreting ecosystem-level resources into testable hypotheses and justifiable competitive states.

The main results of the study were published in the proceedings of the international conference "Management of the development of socio-economic systems".

CHAPTER 1 THEORETICAL AND APPLIED APPROACHES TO IDENTIFYING COMPETITIVE ADVANTAGES IN STARTUPS

1.1 Theoretical basis of competitive advantage

The main principle of strategic management is the quest of gaining competitive advantage. In its simplest form, competitive advantage entails the factors which enable an organization to outbest the competitors in the long term. The entire goal is to attain superior profitability in an industry. Sustainable competitive advantage is also not a short-lived advantage but a sustained location that can hardly be replicated or destroyed by competitors[1]. This sustainability is essential because it would guarantee long run value generation and excellent financial results of the firm. The canonical work by Michael Porter provides the basis that the core of a strategy is to construct a valuable and unique position that is supported by a customized bunch of activities that would bring about this long-term advantage.

According to the Positioning School and first introduced by Michael Porter, the performance of a firm is largely dependent on its positioning in the industry structure. Two key frameworks of analysis are offered by this external, industry-focused perspective.

To begin with, the Five Forces Model assumes that there are five forces in every industry which determine the profitability and competitive intensity in an industry namely, threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitutes or services and rivalry of existing competitors . The overall effect of these forces defines the distribution of economic values and establishes the framework of all strategic behaviors [2]. New empirical studies find evidence to prove the use of this framework in the digital economy whereby such forces as network effects and platform dynamics become potent.

Second, to evade these forces, Porter suggested three generic strategies that include cost leadership, differentiation, and focus. A company cannot make the same mistake and get stuck between one. Cost leadership is where one decides to be the

lowest cost producer, whereas differentiation is where one decides to produce or produce products or services that are uniquely valued [3]. The focus strategy is either a differentiation or cost applied to a small market segment. The strategy selected determines the structure of the value chain of a firm that is, the chain of primary and support activities by which the firm can create value.

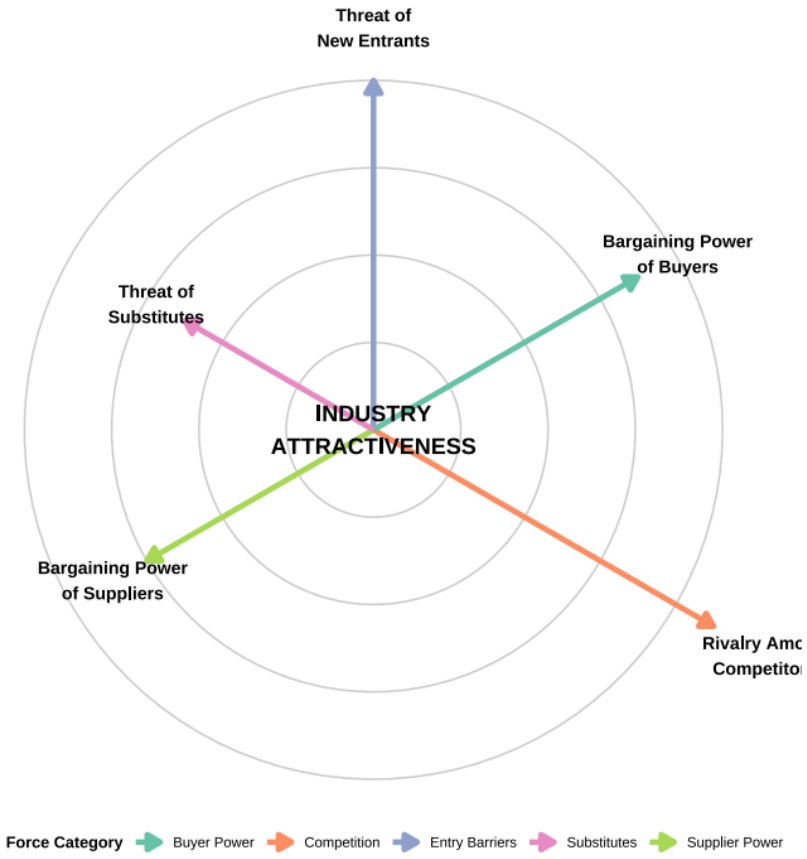

Figure 1 – Illustration of Porter's five forces model and generic strategies

The Positioning School of thought focuses on the external environment of a firm whereas an inward analysis occurs in the Resource-Based View (RBV) where the firm considers its own specific set of resources and capabilities. According to this paradigm, it can be seen that a sustainable advantage is based on the ability to obtain resources that are Valuable, Rare, Inimitable and Organized (VRIO) to generate value. Valuable resources allow a firm to take advantage of the opportunities or mitigate threats [4]. A large number of current or potential competitors does not have rare resources.

Inimitable resources are challenging and expensive to imitate by competitors, typically because of some historical contingency, cause ambiguity, or social complexity. Organized denotes the alignment of the structure and processes in the firm in such a way that they optimum utilization of the resource available to the firm is achieved [5]. According to the RBV, the resources that generate competitive advantage can be intangible i.e. brand reputation, proprietary knowledge, or unique organizational culture, but not tangible assets such as machinery or capital.

Table 1.1 – Theories of competitive advantage and their challenges for startups

Theory (school)	Core unit of analysis	Source of advantage	Key critiques/challenges for startups
Positioning school	Industry structure	Occupying a defensible position within an attractive industry via cost leadership, differentiation, or focus.	Requires stable industry boundaries; less predictive in nascent, high-velocity markets.
Resource-based view (RBV)	Firm's resources & capabilities	Possessing valuable, rare, inimitable, and organized (VRIO) resources.	Assumes resource stability; difficult to assess "inimitability" of early-stage team and ideas.
Dynamic capabilities	Firm's processes & routines	The capacity to integrate, build, and reconfigure resources to address rapid environmental change.	Abstract concept; hard to measure and operationalize in a fledgling organization.
Knowledge-based view	Organizational knowledge	Superior creation, storage, transfer, and application of knowledge.	Relies on mechanisms for knowledge sharing that may not be formalized in early stages.

Although the RBV explains the foundation of advantage at a given moment, it has been criticized to be quite rigid in dynamic environments. This is taken care

of by the Dynamic Capabilities framework which defines the capability of a firm to integrate, develop, and reorganize both internal and external competences in response to the rapidly changing environment. Higher-order routines (e.g., strategic decision-making, product development) to adapt the operational capabilities and resource base of the firm are called dynamic capabilities. Simply put, when the RBV is concerned with possession of the right resources, dynamic capabilities are concerned with acquiring and transforming the right resources in the long term [6].

The most similar is the Knowledge-Based View which defines that knowledge is the most strategically important resource]. The high capability of a firm, in terms of creating, storing, transferring, and using knowledge is what leads to its competitive advantage. According to this perspective, organizational learning and innovation are important as sources of constant renewal and benefit.

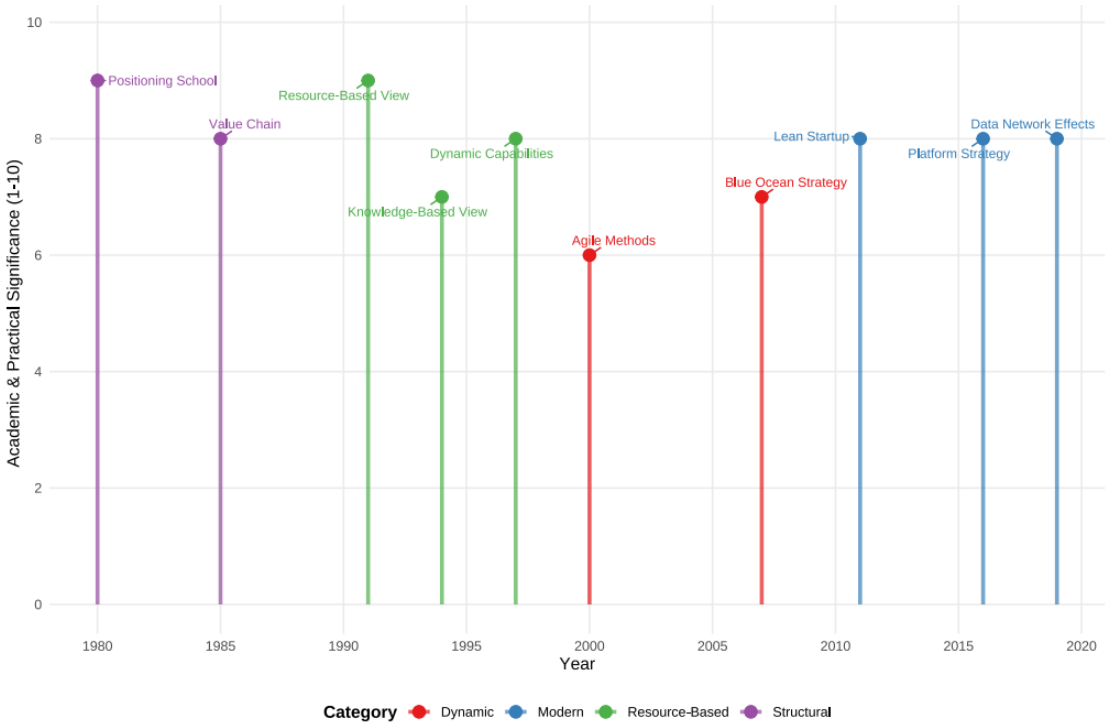

Figure 1.2 – Conceptual diagram of dynamic capabilities and knowledge-based competition

1.2 Specific characteristics of start-ups and their impact on competitive advantage

The developed theories of competitive advantage can offer a critical toolkit of analytical tools that have to be strictly contextualized in the distinct ontology of the start-up venture. A start-up does not represent a smaller, younger version of a large corporation; it is a transitory entity that is meant to look for a repeatable and scalable business model in the conditions of extreme uncertainty. This basic difference provides a strategic environment with sources and mechanisms of competitive advantage that are quite different to the established firms. This part examines the fundamental features that comprise the start-up condition such as operational uncertainty a requirement to innovate, the chase of scalability, acute resource constraints, organizational agility, and the primacy of human capital and discusses the manner in which these attributes remake the routes to the production and maintenance of a competitive advantage.

The analysis procedure has to start with a proper definition. Literature related to both scholars and practice intersects in its definition of a start-up regarding not its size, age, or industry, but its essence and the context of its operation [7]. The best definition by Steve Blank defines a start-up as a provisional company that is looking to develop scalable, repeatable, and profitable business model. This definition singles out three pillars, which are interdependent and make up the strategic reality of the start-up.

The initial and the most characteristic one is the extreme uncertainty. The start-ups work in the setting where the critical hypotheses concerning the problem, solution, customer segment, and business model have not been checked. This is in sharp contrast to the proven companies that operate the business models that are familiar in existing markets. In the case of a start-up, there is uncertainty in all of the dimensions: technological (do we have the technology to make it?), market (do people want it?), and competitive (how will competitors respond?). Such a situation renders the conventional planning paradigm in the linear form irrelevant since

extensive long term plans are constructed on the premise that they are likely to be incorrect. The main role of management thus becomes less about implementing a known plan, to a systematic de-uncertainty approach by experimenting and being able to validate what has been learnt [8]. This is an environment that re-invents competitive advantage as superior learning and adaptation, and not merely superior original resources or position.

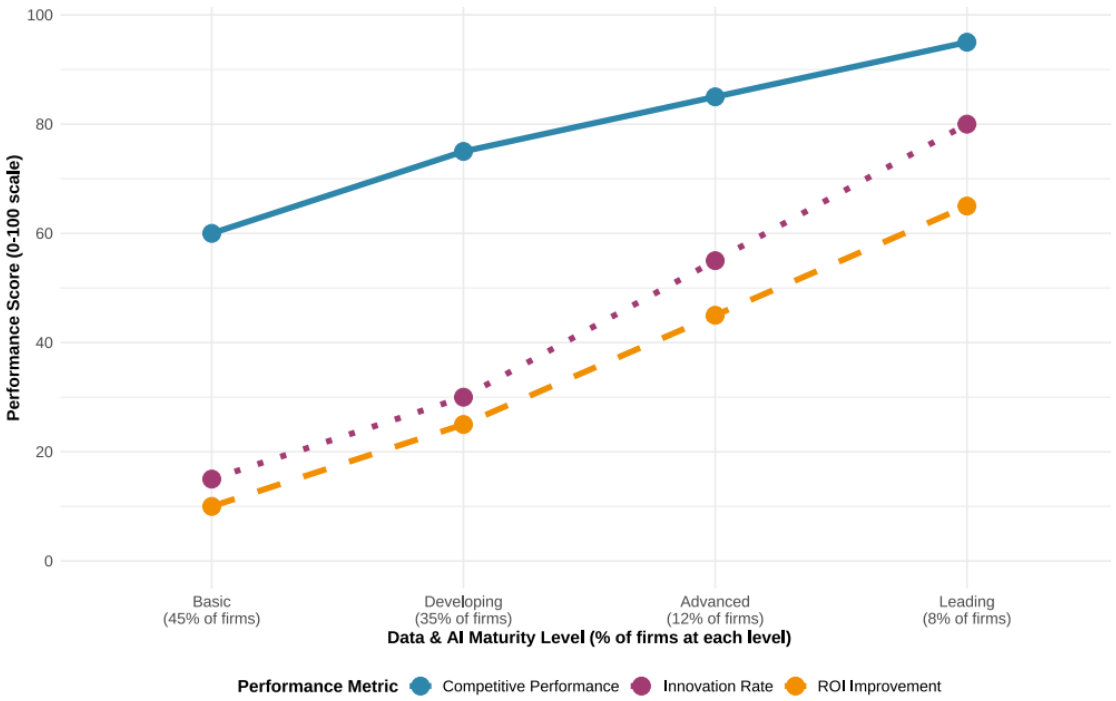

Figure 1.3 – The three pillars of a startup: Uncertainty, Innovation, and Scalability

The second pillar is the need to be innovative. The search process of the start-up is driven by innovation. It is the process by which the start- up offers a new value proposition whether it is a product, service, process or business model to solve the problems of the customers in a new manner[9]. This innovation is usually risky in nature; because it can be focused on untested markets or based on untested technologies. Yet, this innovative thrust is what enables start-ups to avoid the barriers to entry and the advantages of incumbency that shield the already established firms in mature industries. This innovative potential is, therefore, the source of competitive

advantage of a start-up, but a weak source that needs to be proven and secured as quickly as possible through entering the marketplace [10].

The third pillar is the seek of scalability. Scalability is described as the possibility of experiencing a dramatic revenue and impact growth without a linear growth in the operational costs. A scalable model of business is meant to serve a vast market in an efficient manner and is usually supported by technology, network effects, or some other non-linear expansion mechanisms. Scalability is a fundamental determinant of strategic decision making, which sets start-ups on the path of platform models, software-enabled services and loops of viral growth. It distinguishes between a start-up and a small business or lifestyle company and growth is not a choice, but a goal. In this respect, competitive advantage should be evaluated not only by the present profitability, but also by the ability to fast embrace and saturate a substantial market.

The three pillars of uncertainty, innovation, and scalability have a unique strategic logic. Competitive advantage is not something to be held in defence, but rather a dynamic result of a search process, which is straightforward and a continuous and iterative process. It is not so much about how to optimize in an established industry structure (which was the case with Porter) but rather finding and creating a new one.

The extreme lack of resources especially financial resources, human talent and legitimacy in the market place is a universal and defining state in start-ups. This limitation is considered to be a weakness; however, it is a strong disciplining influence that influences organizational culture, processes and strategy and it can be the source of behaviors that turn to be long-lasting source of advantage [11]. The prevailing strategic reaction to this shortage during the current entrepreneurial period is the take-up of lean approaches. Lean Start-Up movement, popularized by Eric Ries brings together lean manufacturing, agile development, and customer development concepts in a managerial approach of start-ups. The waste in its essence is any activity that does not help in validated learning about the customers through experimental efforts.

The key operative tool is the Build-Measure-Learn feedback loop. It can be started by breaking down a business idea into a Minimum Viable Product (MVP) that is the version of a new product that enables a team to learn as much as possible about customers with the minimal effort. The MVP is a crisis experiment, but not minimal product release [12]. It is intended to see how the most risky assumptions in the business model can be tested in the most inexpensive and the shortest possible time. The practical implementation of the MVP idea has changed and nowadays digital markets tend to have a greater minimum level of functionality and design to be regarded as having a viable implementation to test, however, the philosophical belief in learning more than constructing is what is most important.

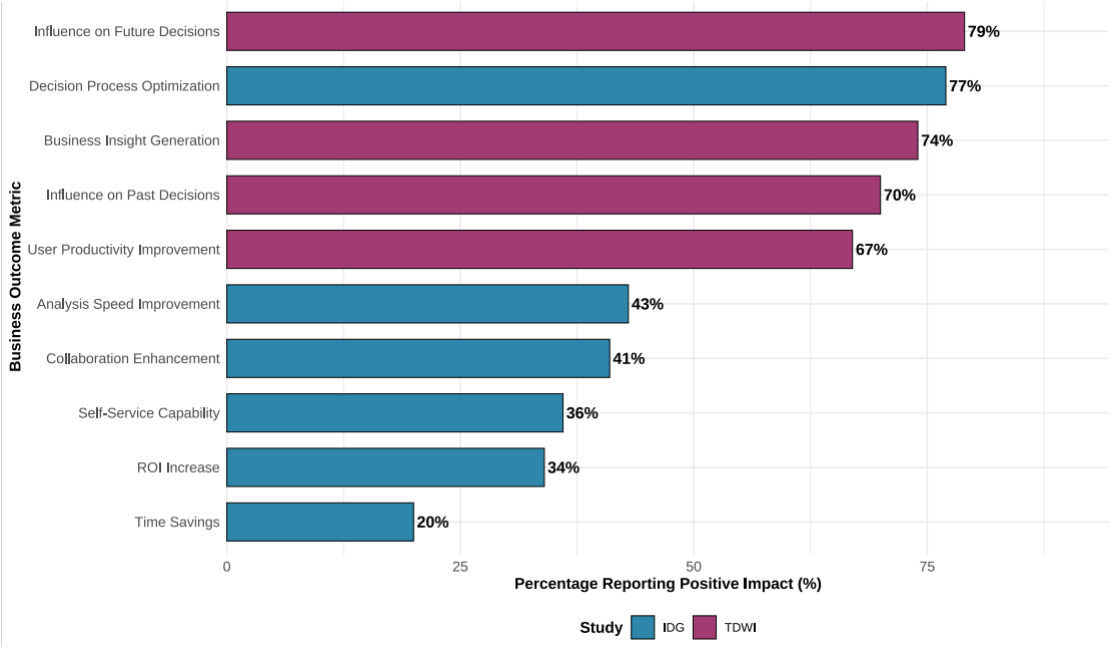

Figure 1.4 –The Build-Measure-Learn feedback loop and MVP concept

1. This lean model is a fundamental re-structuring of the development of competitive advantage by start-ups:

2. Capital Efficiency and Long Runway: Start-ups save their most scarce asset: cash by ensuring demand has been met before spending significant funds developing a product [13]. This enables operation of a longer runway and more time to reiterate and seek product/market fit before the resources run out. This economy is turned into a shield of defense against the more heavily-invested but less disciplined rivals.

3. Customer-Centric Insurgency: The constant deployment and innovation accounting makes the start-up address the real and acute customer issues. This is a profound, early customer intimacy that is able to generate brand loyalty and create switching costs the first and provides an advantage that is hard to be displaced by late entrants .

4. Normalized Risk Management: The process makes institutionalized small and fast failures. Finding out that one of the cornerstone theories is false following a cheap experiment is a kind of improvement and a competitive edge [14]. It eliminates the disastrous collapse which is brought about by the implementation of a bad plan to its expensive end.

5. Bricolage and Strategic Frugality: The scarcity of resources promotes the use of bricolage, which means making do by using combinations of the resources at hand to new problems and opportunities. This may result in new, inexpensive marketing techniques that are more focused and more genuine than conventional high-budget marketing, which opens novel avenues of entry to the market.

6. Therefore the insufficiency of resources combined with lean approaches turns a constraint into a driver of discipline, inventiveness, and strength. The competitive advantage thus created is inherent in the processes and culture of the organization, its higher facility to learn, adapt and create value with minimum consumption of resources.

Table 1.2 – Strategic responses to start-up characteristics and their impact on competitive advantage

Start-up characteristic	Challenge to traditional theory	Strategic response & impact on competitive advantage
1	2	3
Extreme uncertainty	Invalidates the linear, long-term strategic planning model.	Advantage stems from superior speed and rigor of experimentation. Strategy becomes a portfolio of testable hypotheses.

End of Table 1.2

1	2	3
Severe resource scarcity	Limits ability to compete on scale, assets, or sustained R&D investment.	Advantage derives from capital efficiency, creativity, and frugal innovation. Forces focus on core value.
Imperative for agility	Challenges commitment to a single, fixed strategic position.	Advantage flows from dynamic capabilities, the ability to reconfigure the business model based on evidence.
Primacy of human capital	Downplays the primacy of structural or positional advantage.	Advantage is embedded in the founding team's skill, experience, and social capital, which are highly inimitable.

Agility is the dynamic capability that realizes the learning that is instigated by lean methodologies. In the case of start-ups, strategic agility which is the ability to feel both opportunities and threats and to rearrange resources and strategies quickly is not just an asset, it is an essential, non-negotiable part of competitive survival and competitive advantage [15]. Where uncertainty is high, quality of initial idea is often not important as the pace and smartness of the venture responding to evidence.

The pivot is the most important expression of such agility. The pivot is a systematic reoriented plan that aims to estimate a fresh underlying assumption regarding the product, strategy, and engine of growth. It is a strategic shift without a change of vision. As history tells us, examples are informative: YouTube started as a video dating platform; Slack as the internal communication tool of a gaming company that had gone bankrupt. A pivot is a calculated move grounded in established knowledge and not a panic swing. The pivot decision is dictated by a system of actionable measures called innovation accounting, which is based on moving vanity metrics into rigorous evidence of strategic decisions.

Current academic research has broadened this dichotomy of either persist or pivot decision model. Gans, Stern, and Wu coin the term strategic patch and define it as a major though limited change to the business model that is neither as radical

as a pivot nor simply an iteration. Some examples are moving a large customer base, altering a revenue model, or consolidating product lines [16]. This medium solution also enables the start-ups to make significant corrections, grounded on learning but still maintains aspects of the business that are confirmed and thus save the organizational capital and momentum.

The competitive advantages that agility and a strict method of pivoting bring with them are significant:

- Agile start-ups have the ability to go through strategic hypotheses at a more fast level compared to competitors, which raises the likelihood of obtaining the first resonant value as well as business model in a new market space.
- The ability to pivot is an example of organizational resilience in the volatile markets. Where the inflexible incumbents fail, start-ups will be able to endure due to their ability to alter their model according to the technological changes, regulatory changes or new competitive threats. This is in line with the antifragility idea in which disorder benefits organizations. Communicating to Stakeholders: Evidence-based pivoting is a sign of maturity to investors and is a talent attractor. It demonstrates that the team is logical, data-sensitive, and devoted to the process of finding the way to success instead of being dogmatical about an original idea, which de-risks the venture with resource providers.
- Agile processes that are supported by clear metrics prevent the teams to misinterpret initial positive indicators. The disciplined treatment of pivoting will help avoid the wasteful increase of commitment to the failed approach which may be defined as an ordinary cognitive fallacy, the so-called sunk cost fallacy.

From the point of view, the practical implementation of the dynamic capabilities framework is the agility of a start-up. The source of advantage changes as being able to possess better resources and coordinate resources and strategies faster and smarter. The iterative cycles of learning and adapting itself dig the competitive moat, which are hard to replicate by slower and bureaucratic organizations

Although methodologies and agility are imperative, they are implemented by individuals. Human and social capital are often the most influential factors of competitive advantage in the resource constrained and uncertain world of start-ups. Initial attractiveness of the idea is often overshadowed by the quality of the founding team and the breadth and depth of the networks that they have. The founding team is the first strategic resource of a start-up. Investors, as well as scholars, stress that they do not bet on the horse, but on the jockey. The high-potential team is a team that is defined by a number of factors:

- Relevant human capital entails previous entrepreneurial background, in-depth understanding on the target industry, as well as, functional expertise in key areas such as technology, sales, and operations. The failure resume of experienced founders can guide them to avoid some of the pitfalls and handle the uncertainty better.
- Teams with equalized skill bases (e.g., technical, commercial, operational) and the perspectival variance have a higher capability of addressing complex challenges and make strong decisions. Nevertheless, it has to be paired with a common vision and values to guarantee strategic coherence and minimize interpersonal conflict as the primary reason of premature entrepreneurial failure.
- Besides intelligence and ability, the ability to never give up during difficult times and the ability to fight against failure is a non-cognitive aspect of the start-up venture.

The venture also has its entrepreneurial networks that are equally important. Ecosystems are filled with entrepreneurs, mentors, investors, suppliers, and early-adopter customers who constitute the start-ups. The networks offer essential resources which the start-up does not have on its own:

- Networks are channels to angel investors, venture capitalists, and opportunities. They also avail tacit knowledge, market information and strategic counsel that is not accessible in the open marke.
- Connection with reputable incubators, accelerators, or popular investors provides legitimacy which minimizes the liability of newness experienced by start-

ups. This social evidence may be instrumental in capturing initial customers, partners, and other talent.

- Well-connected networks can be used to recruit top talent and form strategic alliances which present an opportunity to distribute, offer technology or co-develop products.

The human and social capital give an organization competitive advantage that is deep. An excellent team is capable of salvaging an average idea with outstanding performance and customization whereas the third rate team will probably make a waste of a great idea [17]. Moreover, networks available to a team are a force multiplier, which offers resources, opportunities, and credibility that are way beyond the financial capabilities of the start-up. This strength has a strong inimitable nature because it is based on the distinctive history, relations, and experience of the founders

1.3 Methods and models for identifying and evaluating competitive advantages of startups

The competitive advantage of a startup is a special analytical task that is not comparable to the analysis of a well-established corporation. Investors, entrepreneurs, and scholars have to take decisions regarding future possibilities and defendability in a world of extreme uncertainty with little history of operations and rapidly changing business models [18]. This segment explores the arsenal of techniques and approaches that have been devised to manoeuvre through this complexity. It starts with defining the basic problems of initial assessment and proceeds to discuss the quantitative measures and qualitative structures that are important as critical proxies of evaluating possible benefit. The discussion wraps up with a review of combined methods that combine a number of data points to achieve an evidence-based, holistic view of a startup as long-lasting and with a defensive moat.

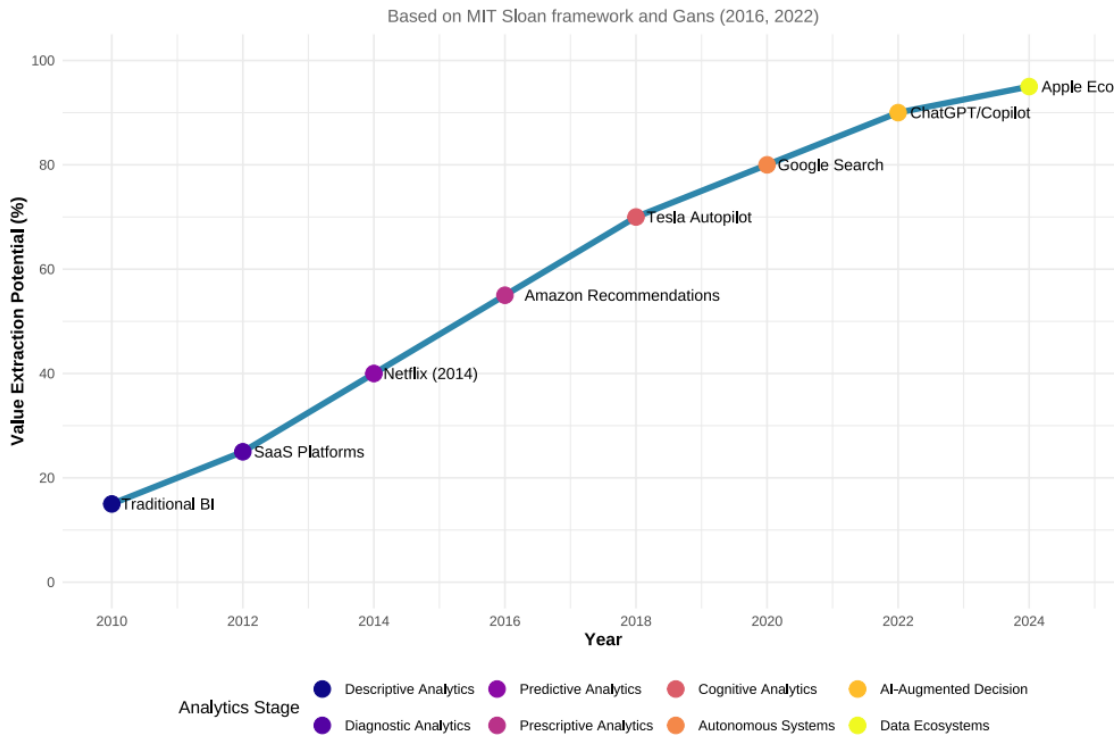

Figure 1.5 – Methods and models for evaluating startup competitive advantage

The process of assessing the competitive advantage of the startup carries with it some innate challenges that are inherent in the definition of an organization that is looking to find a scalable model. The first one is a lack of historical data. In comparison to publicly traded companies with years of financial reports, market share data, and a history of profitability, startup companies frequently lack or have little revenue history, so a conventional financial ratios analysis and trend projection are of less use. This deficiency of factual data compels evaluators to depend very much on future estimates and non-financial measures.

The second and similar issue is the question of causation versus correlation. Novelty, aggressive marketing investment, or a personal network of a founder can encourage early traction e.g. user growth or initial sales but not a true, repeatable competitive advantage [19]. It is challenging to differentiate a temporary interest presented by a feature and a sustainable benefit presented by a feature that creates and maintains customer loyalty and lock-in during the initial phases. Evaluators

should understand whether early indicators are pointing to the identification of product-market fit or only a great but unsustainable strategy.

Third, the difficulty of measuring scalability and defensiveness at the same time presents itself. A startup can also show a strong value case to a niche market but the model might not scale effectively to a bigger addressable market. On the other hand, what appears to be scalable can be defensible, and as a result, can be easily replicated by well-capitalized incumbents or fast-following investors once the market is proven. The assessment should thus incorporate a ratio between the analysis of the market potential and the strength of the startup protective barriers.

Lastly, evaluators are subject to the human element of immeasurable uncertainty. Startups exist in an environment where rapid changes can occur in the technology, preferences of the consumers, and competition. A model that seems beneficial in the current society can be outmoded tomorrow with a change in regulation or a disruptive innovation [20]. Consequently, the consideration of competitive advantage in the context of start up is no less assessed with the capacity of the team to learn, adapt, and execute, their dynamic capabilities, than with the state of the business at hand. These problems require a complex method of evaluation that combines quantitative rigor and qualitative judgment.

Investors and founders base their considerations on a collection of prospective and present measures of quantities to position their assessments upon solid data, in spite of operational incompleteness. These measures are standardized measures of growth potential, operations efficiency and economic viability.

The basis of the market-centric measure is Total Addressable Market (TAM), and its subset, Serviceable Addressable Market (SAM) and Serviceable Obtainable Market (SOM). TAM is the total revenue potential to a product or a service in case they attained 100 percent market share. Although it is always criticized to be too idealistic, a strictly outlined TAM is essential in determining the maximum possibility of growth of a startup and the opportunity to determine whether the possibility is worth the risk that a venture entails. Venture-scale returns tend to depend on a large TAM [21]. The more important analysis is that realistic direction

between SOM (the market which the startup is able to capture in the short-run) and SAM (the segment which it will be able to serve with its first model) and finally to a significant part of TAM.

Key Performance Indicators (KPIs) are at the core of analytics of startups. These are measures of action that monitor the key drivers of growth and value generation. The vanity measures (e.g. total downloads, gross revenue) are discouraged, and instead, cohort-based and ratio-based measures, which demonstrate underlying health are considered. Critical KPIs include:

Customer Acquisition Cost (CAC): Customer acquisition cost refers to the total sales and marketing cost that is necessary to obtain a new customer.

- Customer Lifetime Value (LTV): The total net profit that is anticipated of a customer throughout the relationship.
- LTV:CAC Ratio: A basic sustainability indicator. The ratio of 3:1 is usually taken to be healthy to a scalable model meaning that the value obtained on a customer is far much greater than the cost incurred to obtain them.
- Monthly Recurring Revenue (MRR) & Growth Rate: The amount of revenue that can be expected every month, particularly in terms of subscription. The momentum indicators are the month-over-month or year-over-year growth rate.
- Churn Rate: The number of the percentage of customers who cancel their subscription or cease purchasing within a particular time frame. A low churn is an effective, direct measure of customer loyalty and rival adhesiveness.

These KPIs are the input to the analysis of Unit Economics that is on the profitability of a unit of business (e.g., a single customer, a single transaction, a single unit sold). Positive unit economics- in which the unit revenue is more than the direct variable costs- is non-negotiable precept of long term viability. It supports the fact that the business model is basic on a micro level before the investments are multiplied. Assessing the scales of unit economics (i.e. the reduction in CAC caused by brand building, or a network effect, or the increase in LTV caused by cross-selling) is an important aspect of evaluation of the scale of the advantage [22]. Table outlines essential business metrics used to evaluate growth sustainability, customer

acquisition efficiency, profitability, and overall financial health. Each metric is defined with its purpose and healthy benchmark, which varies depending on industry context.

Table 1.3 – Key metrics for evaluating business growth and sustainability

Metric	Definition	Purpose in evaluation	Healthy benchmark (context-dependent)
LTV:CAC Ratio	Customer Lifetime Value ÷ Customer Acquisition Cost.	Measures sustainability of growth model. Indicates whether value captured justifies cost of acquisition.	> 3:1. A higher ratio suggests a stronger, more defensible advantage.
Gross Margin	(Revenue - Cost of Goods Sold) / Revenue.	Reveals core profitability of the product/service before operational costs.	Varies by industry. >50-80% for software; indicates scalability potential.
MoM Growth Rate	Month-over-Month percentage growth in a key metric	Indicates current traction and market momentum.	10-20%+ for early-stage, signaling product-market fit and execution.
Net Revenue Retention	% of recurring revenue retained from existing customers over a period, including expansion revenue.	Best indicator of customer satisfaction, stickiness, and upselling success.	>100% is ideal, showing the business grows even without new customers.
Burn Multiple	Net Cash Burn	Measures capital efficiency of growth. How much cash is burned for each dollar of new ARR.	< 1.5x is strong. Lower is better, indicating efficient growth (Paternoster, 2017).

Whereas quantitative measures measure performance, qualitative designs aid in the diagnosis of the form and justification of the business model itself. These instruments are necessary to know why some measures are enhancing or worsening.

Osterwalder and Pigneur created the Business Model Canvas (BMC) as a ubiquitous strategic management tool, which offers a holistic, visual model of describing, designing, and analysing the business model of a startup [23]. Its nine

building blocks Customer Segments, Value Propositions, Channels, Customer Relationships, Revenue Streams, Key Resources, Key Activities, Key Partnerships, and Cost Structure compel an intentional statement of logic of the venture. To evaluators the BMC does not represent a static document but rather a dynamic hypothesis map. It can be analyzed by measuring the internal consistency (fit) of blocks, as well as testing whether the assumptions made about a block are valid [24]. The presence of a coherent, customer-problem-solution fit in the middle of a well aligned canvas is a good qualitative measure of an early competitive advantage.

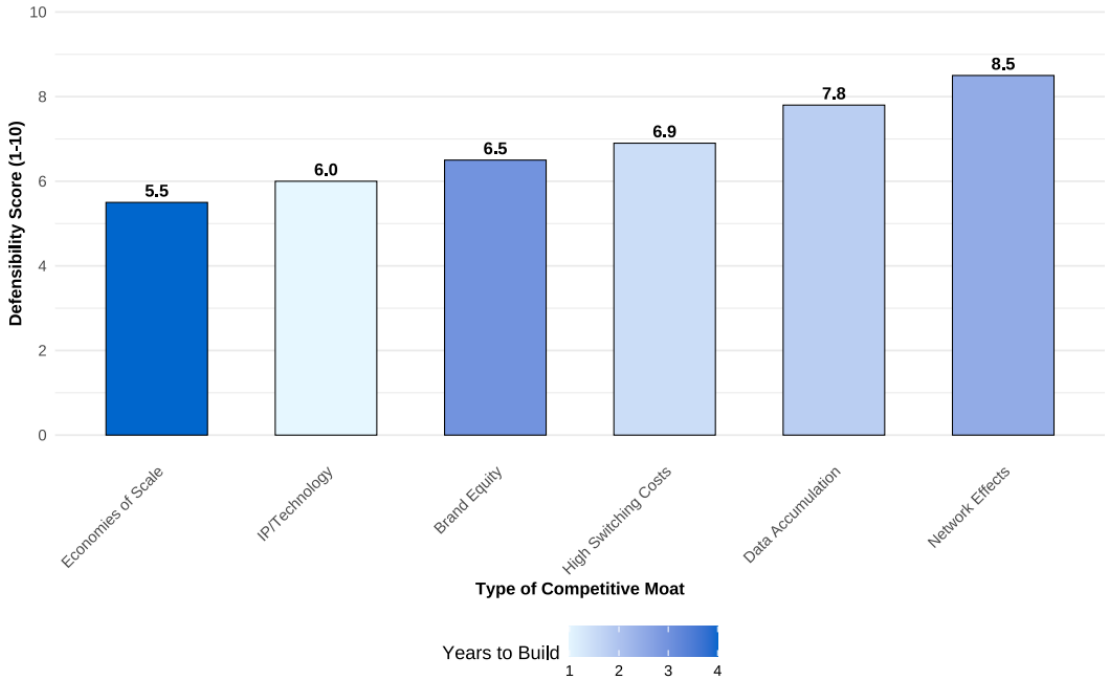

Figure 1.6 – Defensibility score

In combination with model coherence, the qualitative question that will be used is: What is the startup moat? It is a concept commonly popularized within the investment community and is defined as sustainable competitive advantages that guard profits of a company against those of competitors [25]. In the case of startups, the potential moats are prospective and have to be measured using their chances of being created and maintained. The better the product or service is used, the more valuable it is. This may build a strong self-perpetuating wall. Brand: The initial development of a good brand that is associated with trust or quality or community

can generate high switching costs and powers. A temporary advantage can be obtained by proprietary technology, diffusion resistant algorithms, or patents, which are difficult to copy, although this is not often a sufficient edge in the long term as technologies spread.

The proprietary data used to enhance the primary product to form a data moat in which incumbents benefit by insurmountable competitive advantage in understanding. The development of integration, learning, or contractual barriers that render the process of customers shifting to a rival expensive. Economies of Scale: Although not in the beginning, the business model should be such that it will attain high costs of scale. To assess the moat of a startup, one should not only evaluate the type of moat that is being pursued, but also the quality of the economic basis (is it a real and valuable moat) and its sustainability over time (how fast will it be washed out). This qualitative assessment is the most important in the modern economy because, as Mauboussin and Callahan claim, the source of competitive advantage has shifted with the scale in production to intangible assets (network effects, platforms, ecosystems), which are the key to the modern economy [26].

Advanced assessors do not base their assessments on metrics or frameworks alone; they utilize combined methodologies which combine both quantitative data, qualitative interpretation and group judgment into a coherent judgement. Such methods recognize that competitive advantage in a start-up is a multi-dimensional concept.

The prominent integrated approach is the VC Scoring Model or Decision Matrix. Venture capitalists tend to include scorecards which place different weight on different factors based on their investment thesis. Most common model may have the percentages allocated to the following categories: Market Size (20%), Product/Technology Differentiation (25%), Team (30%), Traction/KPIs (15%), and Competitive Landscape/Moat (10%). All the startups are rated based on these factors, and the weighted sum gives a comparative evaluation framework in form of structure. This compels a strict mindfulness of all the significant factors, although the ultimate decision may be gut influenced.

The other integrated model is the Javelin Board or Business Model Portfolio concept, which is a visual representation of the progress of a startup in four critical and interdependent axes called Customer, Product, Team, and Business Model. It aims at producing the balance and improvement in all four at the same time [27]. As an illustration, a good product that is run poorly is a red flag, and vice versa is a very good traction (customers) but negative unit economics (business model). The qualitative (team, model design) and the quantitative (traction metrics, financials) are merged in this framework in a single, consistent progress dashboard.

The most subtle combination is provided by the use of theory-driven, hypothesis-testing lens to the whole venture. The startup itself, in this perspective, entails a sequence of untested hypotheses concerning problem, solution, growth, and moat. Competitive advantage is appraised by measuring: 1) the quality of the evidence accumulated so far on each hypothesis (through KPIs and experiments), 2) rationality of the general theory of value creation and capture (through BMC and moat analysis) and 3) the ability of the team to run these tests and evolve the theory (dynamic capabilities). This strategy views the business plan as dynamic, falsifiable and competitive advantage as the new property of high quality learning and adaptation.

Finally, the judgement of a start-up competitive advantage is a science that is informed by art. It involves striking a balance between the indicators of numerical stability in initial traction and unit economics and a qualitative examination of the logic and defensibility of the business model [28]. These streams of data are the most effective evaluators who operate within structural frameworks to guide their judgment, but who are acutely conscious of the larger significance of the team capability to operate in uncertainty. Competitive edge of a start-up is thus the net effect of the present position in the market, defensibility of the model that it is meant to work with in structure and the adaptability of the human personnel.

CHAPTER 2 ECOSPHERE STARTUP DESCRIPTION

2.1 The general description of the Ecosphere startup

The emergence of EcoSphere was the result of increasing the necessity of environmentally sustainable solutions to the environmental issues. The business concept was inspired by the fact that consumers, businesses and governments are becoming more environmentally conscious though not finding a viable solution that can be applied on a broader scale to ensure that sustainability is incorporated in day to day activities. The concept is, just develop a platform where innovative and affordable solutions on green living and environmentally friendly products are offered to a broad range of audience.

In its most basic manifestation, EcoSphere is constructed on the concept of delivering product and services that enable people and businesses to readily change to more sustainable options. Be it the provision of environmentally friendly goods, energy saving systems, or consultation, EcoSphere ensures that sustainable living is not only affordable and convenient, but also possible.

The issue to be solved by EcoSphere is the challenge that a lot of people have in switching to a more sustainable lifestyle. Out of scarcity of the environment-friendly options, to a possibility of increased expenses related to the sustainable products, EcoSphere offers a solution by assorting a variety of low-end, high-quality products and services that meet the demands of the environmentally conscious consumer.

The opportunity is based on the increasing demand of green solutions and in the market gap that exists in the easy to use, affordable and scalable green solutions. Via the EcoSphere platform, customers have an easy time making environmentally friendly decisions, be it concerning products, consultancy, or educational tools. Further, EcoSphere uses technology to provide tailored solutions to both individuals and businesses so that they can be able to work towards sustainability, which meets their particular objectives.

The EcoSphere has brought a multi-dimensional solution to the market that is both convenient and user-friendly online shopping, efficient and environmentally friendly products, and a personalized approach to the needs of customers. Through its ability to offer sustainable alternatives in a convenient and easy to use format, EcoSphere can turn into one of the best brands in the green solutions market.

After all, EcoSphere is not only a business but also a movement, which prompts people and companies to assume responsibility towards the environmental effects of their actions. The startup is not just about educating the consumers, but also about creating a community of like-minded individuals and businesses who may learn to share and grow together in their quest to becoming sustainable.

EcoSphere is committed to offering an integrated package of advantages to its variety of customers consisting of individual customers, small and medium businesses (SMBs), and educational organizations or non-profits. At the core of what EcoSphere provides, there should be the concept of making sustainable living approachable and effective to all people, irrespective of where they stand on the sustainability continuum.

On the part of the individual consumers, EcoSphere responds to the increased demand of green products and solutions. A lot of people are willing to be more sustainable, yet they encounter difficulties as some resources are not affordable and convenient. EcoSphere makes this transition easier by providing a carefully curated list of green products and services, which are, not only, practical but also less expensive in the long term. Energy saving appliances, biodegradable household products, and waste minimizing alternatives are also products that are designed to save on utility bills and enable consumers to minimize their environmental impact. Besides this, EcoSphere offers a convenient service, whereby one can find sustainable products under a single roof, hence conservation of time and effort. Besides, buying these products, consumers get an emotional satisfaction of making a positive contribution to the environment and living in line with their values and feeling empowered in their struggle against climate change.

In the case of small and medium businesses, EcoSphere is an opportunity to

add sustainability to their business operations in an effective and efficient manner. Through the implementation of the environmentally friendly products and services business can cut the cost of operation, manage its resources better and give its brand a better image. Long term savings are usually the result of implementing energy saving technologies and environmentally friendly business operations, and they are also attractive to the more environmentally conscious consumers who are on the increase. This sustainability transition can be one of the major points of difference in the competitive world, and it will enable the companies to appeal to the people who appreciate corporate responsibility. Also, EcoSphere provides consulting services to guide SMBs through the maze of sustainability, be it compliance with rules and regulations or streamlining the supply chain to have a lower green footprint [8]. By these services, EcoSphere can ensure that the businesses will not only achieve their sustainability objectives, but they also give back to the environment.

The educational institutions and non-profit organizations can also benefit in the services of EcoSphere. Sustainability can be incorporated into schools and university programs and campus life using the products and resources supplied by EcoSphere. It can be a donation of materials on sustainability or furnishing classes with greener supplies, EcoSphere assists institutions to be in the frontline in setting a culture of environmental accountability. Non-profits, which usually have a small budget, enjoy affordable rates of products and services offered by EcoSphere to promote their environmental initiatives. Besides this, EcoSphere community-based strategy enables these organizations to interact with each other who have similar values that enhance cooperation and exchange expertise on the best sustainability practices

EcoSphere’s mission is to empower individuals and businesses to make sustainable choices that have a positive impact on the planet. The startup provides accessible, affordable, and innovative products and services that simplify the transition to a more eco-friendly lifestyle. Its goal is to inspire and enable communities to embrace sustainability through education, technology, and eco-conscious solutions, fostering a more sustainable world for future generations[5].

EcoSphere envisions a future where sustainability is seamlessly integrated into every aspect of daily life, from the products we use to the energy we consume. It aims to be a leading force in the global movement toward sustainable living by offering solutions that are practical, scalable, and impactful. Its vision is to create a world where every individual, household, and organization can contribute meaningfully to the planet's well-being, creating a healthier, more balanced ecosystem.

2.2 EcoSphere's stakeholders description

EcoSphere's target market includes environmentally conscious individuals, small and medium businesses (SMBs), educational institutions, and non-profits. These groups are motivated to adopt sustainable practices but may face barriers like cost, accessibility, or a lack of knowledge. Ideal customers are typically between 25-45 years old, tech-savvy, and value practicality, affordability, and eco-conscious living. They prioritize sustainability and are willing to invest in products that align with their environmental values. EcoSphere helps overcome common pain points such as overwhelming choices, lack of education, and high costs by offering curated, affordable, and informative solutions.

Table 2.1 – Target market segmentation for EcoSphere

Customer segment	Description	Key benefits	Target characteristics
1	2	3	4
Eco-conscious consumers	Individuals who are either already living a sustainable lifestyle or want to transition to one, seeking accessible and affordable eco-friendly products.	Affordable, accessible eco-friendly products for easy transition to sustainable living.	Tech-savvy, eco-conscious, value affordability, looking for convenience and long-term benefits.

End of Table 2.1

1	2	3	4
Small and medium businesses (SMBs)	Small businesses looking to integrate sustainability into their operations to improve brand image, reduce costs, and meet consumer demand.	Energy-efficient products, waste management solutions, and sustainability consulting to enhance business operations.	Small to medium businesses focused on cost-saving, brand image, and sustainability in operations.
Educational institutions and non-profits	Schools, universities, and non-profits aiming to integrate sustainability into their curricula, campus operations, and community outreach.	Sustainable products and resources for curriculum integration, eco-friendly campus operations, and non-profit missions.	Institutions aiming for educational integration of sustainability and eco-conscious campus operations.

EcoSphere has a variety of critical stakeholders who have significant roles to play in the development and maintenance objectives of the company. It is necessary to identify and interact with these stakeholders to enable the establishment of strong relationships, efficient operations, and the advancement of the company mission that is to spread ecologically-friendly solutions. The following gives a breakdown of the key stake holders in EcoSphere and how they are approached in an effective way.

1. EcoSphere has customers as its center of business. The very people that make up this group are those who are environmentally aware and wish to live a more sustainable world as well as businesses that want to incorporate sustainability in their business activities. In the case of EcoSphere, customer involvement extends beyond the provision of good products and services. It entails establishing individualized communication networks through which the customers are served with customised updates, offers and product suggestions depending on their individual interests. Also, the use of loyalty programs and customer referral incentives is used to foster a high customer-buyer base. Customer feedback is also be the priority of EcoSphere as the company provides a variety of feedback options, including surveys, product reviews so that the company can constantly enhance its products and services based on the real-time feedback of its customers.

2. The employees are part and parcel of the daily business and long-term

success of EcoSphere. Sustainability experts, customer service representatives, and other employees play the key role to provide the high-quality service and attain the company culture based on innovation and sustainability. In order to motivate the employees, EcoSphere aims at frequent training programs and career growth and will maintain them informed about the newest trends in sustainability and the new products. Everything is done through recognition programs to reward their efforts and employee wellness programs whereby workers are motivated and engaged. Transparent and friendly work environment is established through open lines of communication where employees are updated on the goals and the performance of the companies.

3. The supply chain and business partners play a critical role in the product and the general strategy at EcoSphere. These stakeholders supply raw materials and services, which are used by EcoSphere in its operation. The process of engaging the suppliers grants the establishment of the long-lasting and transparent relations, when both sides are in harmony on the expectations, terms, and quality standards. In the case of EcoSphere, liaising closely with suppliers is important to make sure that the materials and products used in the company are of the required sustainability standards such as ethical sourcing and eco-friendly production process. A partnership with technology and sustainability consulting partners are also important towards ongoing innovation and implementation of new environmentally friendly solutions that will satisfy the market needs.

4. EcoSphere needs to be financially healthy and grow through investors and Shareholders. The investors provide the required resources towards growth and they play a crucial role in scaling the company. In order to interact well with this group, EcoSphere makes sure that communication is done on a regular basis through quarterly financial reports and impact assessments highlighting how far the company is towards the realization of its sustainability objectives. It is highly transparent, and clear reports about financial performance as well as the social and environmental consequences of the initiatives of the EcoSphere is provided. Also, EcoSphere conducts strategic meetings with investors to talk about the future growth prospects

with the aim of ensuring that all the stakeholders are on the same page regarding the long-term picture of the company.

2.3 Neurofit's resources, activities, revenue and cost structure description

Strategic management of assets is essential in the long run success of EcoSphere as it allows the company to maximize its resources, retain competitive edge and provide sustainable solutions to the customers. The resources that are paramount in EcoSphere are separated into the physical, intellectual, human, financial, and relational resources, which helps the company to serve its mission of delivering environmentally friendly products and services and still maintain efficiency in its operations.

1. Physical resources. The physical resources of EcoSphere comprise its stock of sustainable products, the infrastructure required to take care of everyday operations. The line of products includes diverse eco-friendly products, including energy-saving appliances, household biodegradable products, and eco-friendly fashion. Inventory management systems are very important in ensuring availability of goods, reduction of waste, and delivery of the goods on time.

Besides product inventory EcoSphere physical assets also cover its e-commerce platform, e-commerce warehouses, and distribution channels. It is these physical resources which enable the company to deliver its products to the customers in a timely and cost-effective manner. The sustainability of packaging and shipping methods also reinforces the role of EcoSphere to its environmental accountability to make sure that all physical supply chain processes are consistent with the sustainability of the company.

2. Intellectual resources. The intellectual resources of EcoSphere are the basis of innovativeness, branding and competitive position of the company. This involves the knowledge, technology and intellectual property (IP) of the company which will make EcoSphere stay top in the market of green solutions.

EcoSphere brand identity is another intellectual resource as the company is

developed with the notion of sustainability and offering convenient solutions to the environmentally conscious consumers. The intellectual property in the product designs, packaging ideas and teaching contents also form part of the EcoSphere which has helped it in ensuring that it has an edge over its competitors.

Moreover, the innovation in the line of products of EcoSphere is made possible by its research and development (R&D) capabilities. This involves creating new environmentally-friendly materials and technologies as well as products that meet the new trends in sustainability. Product differentiation will also be supported using intellectual resources like patents or proprietary software which will enhance the value proposition of the company.

3. Human resources. The human resource of EcoSphere probably falls under the critical assets that help advance the company vision and mission. It has a team of sustainability professionals, product developers, marketing specialists, customer service representatives, and operational employees. These employees are knowledgeable and experienced enough to allow EcoSphere to create new products, customer relationship management, and consulting services to the businesses and organizations.

EcoSphere invests in staff development to sustain the competitive advantage by offering staff continuous training in the following areas sustainable product design, green technologies, customer service excellence, and digital marketing. An effective corporate culture promoting teamwork, innovation, and a culture of life long learning is one of the major aspects of attracting and keeping the best talent in the sustainability field.

Moreover, the management team of EcoSphere is critical in determining the strategic course of the company, and all resources are properly utilized to realise the objectives of the company. Their example in the way they have aligned their business operations with their long term sustainability goals is vital to the success of the company over the long term.

4. Financial resources. Financial resources of EcoSphere are necessary to cover product development, marketing campaigns, expansion and sustainability

activities. These resources are capital collected by investors, loans and income acquired by selling products, subscriptions, consulting services.

The company needs efficient budgeting, finances planning, and diversification of revenues to remain afloat. EcoSphere spends its financial resources prudently with an aim of supporting growth, increase its product offerings and enhance its efficiency in operations. Moreover, the investment in the sustainable technologies and practices should also make a long-term contribution to the cost savings that can also serve as the reinforcement of the financial standing of the company.

The financial resources of EcoSphere also is channeled to the research and development (R&D) to enable the company to keep innovating and expanding its product line based on the market demand. Investing in sustainability projects that include carbon offset programs and community-based green projects makes the operations of the company congruent with its core values and mission

The operational model of EcoSphere is designed in a way that delivers the smooth implementation of its business model without adopting the sustainability, efficiency, and customer satisfaction goals. The main business operations serve to assist the EcoSphere mission of offering effective and affordable eco-friendly solutions to individuals, companies and organizations. Such activities are divisible into the following main areas that guarantee a seamless operation of the business in its daily operations and business prosperity in the long term.

1. Supply chain management and procurement of products. A major part of the operations of EcoSphere is based on the acquiring of high quality and sustainable products of ethical suppliers. This is by trying to associate and collaborate with those manufacturers that are more conscious of environmental responsibility in production. The procurement department of EcoSphere liaises with the suppliers to make sure that all the products are manufactured to strict sustainability standards of the company including recyclable materials, energy efficient designs and minimum amount of waste generated during manufacture.

Inventory management is also part of the supply chain management process whereby products are in place at the right time and made available at the right time

to the customers. This involves ensuring good relations with suppliers, filling of orders, and keeping the products in a green manner that does not harm the environment, through environmentally friendly packaging and using carbon-neutral delivery services where feasible.

2. Innovation and product development. As part of its innovation strategy, EcoSphere constantly comes up with new products that conform to the current trends in sustainability and satisfy the evolving customer needs. This involves discovery of new materials, technologies and designs that make the products more environmentally beneficial. The product development department does a regular market research to determine new trends, customer needs and gaps in the market to ensure that EcoSphere remains ahead of the competition.

EcoSphere also works on product improvement besides product development. The feedback of the customers and the experience of the industry gurus is employed to enhance the product line and make it as efficient, environmentally friendly, and convenient to use as possible.

3. Marketing and customer engagement. The marketing and customer engagement activities of EcoSphere are aimed at creating awareness concerning its products, services and mission which are eco-friendly. It is done through a multi-channel marketing approach that entails content marketing, social media campaigns, email newsletters and influencer partnerships. The marketing department targets the education of customers on the idea of sustainability, the advantages of introducing the usage of environmentally friendly products, and making EcoSphere a champion of green solutions.

The engagement with the customers is the key to the trust and loyalty. EcoSphere aims to be in good relationship with customers through individualized communication, promotions and frequent updates. Also, customer service team is taught to offer outstanding customer service, responding to all customer queries, taking returns or exchanges, and seeking feedback to keep the overall experience consistent and better.

4. E-commerce and platform management. The e-commerce platform is the

main tools of sale of products and customer relations in EcoSphere. The platform is made to offer a smooth and user-friendly shopping experience, and clients are able to conveniently browse the products and place orders as well as monitor their deliveries. Besides the sale, the site contains educational materials, resources, and blogs that educate the customers on sustainable living.

The site also includes the use of subscription based platform, where customers can subscribe to be delivered eco-friendly products on a regular basis. The availability of a safe, user-friendly e-commerce platform that is incorporated with payment systems is important in the promotion of sales and customer satisfaction.

The revenue model of EcoSphere helps the company achieve long-term financial sustainability without compromising its mission of offering eco-friendly and sustainable living. The firm earns money by selling products, subscribing and consulting services as well as educational materials. Such diversified strategy allows EcoSphere to create value in all customer segments so that the company is bound to survive in a market that is volatile and expanding its scope in the green solutions market.

1. Product sales. Sale of eco-friendly goods, such as household products, energy-efficient appliances, biodegradable goods and sustainable fashion, is the major source of revenue of EcoSphere. Such items are highly selected to support the demands of people and companies that strive to embrace sustainable products. EcoSphere makes sure that its products are affordable both in price and quality enabling consumers to make environmentally friendly choices without being restricted by large sums of money. The sales of the products are easy as there is an e-commerce version where customers are able to browse and buy products easily.

2. Subscription services. EcoSphere has a subscription business in which consumers will be allowed to have eco-friendly items delivered to their homes on a regular basis. This might mean a variety of products including household necessities (e.g., cleaning products, toiletries) or pre-assembled sustainable lifestyle bundles, which center around various themes every month. The subscription program provides the customers with convenience and availability of discovering new

products that meet their needs of sustainable living. Moreover, EcoSphere may introduce a high-end subscription option that has the capacity to offer customers a kind of exclusivity regarding new product lines, discounts, and early access to the sustainability events and webinars.

3. Sustainability consulting. Since more businesses are now aiming to match their purposes with those of environmental sustainability, EcoSphere offers sustainability consulting to small and middle-sized businesses (SMBs), schools and non-profit organizations. Such consulting services assist the companies to minimize their impact on the environment through tailored solutions to the following: energy efficiency, waste management, and sustainable sourcing. The consulting component of EcoSphere also aids organizations to comply with regulatory requirements, achieve green certifications and engage in sustainable business that enhances efficiency in operations. This source of revenue is done through project fees, retainer fees or performance based contracts.

4. Educational materials and workshops. EcoSphere can monetize on education content on sustainability by offering online workshops, courses, and certification programs. These materials are available to individuals, schools, and business people who want to learn more about environmental problems, sustainability, and green innovations. The education services are offered in different formats including video tutorials, live webinars and interactive courses. EcoSphere might collaborate with higher education or green specialists to create premium content, which would also help it become a leader in the green solutions arena. The sales of these educational products is in the form of course fees, certification fees, and subscriptions to access exclusive content.

5. Affiliate marketing and strategic partnerships. The other source of revenue that EcoSphere explores is a strategic alliance with other brands or organizations that also embrace the sustainability principles. Such collaborations include co-branded marketing, which means that EcoSphere would earn commissions or auditing fees by marketing the other companies with environmentally-friendly products on its platform. Also, the EcoSphere may generate affiliate income by

suggesting third-party services or products that meet its sustainability philosophy. The partnerships do not just increase the range of products offered at EcoSphere, but also assist in raising the level of brand awareness and finding new customers.

6. Corporate social responsibility (CSR) programs. EcoSphere would also be able to earn money by creating corporate sustainability partnerships. Companies and organizations can also use EcoSphere to undertake customized green programs under their CSR. Such programs might be the supplying of the employee with products that are environmentally friendly or conduct sustainable living workshops. EcoSphere will use its sustainability expertise to develop customized programs to corporations that will enable them achieve their environmental objectives as well as boost the reputation of their brand.

The monetization strategy of EcoSphere aims at providing solutions that are value based and at the same time does not sacrifice its fundamental vision, which is sustainability. Its strategy is based on ensuring a smooth integration of its products, services and educational services into the lives of customers hence generating recurrent revenues and securing customer loyalty in the long run

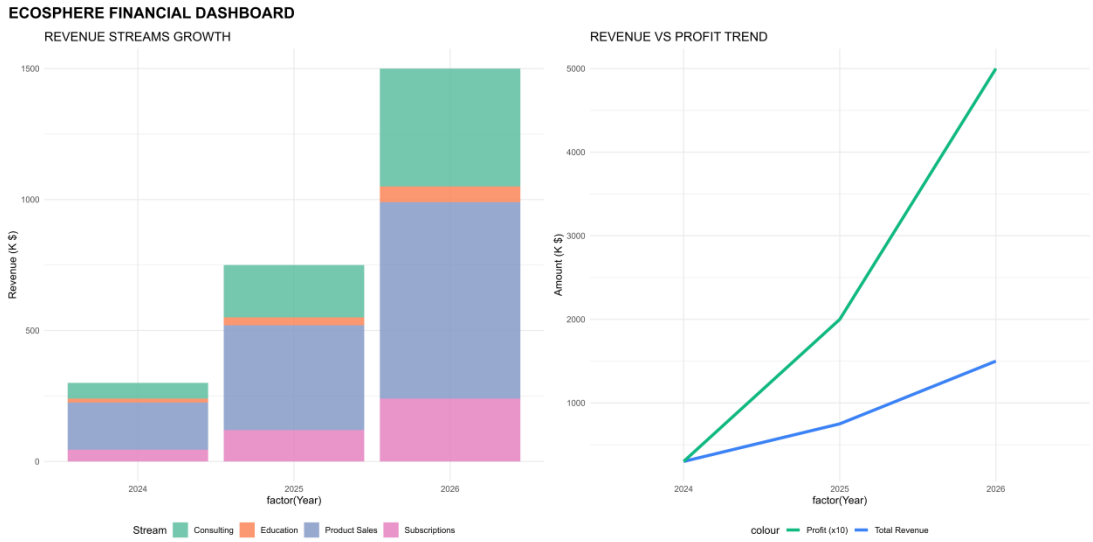

Figure 2.1 – EcoSphere's financial dashboard

The cost structure of EcoSphere is designed to support its sustainability-driven business model while ensuring profitability, operational efficiency, and long-term

growth. Understanding the various cost components is essential to effectively manage resources, control expenses, and optimize the company's financial performance. EcoSphere's cost structure is influenced by both fixed and variable costs, which are aligned with the company's strategic objectives of providing high-quality, eco-friendly products and services.

Key cost components:

- Cost of Goods Sold (COGS). As EcoSphere's primary business model revolves around the sale of eco-friendly products, the cost of goods sold (COGS) is one of the largest expense categories. This includes the cost of purchasing sustainable raw materials, manufacturing (or sourcing) eco-friendly products, packaging, and shipping
- Inventory management costs. Efficient inventory management is essential to minimize stockouts and excess inventory. This involves warehousing costs, inventory tracking, storage, and regular stock rotation to ensure the availability of popular products without overstocking. EcoSphere also needs to account for the costs of environmentally-friendly packaging and shipping materials.
- Consulting fees. For EcoSphere's sustainability consulting services, the costs primarily include employee salaries (e.g., consultants, sustainability experts), as well as any third-party expertise or tools required to provide in-depth analysis and customized solutions to businesses and organizations.
- Training and support. Providing ongoing support and training to businesses adopting sustainable practices requires resources in terms of both personnel and materials. This also includes the costs associated with delivering workshops, producing educational content, and maintaining a high level of customer service.
- Website development and maintenance. As EcoSphere operates primarily through its e-commerce platform, ongoing costs for web hosting, platform development, design updates, and cybersecurity are necessary to ensure the smooth functioning of the site.

Fixed costs include salaries, office rent, technology infrastructure (e.g.,

platform maintenance), and administrative expenses. Variable costs include product procurement, inventory management, packaging, shipping costs, and marketing expenses tied to customer acquisition campaigns. As EcoSphere scales its operations, variable costs will increase, but they will also be offset by higher sales and customer demand.

To manage procurement costs, EcoSphere negotiates long-term agreements with suppliers that offer favorable pricing and terms. By ensuring a steady supply of sustainable products at competitive rates, EcoSphere can minimize costs while maintaining high product quality. Furthermore, working closely with suppliers to streamline manufacturing processes and reduce waste can help lower overall procurement costs.

Investing in scalable technology solutions will allow EcoSphere to optimize operations, reduce manual processes, and increase automation, all of which will lead to cost savings in the long term. For instance, implementing advanced inventory management systems can reduce waste and improve efficiency, while data analytics tools can optimize marketing spend.

As EcoSphere grows and increases its order volumes, the company will benefit from economies of scale. Bulk purchasing and larger shipping volumes will result in cost reductions, which can be passed on to customers in the form of lower prices or reinvested into the business to fund growth initiatives.

EcoSphere may consider outsourcing non-core business functions, such as logistics, customer service, or certain elements of product development, to reduce overhead costs. Strategic partnerships with other companies can also help share costs and expand resources, particularly in areas like marketing and technology.

EcoSphere's cost structure is designed to support its profitability goals while staying true to its mission of environmental responsibility. The combination of cost-effective operations, innovative products, and value-driven services enable EcoSphere to maintain a healthy margin, generate consistent revenue, and reinvest in its growth. By effectively managing costs and optimizing resources, EcoSphere ensures that its sustainability initiatives remain financially viable in the long term.

2.4 EcoSphere's competitive landscape and strategic positioning

EcoSphere operates in the rapidly growing and competitive green solutions market, which includes eco-friendly products, sustainability consulting, and educational resources. This market is driven by rising consumer demand for sustainable living, spurred by increased environmental awareness and regulatory pressures. The competitive landscape for EcoSphere features a mix of large multinational corporations like Unilever and Procter & Gamble, specialized sustainability startups like Ecosia and EarthHero, consulting firms such as McKinsey & Company, and educational platforms like Coursera. These competitors vary in market reach, offerings, and business models, creating a complex environment. To differentiate itself, EcoSphere focuses on providing comprehensive sustainability solutions, combining eco-friendly products, consulting, and educational resources. By making sustainable living affordable and accessible, EcoSphere addresses a key barrier for many consumers. The company also emphasizes empowering its customers through education, enabling them to make informed decisions and adopt sustainable practices. Additionally, EcoSphere fosters a community of like-minded individuals and businesses, promoting collaboration and shared learning. This unique positioning allows EcoSphere to carve out a niche, appealing to a broad and diverse customer base seeking holistic, impactful, and accessible sustainability options.

Table 2.2 – Competitive advantage matrix

Competitive factor	EcoSphere	Large corporations	Specialized startups	Consulting firms
Product range	Comprehensive	Limited eco-lines	Narrow focus	None
Consulting services	Integrated	Separate divisions	Limited	Core business
Educational resources	Built-in	Minimal	Basic	Premium only
Price point	Affordable	Premium	Varies	High
Community focus	Strong	Weak	Moderate	Weak
Accessibility	High	Medium	Medium	Low

CHAPTER 3 THE ECOSYSTEM ADVANTAGE LIFECYCLE FRAMEWORK FOR STARTUP COMPETITIVE ADVANTAGE DEVELOPMENT

3.1 Methodological foundation for identifying and developing competitive advantages of ecosystem startups

The niche position of an ecosystem startup, a venture, the value proposition and operations of which are inseparable within a larger digital or business ecosystem, needs a niche strategic prism. Traditional management systems have fundamental concepts but need much adaptation to face the facts of co-creation, platform dependency and networked competition. This section will be based on the key theories and evaluation processes of the literature review and generate a personalized, functional method. This will be the diagnostic machine for developing the competitive advantages of a specific ecosystem venture. This framework will subsequently be applied to analyze EcoSphere, a startup operating within a larger sustainability-focused digital ecosystem

The first step towards creating a pertinent framework is to choose and adjust the most pertinent theoretical lenses to the ecosystem startup context.

The Five Forces model developed by Porter is re-oriented not to the analysis of the industry, but to positioning in a network. The strength of the keystone platform(s) which the venture depends on becomes the main establishment. Competition does not necessarily happen with direct competitors but with all complementors that compete to get attention of the user and preference to the platform. Substitutes Threats of substitutes include alternative ecosystems. In the case of such a venture as EcoSphere, this does not imply an examination of its stance in relation to large sustainability platforms, corporate networks, and other alternative solution providers, but a traditional industry.

The VRIO framework cannot be ignored but has to dwell on resources that are useful in a particular ecosystem. In the case of an ecosystem startup, intangible and relational critical assets may include exclusive access to APIs, integration depth, and

trust of the community, access to proprietary interaction data, and the network of the founders in the ecosystem. The causal ambiguity and social complexity cause inimitability. One of the most important resources of a venture might be a proprietary algorithm of finding sustainable suppliers or a peculiar model of community governance that is hard to duplicate.

The Dynamic Capabilities Theory Theory is very compatible. The meta-advantage in a fluid ecosystem is the ability of a startup to detect changes, take advantage, and reorganize assets. This does not contradict the pivot-or-persevere logic of the Lean Startup approach.

The facts of resource scarcity and extreme uncertainty serve as a filter to all theories. Any architecture should be minimalistic, iterative and oriented towards validated learning. In the case of an ecosystem venture, competitive advantage is a dynamic result that should be created in an ongoing experimentation, i.e. A/B testing platform features or partnership models, rather than a fixed position

Table 3.1 – Adapted strategic theories

Theory	Key adaptation for ecosystem startups	Insight for EcoSphere
Network Positioning	Analyze position within a network, not a standalone industry; power shifts to keystone platforms.	Must navigate relationships with keystone sustainability platforms and corporate partners, not just compete on product features.
Resource-Based View (RBV)	Critical resources are intangible & relational (API access, data, community trust).	Key assets may include proprietary data from circular transactions, community reputation, and exclusive partner integrations.
Dynamic Capabilities	The core advantage is agility: Sense ecosystem shifts, Seize opportunities, Reconfigure assets.	Must build a culture of rapid experimentation to adapt to new regulations, partner strategies, and platform updates.

The theoretical viewpoints are a conceptual basis of competitive advantage, which are however necessitated by practical, actionable instruments to be applied in

the dynamic world of a startup. In the case of an ecosystem-based venture, evaluation is not an event, but a cycle of hypothesis testing and strategic change. The most efficient methodology is a combination of a number of complementary techniques, each of which plays a certain role in the diagnosis of the situation in the venture and its future prospects. These instruments translate abstract concepts like rarity of resources or adaptive capacity into real time-based analysis and quantifiable measures. It is an integrated business toolkit that consists of three main elements: the Business Model Canvas (BMC) to map structure and define dependencies, the Lean Startup Methodology to execute it in an agile way and learn by doing, and the Moat Analysis to plan strategic defensibility. Together, they constitute an interdependent system of evaluation, which evolves beyond a mere description to an active creation, which guarantees that all the strategic insights are supported with empirical evidence to build a lasting presence in the network.

Developed by Osterwalder and Pigneur, the Business Model Canvas is very useful to ecosystem startups since it requires a thorough but thorough analysis of the value creation, delivery, and retention within a network. It is useful in that it can be used to visualize relationships between business elements and is therefore useful in showing critical dependencies within an ecosystem. In the case of an ecosystem startup, filling in the canvas is not the task of writing about how things could best be but mapping assumptions and interdependencies. The nine building blocks should be well analyzed using an ecosystem approach. The Customer Segments and Value Propositions sections are directly connected to the ecosystem; the value offered is usually contextual efficiency or enhanced access within a particular platform (such as in the case of Amazon sellers, automated inventory management; or in the example of personalized fitness plans, which integrate with the information in the Apple Health app). The customer segment is often characterized in terms of its role in the ecosystem, e.g. - "freelancers using Upwork" - or - "businesses advertising on Meta." The Channels and Customer Relationships sections reveal reliance of the start up on the infrastructure of the ecosystem. Channels may be managed by app stores, platform referral systems or API-based distribution. Platform rating systems,

community forums or co-branded customer support may be used to manage customer relationships. The Revenue Streams and Cost Structure is directly affected by the ecosystem economics, such as commissions on platforms (such as the 30% app store fee), profit sharing agreements with partners, costs of keeping platforms compliance and API usage.

However, most importantly, the Keys Resources, Keys Activities and Keys Partnerships sections are the central point of the ecosystem strategy. Important Resources are frequently non-material: technical expertise tied to platforms, exclusive access to APIs or reputation on a community level. Key Activities are the ecosystem participation that is integrated with the new platform features, controlling relationships with the partners, and providing contributions to the community development. Central Partnerships are crucial, and they focus on the core platform(s) and partners. Thus, the completed BMC of an ecosystem startup is not really a business plan but is more of a map of who is getting at the venture the most and where the leverage points specific to the venture might be.

As the BMC provides the structural diagram, the Lean Startup methodology, invented by Eric Ries, provides the way of moving through the landscape. The core of its Build-Measure-Learn feedback loop is its working mechanism of the development of the adaptive capabilities required in the survival of the ecosystems. This approach makes agility a formal one and transforms uncertainty into a learning tool. In an ecosystem startup, the loop is employed to make assumptions that are found to be the most significant in the BMC. The Build phase is focused on developing Minimum Viable Products (MVPs) which are operable within the constraints of the ecosystem this might be a simple API connection, a simple plugin or a pilot program with one partner institution. Neither is it meant to be a full-fledged product, but the bare-bones version necessary to confirm a particular hypothesis regarding value or expansion within the network.

The Measure step requires leaving the superficial measurements behind and stepping into the data that is specific to the ecosystem. The startup should not just analyze the total number of users but use such indicators as user activation rate in

the portal of integration with the Partner Y, the number of API requests in the most significant complementary services, or the number of users retained after acquiring them via the recommendation channel in the platform. This demands advanced analytics solutions that are multi-sided in order to capture the interaction of the ecosystem. The Learn stage will be the most crucial point of the decision-making process: the team will need to decide on whether to proceed on the existing ground, refine the MVP, or make a pivot a planned change in any or all of the BMC aspects based on the data. A pivot may imply switching of target customer segments in the network (to other complementary services), changing the revenue model to fit on platform standards, or reorganizing a core activity of direct sale to building partnerships in an ecosystem setting. This ongoing loop instills strategic learning into the rhythm of startup operations so that its business model and competitive strategy would change according to the empirical data of the ecosystem.

Assessment should not depend on present performance to determine the possibility to continue to be on the advantagethe construction of a moat. Taken over to investment analysis, a moat refers to long-term competitive advantages that protect long-term profitability. In resource constrained ecosystem startups, moats are frequently at immature stages and therefore need to be cultivated. A systematic moat analysis is an assessment of the actual and potential sources of defensibility peculiar to a networked environment. Major ecosystem moats are: High Switching Costs through Deep Integration, the startup is so established in the workflow of the user and its data on a leading platform that the cost (in time or information loss or instability) to switch to a competitor is prohibitive. The Data Network Effects is a powerful virtuous cycle whereby as more people use them they generate proprietary and unique data that adds to the core value of the product (e.g. a recommendation algorithm or matching engine) which in turn brings additional users, creating more data. This is not the case with simple network effects; the learning that is based on data is the obstacle.

Another important moat that is applicable in this case is Ecosystem-Specific Brand and Community Trust where the startup becomes the trusted, standard

solution in a certain niche community (ex: the project management tool of choice among agile software teams). This is a social capital that is difficult to imitate. Platform Partnerships and Exclusive Access Strategic Platform Partnerships and Exclusive Access may become a regulatory or relational moat, like becoming a Select Partner or gaining early access to beta APIs, establishing a temporary but significant speed and feature advantage. Lastly, Complex Coordination of Multi-Sided Networks may be a moat; when a startup gets to the point of attracting and balancing multiple groups of people in the ecosystem (e.g. content creators, distributors, and consumers), the complexity of such a coordinated system may deter new entrants. Inventory of the moats that are feasible and proactive design of the business model to reinforce them in the long term is a critical component of strategic evaluation, as it will be possible not only to survive, but to construct a position that can be defended and that will have substantial value.

Coming up with a generalized version of the theoretical backgrounds and practical instruments presented in the foregoing paragraphs, I would suggest a tailor-made four-stage analytical model known as the Ecosystem Advantage Lifecycle (EAL). This framework represents an iterative and action-focused framework to help ecosystem startups go through landscape mapping, strategic implementation, and constant readjustment. The EAL Framework offers an organised but liberal approach to finding its way around the mazes of the networked competition, shifting between external analysis, internal audit, hypothesis generation and culminating by physically creating competitive advantages.

Table 3.2 – The Ecosystem Advantage Lifecycle (EAL) – Overview

Phase	Goal	Core question	Key output
1	2	3	4
1. Map & diagnose	Understand the ecosystem and your place in it.	"Who holds power, and where do we fit?"	Ecosystem map & role definition (Niche/Gateway/Layer).
2. Audit & scan	Take stock of internal strengths and adaptability.	"What do we own that's hard to copy, and how agile are we?"	List of VRIO resources & agility assessment.

End of Table 3.2

1	2	3	4
3. Stress test & hypothesize	Pressure-test the model and define potential advantages.	"What must be true to win, and what advantage can we build?"	Refined Business Model Canvas & testable advantage hypotheses.
4. Develop & adapt	Continuously build defensibility through experiments.	"Does the data support our hypothesis, and what should we do next?"	Validated learning loop that strengthens the business model.

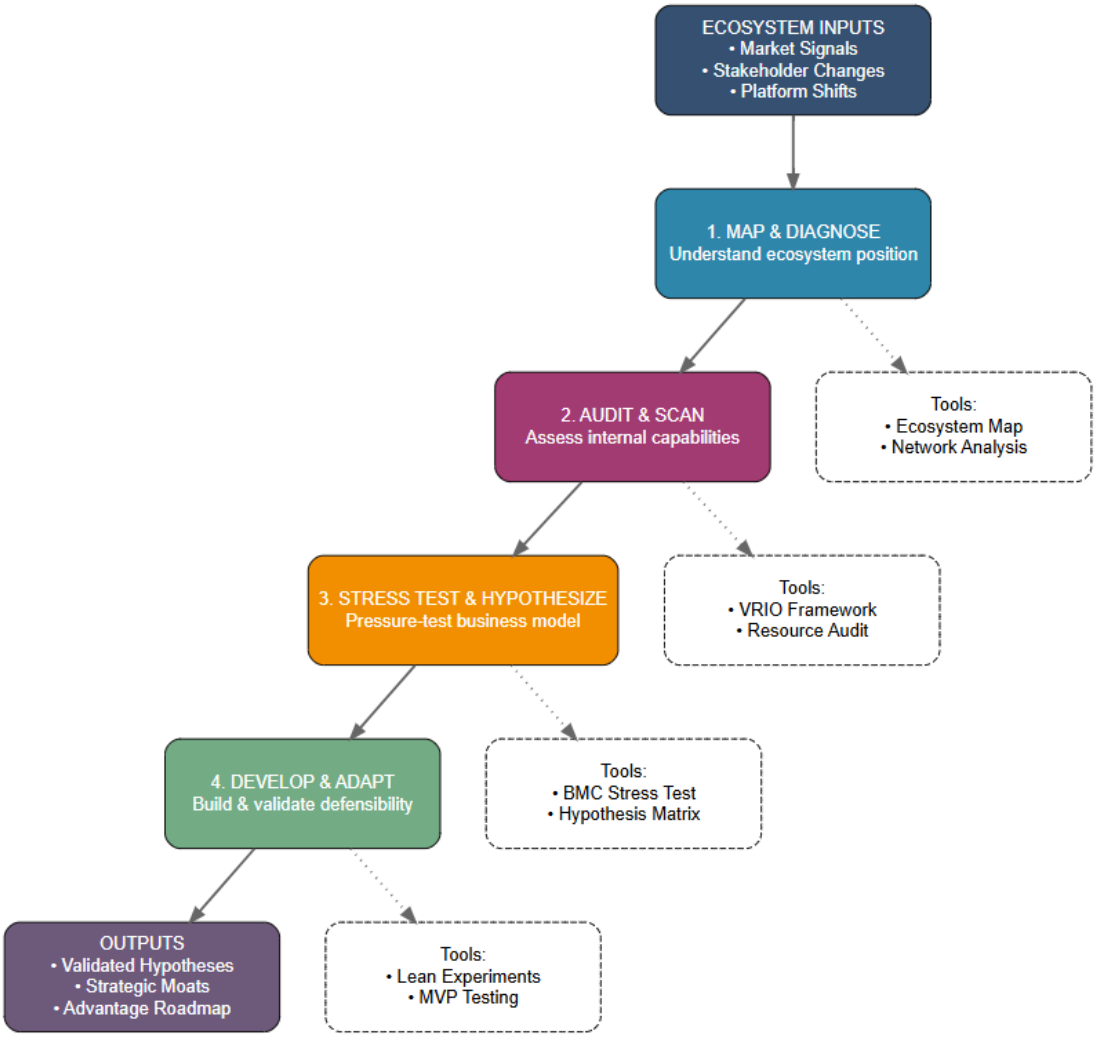

Figure 3.1 – Ecosystem Advantage Lifecycle (EAL) – tree structure

The goal of Phase 1 (Ecosystem mapping) is to map and analyse the competitive environment and position of the startup in it in a technical manner.

Actions:

1. Using Keystone Platforms (Learning Management System providers and

app stores), Complementors (competitors and potential partners), End-Users (students, tutors, and educational institutions) and Regulatory/Influential bodies (accreditation agencies, departments of education and industry standards organizations) identifier and plot all important actors on the network.

2. Implement the five forces model through an ecosystem prism focusing on each force bargaining power of the buyers, bargaining power of suppliers, threat of new entries, threat of substitutes, and competitive rivalry in the networked environment.

3. Define the strategic role: how does the startup fit into the ecosystem, and is it a Niche Specialist (targets a particular segment), a Gateway (enables some segment of users to access the ecosystem), or a Value-Adding Layer (develops on top of existing platforms)?

The output of the Phase is a detailed visual map and a diagnostic report that brings out the major dependencies, power imbalances, as well as strategic opportunities of the network.

The purpose of Phase 2 (Capability Audit) is to conduct a survey of the internal resources, as well as analyze the ability of a startup to adapt and occupy a niche.

Actions:

1. Record strategic resources – create a comprehensive catalogue of all the major resources, especially non-physical resources, and relationship benefits, such as team knowledge, strategic alliances, proprietary information, social reputation, and intellectual property.

2. Assess each resource using the VRIO-framework with regards to its Value in the ecosystem environment, Rarity relative to other competitors, Inimitability (degree of difficulty replicating it), and Organizational support (whether the startup can effectively use it).

3. Evaluate the startup based on three key dimensions: Sensing (the awareness of ecosystem changes and opportunities), Seizing (rapidly responding to those opportunities), and Reconfiguring (adjusting the business model in response

to changes).

The deliverables of the Phases: a ranked list of available resources of the current competitive advantage of the VRIO type, as well as an unbiased evaluation of the agility quotient and ability to keep up with the pace of the startup

The purpose of Phase 3 (Business model stress test and advantage hypothesis) is to stress-test the business model logic and develop certain and testable hypotheses regarding the possibility of competitive advantages.

Actions:

1. Add detailed notes on the ecosystem dependencies of each of the nine building blocks to make all the assumptions and external dependencies visible.

2. Isolate the most dangerous assumptions on the canvas, which might include, but not be limited to: Students will pay a premium to AI-matched tutors, or Universities will allow us API access to gradebook integration.

3. Use the lessons of Phases 1 and 2 as the basis to write down specific, testable assertions regarding possible competitive advantages. An example would be: "Hypothesis: Our exclusive tutor training regimen produces a superior quality pool of tutors (a rare and inimitable asset), which will translate into much more positive results and referral growth among university networks.

The output is a polished Business Model Canvas and a collection of 3-5 important advantage hypotheses, which will be put to the test by experimentation.

The task of Phase 4 (Development loop agile advantage) is to establish a seamless procedure of developing, testing, and strengthening competitive advantages through experimentation and learning.

Actions:

1. Design an experiment in the style of Lean Startup, either by creating a Minimum Viable Product (MVP) feature, a pilot partnership, or a specific market test to test each advantage hypothesis.

2. Specify and measure the metrics that are important in the context of the ecosystem and not generic measures but rather ecosystem-focused measures, including: user growth in partnered universities, tutor retention rate, or LTV: CAC

ratio of users acquired on platform X.

3. Evaluate the findings of each experiment to figure out whether the data prove the advantage hypothesis. In case of success, multiply the benefits and in case of failure, change direction of the hypothesis or the business model.

4. According to the learning about experiments, actively invest in the creation of the resources and partnerships that enhance the proved benefit, moving resources out of less promising spheres.

The deliverable of the Phase is a seamless, fact-based mechanism of converting possible benefits into entrenched, defensible states in the ecosystem. The EAL Framework is a holistic approach to ecosystem startups to explicitly uncover competitive advantages, test them, and build them in a systematic way. Through these four stages and an iterative process, the startups will be able to make sure that their approach to strategy is empirical and geared toward the development of sustainable positions in their selected networks.

3.2 Application of the EAL Framework: case study of EcoSphere

This section applies the Ecosystem Advantage Lifecycle (EAL) Framework to analyze EcoSphere, a startup operating within a sustainability-focused digital ecosystem. EcoSphere's platform facilitates the connection and verification of certified sustainable suppliers with businesses seeking to improve their ESG compliance and circular economy performance, initially through pilot partnerships with corporate entities.

EcoSphere is situated in a highly intertwined and multi-layered system of digital and institutional connections, which makes the modern sustainability economy. The localization and its specific location and role in this dynamic ecosystem define its strategic location and its ability to develop competitive advantage, rather than its location in a traditional industry. An extensive mapping shows three interconnected networks which are core. The most important layer is the Corporate and Regulatory Governance layer which consists of the major clients

and rule-makers. This is comprised of corporate sustainability and procurement departments that are under pressure to comply with ESG requirements, regulatory organizations such as the ISSB that develop compliance guidelines and the financial institutions that demand verified data in green financing. Most importantly, the key players in this ecosystem environment are the key Enterprise Resource Planning and Supply Chain Management systems, including SAP and Oracle. These are not just software but the core business infrastructure of the global business; integration with them is an essential attribute of scale and usefulness, and not an option.

Sustainable Sourcing and Innovation Marketplace is the secondary ecosystem that constitutes the immediate competitor environment of EcoSphere. In this case, it has its face-to-face rivals such as other B2B sustainability services and advisory service divisions of large consultancies. It is also in contact with the crucial complementors, e.g. carbon accounting software and circular logistics providers, and strategic alliances can produce effective bundled solutions. The third pillar network is the Supplier and Innovator Ecosystem that forms the supply side of the platform that is critical. That would consist of certified sustainable vendors, cleantech startups, and independent certification bodies, the quality and credibility of which gets directly absorbed into the value proposition of EcoSphere.

Specific pressures and opportunities are pointed out by an Adapted Five Forces Analysis in this networked context. Power of Keystone Platforms is highly critical because the workflow and access to data in an enterprise is dictated by ERP systems, and in-depth technical and commercial alliances are necessary. Competition Among Established Complementors is Medium-High, and numerous companies provide sustainability services, although differentiation can be realized with the help of the combined AI-based matching and verifying engine by EcoSphere. Threat of New Entrants: Medium, since barriers of starting technology are low but major defensive benefits are established by accruing credible corporate ties, proprietary provider information, and intricate integrations which cannot be established in short periods. The Bargaining Power of Buyer User is Medium; even though corporate procuring agencies may have options, the quality and low-risk, and

integrated solution may cost a substantial premium of loyalty, particularly when the sustainability officers are promoted internally based on a set of KPIs. Lastly, the Threat of Substitutes is also Medium, that is, traditional manual audits, inner supplier management teams, non-digital consulting reports. Such alternatives tend to be more expensive, scaled down and do not offer the same dynamism or audit trail as a specific platform.

Developing this mapping and analysis, the strategic role of a synthesis of EcoSphere is a planned hybrid. It has the properties of being a Value-Adding Layer, developed not to supplant the existing but to supplement the investments already made by the investment corporations in their ERP and procurement systems with a special sustainability intelligence and sourcing module superimposed on those. At the same time, it makes itself a Gateway, focusing to become the key and reliable gateway whereby the procurement officers can view pre-qualified, compliant sustainable suppliers. This twofold purpose enables EcoSphere to ride on the current institutional working procedures and still position itself as an unavoidable middleman, thus lowering the transactions expenses and auditing dangers to all the actors in the chain. This premise diagnosis preconditions the internal audit of resources and capabilities required to make and protect this strategic position.

Table 3.3 – EcoSphere's key resources – VRIO snapshot

Resource	VRIO Summary	Implication
Proprietary Supplier Verification System	V, R, I, O: Socially complex process ensuring quality.	Sustainable Advantage. Codify and scale this system.
Pilot Corporate Partnership	V, R: Provides access & legitimacy. I/O: Developing.	Must deepen into a trust-based, integrated collaboration.
Founding Team Expertise	V, R, I: Deep sector knowledge & regulatory networks.	Leverage for strategic navigation and securing new partners.
Sustainability Data Matching Algorithm	V, R: Currently. I: Depends on unique transaction data.	Temporary Advantage. Fuel with data to build network effects.

The second step of the EAL Framework is a reversal of the analytical prism of the inside out, a thorough audit of the internal assets of EcoSphere and its

changeable nature This two-fold examination of the resource evaluation palette of the VRIO framework and the dynamic capabilities prism of organizational changing agility is a stark picture of the current competitive base of the venture and its capacity to adapt to changes and change as they take place in the shifting sustainability ecosystem.

A more in-depth listing and a VRIO analysis of the main resources of EcoSphere shows that the company has a combination of both tangible and intangible resources The Sustainability Data Matching Algorithm is the technological core of the company It is a valuable resource because it focuses on the most essential issue of connecting buyers with credible suppliers directly It is currently rare because few competitors can combine AI-based matching with thorough attention to the sustainability parameters It is not guaranteed to be impossible to copy in the long-term because such data network effect is what turns the algorithm into a temporary technical advantage and a potential sustainable.

The Proprietary Supplier Verification System is a more institutionally embedded advantage This is not a checklist but a socially complex organizational operation of multi-stage audits document validation performance history checks and in some cases direct interviews This system is valuable because it guarantees the quality and integrity of the core inventory of the platform This is a supported capability of the organization having developed a routine of undertaking this process making it difficult to observe diagnose and replicate in full.

The Pilot Corporate Partnership with a first major client is an important relational resource The value of this resource is enormous that it offers real life validation a live testing environment direct user feedback and an essential legitimacy in the marketplace It is currently uncommon as securing such a flagship partnership is a major challenge of an early stage start up organization The organization must now focus on supporting this resource to go into the fully achieved VRIO advantage by taking it off the developing column and place it into the implemented collaboration between the organization and the client where its tools will become part of its daily operations and strategic planning The relationship will become

The Specialization of the Founding Team in sustainability domains and regulatory networks This is a base human resource that the organization currently capitalizes on but needs to think how to institutionalize the knowledge beyond the founder to avoid making the resource brittle

The Specialization of the Founding Team in the areas of sustainability and regulatory networks This is an expert knowledge base that is currently being put to good use but needs to consider how to make the knowledge base more institutionalized once the founders are gone so that the resource is not delicate.

An assessment of dynamic capabilities evaluates the ability of EcoSphere to engage in strategic renewal Sensing capabilities are felt to be robust The startup has an active multi-stakeholder engagement in the form of direct dialogue with corporate partners supplier feedback loops and monitoring of regulatory changes but sensing needs to be developed beyond the passive listening of new situations to active prediction and forecasting of productive responses The fundamental scenario of a business model or value proposition that requires the venture to totally change its resource allocation or strategic direction is yet to be successfully traversed.

The audit returns a balanced diagnosis EcoSphere has valuable and in certain cases already inimitable resources specifically in its verification system and establishment team Its present benefits however are a combination of the sustainable and the fragile The algorithm requires data the partnership requires depth and the organizational agility and promises to assay the hypotheses of defensible advantage This internal scan directly informs the next phase where such resources and capabilities are pressure-tested against the business model to develop concrete hypotheses of defensible advantage

Table 3.4 – EcoSphere’s core advantage hypotheses

Hypothesis name	The core advantage	How it creates a "moat"
1	2	3
Integrity Flywheel	Superior verification → Better outcomes → More partners → Higher-quality supplier pool.	Data & quality moat: becomes harder to replicate as platform integrity scales.

End of Table 3.4

1	2	3
Embedded Workflow	Deep ERP integration embeds EcoSphere into core procurement workflows.	Switching cost moat: clients face operational disruption to change.
Institutional Trust	Corporate endorsement as the "preferred" solution borrows the partner's authority.	Relationship & trust moat: competitors lack access to the sanctioned channel.

The third stage in the EAL Framework brings about the synthesis of the external scan analysis and internal resource audit to stress-test the basic logic of the venture. It is the transition between diagnosis and proactive strategy building, where the most important assumptions of the business model are secluded and the potential strengths of the venture are converted into specific and testable hypotheses of its sustainable competitive advantage. In the case of EcoSphere, this would include scrutinizing all aspects of its operation not as a plan that exists but as a set of beliefs that need to be proved, and to create defensible market positions using its unique position and resources.

The critical examination of the Business Model Canvas with the help of stress test helps to identify both leverage areas and critical areas of weakness. The value proposition will focus on de-risking sustainable procurement and lowering cost of total cost through efficiency and assurance of compliance. The two main customer segments are the corporate sustainability and procurement officers, who are quantified on ESG KPIs and operational cost. The mediums of accessing them are nearly totally relational and internal: either through recommendations by current partners or through direct technical integrations into enterprise systems such as SAP or Oracle. This channel approach is a strength and a key dependency, as it avoids an expensive generic marketing approach; however, growth will be conditioned upon effective execution and recommendation by an initial group of partners. Revenue streams will be developed as a hybrid SaaS platform access with transaction-related commissions and success of EcoSphere will directly correlate with the quantity and

worth of sourcing facilitated. This model encourages platform liquidity and good matches.

The cost base is skewed significantly in favor of the Key Activities that form the core of the venture: the incessant, intensive implementation of the supplier verification mechanism, the constant development and training of the data matching algorithm, and the high-contact management of the corporate and platform relationships. These operations eat the Key Resources of the venture: the proprietary algorithm, the LACEO-protected network of verified suppliers, and the partnership deals achieved by hard work. The two most significant Key Partnerships are two-fold, one with the corporate clients themselves, who provide access to markets and credibility and one with the keystone ERP/SCM platform vendors, whose ecosystems promise the opportunity of scalable distribution and broad workflow integration.

This business model is based on various underlying assumptions which form the biggest risks in this model. The first is the willingness-to-pay assumption: that corporate will attach enough monetary worth to lower regulatory danger and simplified process to warrant subscription fees and commission fees, and transition pilot projects to regular budget allocation enterprise-wide implementation. The second is the assumption of algorithmic efficacy: that the matching engine of the EcoSphere shows better results regarding supplier performance, compliance levels and total cost than more traditional sourcing practices or single databases. The third one is the two-sided network engagement assumption: that suppliers will be subjected to the rigorous verification process and will be active and responsive participants, the corporate buyers will also utilize the system as a regular sourcing tool but not a one-off reference.

Based on this stress test and the information gained during the earlier stages, 3 tangible hypotheses of advantage are developed. They are not an amorphous set of aspirations but definite statements regarding the ways EcoSphere can be constructed to be defensible.

The Integrity Flywheel hypothesis states that the intensive, multi-layered

verification system of the startup results in a quality circle of self-reinforcing. This is done by blocking the suppliers of inferior grade and results in a successful deal and improved corporate procurement. Such positive performance results and testimonials create positive data performance and increase the reputation of the platform, which attracts more critical corporate partners. The new associates, in their turn, open even greater and more qualified pool of supplier candidates and make it possible to be more strict with their vetting. This virtuous circle generates a Data and Quality Moat: the larger the platform is, the harder it becomes to recreate the combination of proprietary data on performance and reputation of integrity because a new participant does not have access to the historical data and the market trust.

Embedded Workflow hypothesis states that extensive and fundamental API-based integration into a client core ERP system procurement system presents high switching costs. As soon as Eco Sphere is integrated into the embedded interface of sustainable sourcing, supplier discovery, due diligence, and contracting can be handled within the current procurement workflow, it will become operationally grounded. It would require not only the implementation of new software as a replacement but also breaking down and re-engineering the long-established business processes, re-educating the staff and moving the data. This integration forms a Switching Cost Moat by making clients unable to switch through entanglement in operation other than merely having a contract.

The Institutional Trust hypothesis is that to obtain a formal, co-branded recommendation of a prominent corporate partner as their preferred or integrated sustainability sourcing solution is to borrow the authority and the equity of trust of that institution. This recommendation can be seen as a very strong signal to other companies within the network and reduces customer acquisition costs and sales cycles by a very large percentage. It generates a Relationship and Trust Moat, as none of its competitors have similar technology, and years of investment are needed to develop the same measure of strategic trust with a flagship client.

These three hypotheses, which focus on quality, integration, and trust, give a narrow strategic roadmap. They explicitly show what the EcoSphere needs to focus

its effort on experimentation and investment, to transition the venture off of a generic platform to the task of a creator of particular, lasting, and linked defenses against competition in its ecosystem. The second step is one of designing the experiments, which will either prove or disprove these fundamental strategic bets.

Table 3.5 – Validating the hypotheses – experiments & metrics

Hypothesis	Key experiment	Success metrics
Integrity Flywheel	Controlled A/B test vs. traditional sourcing at Pilot Partner Corp.	Higher fulfillment success, reduced audit costs, supplier retention.
Embedded Workflow	Launch a deep API integration within the partner's SAP/ERP system.	Higher feature adoption, increased transaction volume, lower churn.
Institutional Trust	Launch a co-branded sourcing portal (e.g., sourcing.partnercorp.com).	Higher supplier sign-up conversion, positive partner feedback.

Validating the Integrity Flywheel involves a controlled study comparing EcoSphere's matched suppliers to a traditional procurement list at the pilot corporation, measuring performance and cost metrics. Success leads to formalizing the verification process into a certified program.

Testing the Embedded Workflow involves developing and launching a deep API integration within the partner's ERP system. Metrics on adoption and engagement will determine if deeper integrations should become a standard product requirement, thereby increasing switching costs.

Building the Institutional Trust advantage involves a co-branding experiment with the pilot partner, such as a dedicated portal. Measuring conversion rates and feedback will validate the power of endorsement, leading to a packaged white-label solution for future partners.

The strategic roadmap emphasizes using these experiments to convert resources into defensible advantages. The focus must be on evolving complex resources like partnership depth and supplier quality, using the EAL cycle to build a position attuned to the sustainability marketplace.

CONCLUSIONS

The study conducted as part of this qualification thesis has brought about the following main findings.

To begin with, the strategic reality of ecosystem startups is simply different than that of traditional firms and requires a unique approach to analysis. These projects run on networks that have dominance by key stone platforms, have complementor relationships, and have competition that is mediated by attention and integration, as opposed to the industry borders of old. The classical strategic models are still useful, but they need to be systematized to fit the contemporary context: the Five Forces developed by Porter should be rearranged to examine the network position and platform power, the Resource-Based View should focus on intangible and relational resources including API access, community trust, and proprietary integration data, and the Dynamic Capabilities Theory proves to be especially relevant, making agility and adaptability the meta-advantage in dynamic ecosystems.

Second, efficient strategic diagnosis of ecosystem startups requires an integrated methodological toolkit instead of using one analytical tool. The complementary power of combining three methodologies synergistically demonstrated in this research is that Business Model Canvas serves as a structural map, which makes visible critical dependencies on ecosystem actors and resources, the Lean Startup Methodology as an adaptive putting into action engine, which turns uncertainty into validated learning by the Build-Measure-Learn loop, and Moat Analysis as a forward-looking defensibility planning, which prioritizes the growth in switching costs, network effects of ecosystems, specific trust to the ecosystem, and exclusive partnerships as sources of long-term value.

Third, these theoretical and methodological backgrounds are synthesized to provide the key contribution of this study, which is the EAL framework. By offering a structure but allowing flexibility, this four-step iterative model Map and Diagnose, Audit and Scan, Stress Test and Hypothesize, Develop and Adapt successfully offers

ecosystem beginners a channel of navigating networked competition. The framework clearly connects external ecosystem mapping to internal resource auditing, converts these insights into testable advantage hypothesis and creates a perpetuating experiment of building and strengthening defensible positions.

Fourth, the diagnostic strength and strategic usefulness of the EAL framework can be authenticated by using it in relation to the EcoSphere case study. The sequential analysis showed that EcoSphere is a hybrid Value-Adding Layer and Gateway in the sustainability ecosystem that relies on corporate partnerships as well as on keystone ERP platforms. The VRIO-audit revealed a combination of both sustainable (proprietary verification system, knowledge base of founding team) and short-term benefits that had to be actively developed. Based on this diagnosis, three specific and testable advantage hypotheses were developed, namely the Integrity Flywheel, Embedded Workflow, and Institutional Trust each having its own validation experiments and ecosystem-specific metrics.

Fifth, the study confirms that sustainable competitive advantage of ecosystem startups is not a fixed state that may be uncovered but is a dynamic process that has to be systemically built. The EAL framework shows that defensibility is a result of the constant characterization of exterior positioning and inner capabilities, experimented with and strengthened with rigorous experimentation. In the case of EcoSphere, the means to benefit resides in neither any one resource but in the virtuous cycle of verification integrity, embedded workflow, and institutional trust between one another and overall increasing obstacles to imitation.

To sum up, the Ecosystem Advantage Lifecycle model adds theoretical value and practical advice to a rising number of projects whose strategic destiny has been permanently connected to the ecosystems of which they are part. The EAL framework enables ecosystem startups to manage the dependency-autonomy paradox by offering a systematic approach to position diagnosis, auditing, hypothesis testing and progressive development of defensibility, which will turn their embeddedness into the source of sustainable competitive advantage

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