

Lean Startup: A Bridge between Austrian Views of Entrepreneurship

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Abstract

This paper applies Eric Ries's Lean Startup method as a bridge between different Austrian economists' views on entrepreneurship and the market process. Ludwig von Mises focused on the importance of entrepreneurship, whereas F. A. Hayek emphasized the systemic knowledge generated by the market process. Modern management theories of entrepreneurship such as Lean Startup can serve as a bridge between these differing emphases. In this paper, we compare the neoclassical focus on equilibrium and the Austrian focus on the market process and demonstrate how the Lean Startup method solves the knowledge problem with creative entrepreneurship.

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I. Introduction

While entrepreneurship has been long studied by economists, tension remains between mainstream neoclassical economics and Austrian views of entrepreneurship. Neoclassical equilibrium models leave no room for entrepreneurs to be the driving force of change in the market process, something that Peter Klein (2010) calls "a death blow to the economic theory of entrepreneurship" (p. 94). If these models do not allow firms to differentiate themselves from other firms with innovative processes or products, then much of the important work of entrepreneurship is not captured in the prevailing models. Klein also notes that many of the insights from the economic research surrounding theories of entrepreneurship "are viewed as interesting, but idiosyncratic, insights that do not easily generalize to other contexts and problems" (p. 93).

Austrian and neoclassical economists alike are concerned about the efficient allocation of scarce resources. In the neoclassical model, this

concern is captured by what Kirzner (1973, p. 112) calls “Robbinsian” maximization. Horwitz (2019) argues that efficient allocation is important as far as it goes since wise use of resources requires the value of what is produced to exceed the cost of resource inputs: “We want to add, not destroy, value in the process” (p. 22). Yet in pursuit of efficient resource allocation, Austrians understand the solution to be not simply optimization but entrepreneurial action. Monetary calculation is essential, as is incorporating the systemic knowledge of market participants. These essential concepts, flowing out of the socialist calculation debate, originate with Ludwig von Mises and F. A. Hayek. Modern Austrians disagree on how closely Hayek’s thinking aligns with Mises’s. Some scholars (such as Salerno 1993, pp. 115–16) argue that Hayek abandoned Mises’s stronger position in the socialist calculation debate. Don Lavoie (1981, p. 45) counters that Hayek’s differing emphasis was consistent with Mises’s argument, albeit with a different focus. Hayek’s thought was drawn to the emergent market order, whereas Mises’s was more keenly focused on human action.

This difference in focus has economic ramifications beyond socialist calculation. For Mises, the entrepreneur is the central actor in the economy, constantly appraising opportunities emerging from changing market valuations. Contra Hayek, the marvel is not the price system itself but the individual, who necessarily is a *speculator* in a world of uncertainty. For Mises (1949), “The essential elements of economic calculation are speculative anticipations of future conditions” (p. 349). However, not every entrepreneur is a hero in Mises’s story—only those who more successfully anticipate customer needs and more correctly appraise changing data. These entrepreneurs will find more capital flowing to them, whereas less effective servants of scarce capital will see their opportunities reduced. In the Misesian view, economic progress comes from the best speculators. While perhaps not as strongly as Schumpeter (see section 3), Mises nonetheless made the entrepreneur the locus of economic action. Not so Hayek, who reflected on the process from which order emerged. For Hayek, the entrepreneur’s *knowledge* of market opportunities is crucial, captured in what Hayek calls the knowledge of time and place. The competitive market process enables market participants to integrate their plans with others; overcoming the knowledge problem allows order to emerge (Kirzner 1973, p. 14).

These differing emphases can be bridged by modern views of entrepreneurship. In *The Lean Startup*, Eric Ries, using principles from

lean management, promotes a systematic way for startups to successfully emerge. How can startups overcome what Ries calls “extreme uncertainty”? For Ries, most entrepreneurial failures are due to pursuit of visions that do not align with true customer needs. Since consumer desire is often latent, customers cannot tell entrepreneurs what they want. To solve the knowledge problem, entrepreneurs must have the humility to seek beyond their own understanding. When startups test each of their assumptions as hypotheses, they gain *validated learning*. Validated learning allows entrepreneurs more rapid appraisal of what could work. With validated learning, startups create a *minimal viable product* to get crucial customer feedback, enabling the entrepreneur to assess whether there is a viable business model.¹ The Lean Startup process helps overcome Hayek’s knowledge problem and transform the most disciplined entrepreneurs into Mises’s heroes, or loci of economic action. As knowledge is gained, the entrepreneur either presses on or pivots to a new product or process based on knowledge gained.

In this paper, we examine four Austrian perspectives on entrepreneurship, those of Schumpeter, Mises, Hayek, and Kirzner, and then illustrate how their thought can be bridged with Ries’s Lean Startup method. We begin by examining equilibrium analysis, and then we examine who or what is the hero of the story of entrepreneurship. We then more fully describe the Lean Startup methodology and show how it bridges many of the seemingly different Austrian nuances on entrepreneurship.

II. The Austrian Connection: Mises, Schumpeter, Hayek, and Kirzner on Equilibrium

Neoclassical economics uses equilibrium analysis as the starting point for understanding the optimization of resource allocation.² More complex models go beyond comparative statics to dynamics, but these likewise are about movements toward an equilibrium. The complexity of modern macroeconomic models, including Bayesian models, is captured in dynamic-stochastic-general-*equilibrium* models. The equilibrium approach dominates the economic profession. Yet Austrians often eschew equilibrium analysis, viewing the market as a

¹ Another scholar who notes some parallels between Austrian perspectives on entrepreneurship and those of Ries is Edward Stringham (Stringham, Miller, and Clark (2015).

² See Hal Varian’s (2014, pp. 7–11) popular intermediate microeconomics textbook as just one example.

process embodied in individual choices, which are made in an institutional setting. The central economic question is not what hypothetical equilibrium will result from a market change, but rather “how does order emerge from the self-interested choices of individuals?” Rather than focusing on equilibrium, Austrians often ask what institutional arrangements and incentives will lead to enhanced order and mutual compatibility of plans. For Austrians, the concept of equilibrium is at best a hypothetical, and would be considered disequilibrium, or market-process, economists. Ludwig von Mises (1966, pp. 247–48), for example, argued that the concept of an evenly rotating economy is useful as a mental tool to abstract from time and changes in market phenomena, but he asserted that human “action is change, and change is in the temporal sequence.”³ Thus, equilibrium concepts of any type are only imaginary constructs and therefore any lack of conformity to a hypothetical equilibrium does not have any normative implications; e.g., deviations from equilibrium are not bad. Schumpeter, in his *Theory of Economic Development*, assumed entrepreneurial action continuously leads the economy away from the circular flow. For Schumpeter, the circular flow is likewise an abstraction, and his view of entrepreneurship would fit within a disequilibrium framework.

In *Competition and Entrepreneurship*, Kirzner argued that the entrepreneur guides plan coordination in an ever-changing market process that is never in equilibrium. The neoclassical model ignores entrepreneurship, whereas the entrepreneur is the very heart of the market process. Instead of the Robbinsian maximizer, who simply allocates resources optimally for given means and ends, the market process is one in which the entrepreneur is free to disrupt existing means/ends frameworks. The market process features human action that treats “both tasks—that of identifying the relevant ends—means framework and that of seeking efficiency with respect to it—as a single, integrated human activity” (Kirzner 1973, pp. 33–34). For Kirzner, the distinguishing feature of entrepreneurship is *alertness*: the entrepreneur is alert to opportunities potentially available to anyone. Kirzner argued that alertness encompasses Schumpeter’s innovations since creating new production techniques or products requires being alert to existing market imbalance (pp. 79–80). The possibility to correct that imbalance was there for anybody, but only the alert entrepreneur acted.

³ Yet Mises (1966, 247) would assert that it is “inexpedient and misleading to call this . . . the static equilibrium.”

But contra Schumpeter, Kirzner regarded as entrepreneurial any new change in process—even small adaptations in production that generate just a little more efficiency and profit. And key to this article, Kirzner (1973) highlighted the alert entrepreneur as one who *learns*: “To introduce the insight that men learn from their experiences in the market . . . there can be expected to develop systematic *changes in expectations* concerning ends and means that can generate corresponding *alterations in plans*.” (emphasis in original; p. 71).

This focus on the market process and disequilibrium is nowhere as evident as in the socialist calculation debate. In Mises’s (1990) broadside against the possibility of rational economic calculation in a socialist state, he argued:

The static state can dispense with economic calculation. For here the same events in economic life are ever recurring; and if we assume that the first disposition of the static socialist economy follows on the basis of the final state of the competitive economy, we might at all events conceive of a socialist production system which is rationally controlled from an economic point of view. *But this is only conceptually possible. For the moment, we leave aside the fact that a static state is impossible in real life, as our economic data are forever changing, so that the static nature of economic activity is only a theoretical assumption corresponding to no real state of affairs, however necessary it may be for our thinking and for the perfection of our knowledge of economics.* (emphasis added; pp. 22–23)

Fred Taylor, H. D. Dickinson, Oskar Lange, and Abba Lerner would take up Mises’s challenge, ultimately formulating a competitive trial-and-error process based on a neoclassical equilibrium model. Leaving aside the dubious assumptions of the Lange-Lerner model (e.g., central planners have access to consumer preferences and production functions), the optimizing process inherent in the neoclassical model was incapable of solving the true economic problem. As Hayek (1980) argued, solving for equilibrium based on existing information “is emphatically not the economic problem which society faces” (p. 77). Hayek insisted that the central economic problem is not one of optimization but one of which economic system leads to the most complete use of knowledge in society. Rather than being given, knowledge must be discovered in the market process. Indeed, as Buchanan (1982) would later argue, the market process itself leads to the generation of many of the “givens” that neoclassical economics assumes. As Buchanan states, “the ‘order’ of the market emerges *only* from the *process* of voluntary exchange among the

participating individuals. The 'order' is, itself, defined as the outcome of the *process* that generates it. The 'it,' the allocation-distribution result, does not, and cannot, exist independently of the trading process. Absent this process, there is and can be no 'order'" (p. 5).

In Hayek's view, the entrepreneur (like the central planner) is ignorant of much of the critical knowledge necessary for resource allocation, but the market process generates information signals (e.g., market prices as well as profits and losses) that guide entrepreneurs to allocate resources. The price system contains the essential information of social valuations of the use of scarce resources; these valuations allow an individual to adjust their plans to align (or dovetail) with others' plans. Hayek (1945) noted that "the continuous flow of goods and services is maintained by constant deliberate adjustments, by new dispositions made every day in the light of circumstances not known the day before, by B stepping in at once when A fails to deliver" (p. 83). Each individual's unique knowledge of time and place, which includes entrepreneurs' forward-looking expectations, must be integrated into the broader social knowledge communicated via the price system. For Hayek (p. 87), the marvel is the economy of information that is necessary to provide each entrepreneur the guidance to align their behavior with that of others.

While having an Austrian heritage, some would not consider Schumpeter to be a market-process economist.⁴ Yet his distinction between what he refers to in his *Theory of Economic Development* as the circular flow and economic development aligns with the entrepreneurial market process. For Schumpeter, entrepreneurship is the essence of economic development. As Khan (1957) notes, "Schumpeter's great contribution lies in dynamising the system by putting the role of [the] entrepreneur in the forefront and clearly indicating the fundamental differences between this system and the system of equilibrium" (pp. 54–55). For Schumpeter (1950), modern capitalism's evolutionary process is "by nature a form or method of economic change and not only never is, but never can be stationary" (p. 82). As Elliot (2012, p. xix) notes, "In contrast to the stationary processes of the circular flow, Schumpeter's concept of economic

⁴ For just one example, Schumpeter (1942, ch. 16) argues in *Capitalism, Socialism and Democracy* that there is "nothing wrong in the pure logic of socialism." In "The Use of Knowledge in Society," Hayek calls this out as an example of the economist assuming the problem away. Nevertheless, for the limited purposes of this article, Schumpeter fits nicely in this paper because of his understanding of the dynamic, disruptive nature of entrepreneurship.

development (chapter 2) has three salient characteristics; it comes from within the economic system and is not merely an adaptation to changes in external data; it occurs discontinuously, rather than smoothly; it brings qualitative changes or ‘revolutions,’ which fundamentally displace old equilibria and create radically new conditions.” Each of these characteristics highlights Schumpeter’s view that entrepreneurs operate in a highly dynamic disequilibrium economy.

Closely related to the issue of equilibrium and disequilibrium processes is the distinction between risk and uncertainty. In the neoclassical paradigm, the future is characterized by risk: all potential outcomes are known with an associated (even if unknown) probability distribution. Economic analysis thus becomes a Robbinsian maximization problem, with little need for entrepreneurship (as means–ends frameworks are given). Kirzner (1973) argued this view misses much of the rationality of the economic process: “A multitude of economizing individuals each choosing with respect to given ends and means cannot, without the introduction of further exogenous elements, generate a market process (which involves systematically changing series of means available to market participants) . . . [human action] reflects not merely the manipulation of a given means to correspond faithfully with the hierarchy of given ends, but also the very perception of the ends–means framework within which allocation and economizing is to take place” (p. 33).

In a world characterized by risk and perfect information, there is no need for entrepreneurship. As Hayek (1980, 77) argues, in such a world the optimal decision is inherent in the assumptions. In contrast, a disequilibrium (or market–process) view has human action as the driving force: uncertainty characterizes the future, and every actor is essentially a speculator (Mises 1966, p. 253). The means–ends framework is often created by the market process, and profit drives innovation. In a world of uncertainty, with the future unknowable but not unimaginable (Lachmann 1976, 55), there are always opportunities for the hero of the economic story—the entrepreneur.

III. Who Is the Hero of the (Economic) Story?

A. Schumpeter

For Schumpeter, the driving force of change in the economy comes from within the system via the entrepreneur. Entrepreneurship is revolutionary, not evolutionary, “incessantly destroying the old one [economic structures], incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism”

(Schumpeter 1950, p. 83). The innovative entrepreneur—rather than the competitive market process itself—creates new products and processes, driving economic development. Indeed, Schumpeter (2012) denies that evolutionary change is development: “By ‘development,’ therefore, we shall understand only such changes in economic life as are not forced upon it from without but arise by its own initiative, from within. Should it turn out that there are no such changes arising in the economic sphere itself, and that phenomenon that we call economic development is in practice simply founded upon the fact that the data change and that the economy continuously adapts itself to them, then we should say that there is *no* economic development” (emphasis in original; p. 63).

This entrepreneur-led revolutionary change cannot result from any successive series of steps from a prior equilibrium; rather, the change is discontinuous and disruptive. As Schumpeter (2012) says, “Add successively as many mail coaches as you please, you will never get a railway thereby” (p. 64). For Schumpeter, the entrepreneur has “the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself” (p. 187). Schumpeter does not deny that innovation occurs, or that it occurs as a result of consumer needs, but that type of change is restricted to the circular flow: “It is, however, the producer who as a rule initiates economic change, and consumers are educated by him if necessary; they are, as it were, taught to want new things, or things which differ in some respect or other from those which they have been in the habit of using” (p. 65). For Schumpeter, the hero of the economic story is unequivocally the entrepreneur.

B. Mises

Mises’s discussion of the entrepreneur is less concerned with the personal characteristics of an entrepreneur and more with what a successful entrepreneur must do: using monetary calculation, they must appraise changing market conditions and direct resources in response to consumer sovereigns’ desires (1966, p. 254). While not quite as heroic as Schumpeter’s entrepreneur, Mises’s entrepreneur is not passively responding to consumer needs, as these are always speculative. As Mises says, “An entrepreneur cannot be trained. A man becomes an entrepreneur in seizing an opportunity and filling the gap. No special education is required for such a display of keen judgment, foresight, and energy” (p. 314). Mises’s entrepreneur has tremendous responsibilities in the capitalist system. They decide how much capital to deploy, where and how big the enterprise ought to be, and what

financial structure is appropriate for the firm (p. 307). Entrepreneurs are not unlike “their fellow men,” yet they are “superior to the masses in mental power and energy. . . . They are first to understand that there is a discrepancy between what is done and what could be done” (p. 336). They are the heroes of Mises’s story.⁵

C. Hayek

Hayek’s focus is on the emergent order that results from the interaction of market participants, reflecting the knowledge that each brings to the market process. Hayek certainly is aware of the importance and necessity of Mises’s and Schumpeter’s hero, but he focuses on what sort of institutional arrangements are necessary to elicit the systemic knowledge necessary for a market order to emerge. As Hayek (2002) says, “The knowledge of which I am speaking consists to a great extent of the ability to detect certain conditions—an ability that individuals can use effectively only when the market tells them what kinds of goods and services are demanded, and how urgently” (p. 13). Hayek recognizes that decisive action is needed, but the entrepreneur is only able to do this “when the market tells them” (p. 13). The market process operates within an institutional framework in which entrepreneurs can compete to discover (or learn) true consumer preferences and act to satisfy them. Thus, for Hayek, we have as our capital-*H* Hero the market process, which allows for discovery of the small-*h* entrepreneurial heroes of the story.

D. Kirzner

One of the great strengths of Kirzner’s *Competition and Entrepreneurship* (1973) is that he shows how entrepreneurship closes the neoclassical model: there must be someone who is alert to disequilibrium conditions; someone must be alert to the proverbial \$100 bill left on the sidewalk. These opportunities are available to anyone, but only the entrepreneur is alert to what could be done (pp. 39–41). And once an entrepreneur recognizes possible arbitrage opportunities, the existing market order is in disequilibrium (compared to the alert entrepreneur’s

⁵ This in some ways combines what Mises calls the promoter, with entrepreneurship, where the promoter is “eager to profit from adjusting production to the expected changes in conditions, those who have more initiative, more venturesomeness, and a quicker eye than the crowd, the pushing and promoting pioneers of economic improvement.” But Mises adds, “It has to be admitted that the notion of the entrepreneur-promoter cannot be defined with praxeological rigor” (1966, pp. 254–55). Byland (2020, p. 357) disagrees with Mises, arguing that praxeology can define two different types of entrepreneurship (to include Mises’s concept of the promoter).

vision of what is possible). Thus, contra Schumpeter, entrepreneurship is always equilibrating: it takes the market from a state of disorder to order (p. 73). Kirzner's entrepreneur is the driving force in the process taking us from disequilibrium to equilibrium, and that process is the engine of economic growth. Those few who are alert to possibilities to arbitrage away pricing differentials in resource markets, or alert to new production possibilities, are the heroes of Kirzner's story.⁶

IV. Lean Startup

In *The Lean Startup*, Eric Ries's goal is to make entrepreneurship a systematic and repeatable process, limiting the time and resources needed to validate a business model. The presence of extreme uncertainty necessitates entrepreneurship and is the central characteristic differentiating startups from other businesses: startups often do not know who their customers are, what the product should be, or what operations will meet the unknown customers' unknown needs. In most cases, they lack knowledge of time and place. All entrepreneurs begin with intuition, but they need information from other market participants; eliciting that knowledge is the central challenge entrepreneurs must overcome. As Ries (2011; following Steve Blank) argues, the entrepreneur must get out of the building and start learning: "All successful sales models depend on breaking down the monolithic view of organizations into the disparate people that make them up. As Steve Blank has been teaching entrepreneurs for years, the facts that we need to gather about customers, markets, suppliers, and channels exist only 'outside the building.' Startups need extensive contact with potential customers to understand them, so get out of your chair and get to know them" (p. 86),

One of Ries's key concepts is validated learning—learning what a customer actually wants, not what they say they want and not what an entrepreneur thinks they want. As Ries (2011) says, "In the Lean Startup model, we are rehabilitating learning with a concept I call *validated learning*. . . . Validated learning is the process of demonstrating empirically that a team has discovered valuable truths about a startup's present and future business prospects. It is more concrete, more

⁶ Kirzner (among others) reexamined the distinction between Schumpeter's entrepreneur and his own, and he was more sympathetic to the Schumpeterian entrepreneur as being essential in the real world (see Kirzner 1999). Yet Kirzner said, "My obstinacy consists in my continuing to insist that what is important for analytical purposes is not these leadership qualities in themselves, but the pure 'alertness' which these qualities express and sustain" (p. 13).

accurate, and faster than market forecasting or classical business planning” (p. 38).

Ries (2011, p. 55) sees startups as experiments since, in most cases, almost anything can be built. The question is: should it? The goal is to use experiments to learn whether a viable business can be built to meet a need. As Ries says, “The products a startup builds are really experiments; the learning about how to build a sustainable business is the outcome of those experiments. For startups, that information is much more important than dollars, awards, or mentions in the press.” Ries is not denigrating the need for profit as a signal but noting simply that profit is not the initial signal needed to assess viability. Validated learning is not simply the specific facts—it is the process of getting through the learning process faster, “minimizing the total time through this feedback loop” (p. 76).

While Ries argues that following this method leads to higher probability of success, this never eliminates the need for characteristic entrepreneurial skills (e.g., superior judgment,⁷ vision, and drive), as the key entrepreneurial goal is to gain knowledge through validated learning faster than competitors.⁸ To do this, an entrepreneur must enter a build-measure-learn feedback loop, with the objective of minimizing the time it takes to complete the feedback loop. Time minimization necessitates building a *minimum viable product*, which is the most limited product possible to enable customer feedback. A minimum viable product is not necessarily the most rudimentary product; it is the simplest product to get through the build-measure-learn feedback loop quickly. A minimum viable product begins the learning process; it does not end it (Ries 2011, p. 93). A more robust product is wasteful since anything not necessary to gain validated learning is waste; time and resources are being spent to improve a product when a more limited product could successfully complete the build-measure-learn feedback loop. For the Lean Startup entrepreneur, the person who learns fastest wins, and they must learn the answers to these questions:

⁷ See Foss and Klein (2012, p. 234) for an extended treatment on the importance of judgment: “Judgment represents a novel conjecture regarding the used of resources for servicing preferences, resides in the head of an entrepreneur . . . [and] is difficult to communicate.” Thanks to an anonymous referee for pointing out this important work.

⁸ While *The Lean Startup* focuses on startups, Ries argues in *The Startup Way* that this mentality is applicable for any new initiative in an organization of any size that faces extreme uncertainty, from the startup to the Pentagon, allowing entrepreneurial practice to be applied in any institutional context.

1. Do consumers recognize that they have the problem you are trying to solve?
2. If there was a solution, would they buy it?
3. Would they buy it from us?
4. Can we build a solution? (p. 64).

The validated learning process reverses what many entrepreneurs do: build something they believe would sell, and then try to gain customers. Instead, consumers are the primary focus, making it essential to get a minimum viable product into consumers' hands as quickly as possible. This allows for testing of the startup's leap-of-faith assumptions (that is, value and growth hypotheses)—assumptions upon which the whole business model depends. Some would argue that developing a minimum viable product is counterproductive since it will not have the quality that customers want. Yet Ries (2011) pushes back on this idea: "If we do not know who the customer is, we do not know what quality is. Even a 'low-quality' minimum viable product can act in service of building a great high-quality product. Yes, minimum viable products sometimes are perceived as low-quality by customers. If so, we should use this as an opportunity to learn what attributes customers care about. This is infinitely better than mere speculation or whiteboard strategizing, because it provides a solid empirical foundation on which to build future products" (p. 109).

Ultimately, the learning leads an entrepreneur to either pivot—to change the business model in light of negative feedback from the validated learning process—or persevere. While the Austrian view of entrepreneurship focuses on the successful entrepreneur's ability to perform economic calculation and to allocate capital according to consumer preferences (answering the questions Ries raises above), Ries argues that the most essential knowledge is understanding what problems consumers really care about and what might be a viable way to satisfy their needs. Only after this is understood do derivative actions of economic calculation and capital allocation come into focus. The Lean Startup process "builds capital-efficient companies because it allows startups to recognize that it's time to pivot sooner, creating less waste of time and money" (Ries 2011, p. 78). Yet the Lean Startup method is part of the market process, which provides the institutional framework that minimizes social loss. In Ries's model, there are many opportunities for the entrepreneurial hero to emerge: "There is no way to remove the human element—vision, intuition, judgment—from the practice of entrepreneurship nor would that be desirable" (p. 149). For Ries, individuals with these attributes can be more successful if they

systematically apply the build-measure-learn feedback loop to gain validated learning.

V. The Lean Startup Method as a Bridge between Hayekian and Misesian (or Schumpeterian) Entrepreneurship

Austrians view entrepreneurship as essential in a market process since entrepreneurs must speculate about an uncertain future. Yet entrepreneurs must not only have superior entrepreneurial attributes but also be able to reach beyond themselves to elicit systemic knowledge of time and place. Hayek emphasizes that much of the systemic knowledge needed is determined by the market process in the form of prices. Eric Ries's concept of validated learning fits squarely between Hayek and Mises; it is a bridge that joins the entrepreneurial hero of Mises (and Schumpeter) with Hayek's (and Kirzner's) market process.

Ries's methodology begins with conditions of extreme uncertainty: entrepreneurs do not know who the customer is, what the product is, what the underlying need is, nor (necessarily) how to satisfy that unknown need. The Lean Startup method allows entrepreneurs to move beyond the limits of their intuition and effectively run experiments to test hypotheses and validate what Ries calls the "leap of faith" assumptions that are foundational to any business model. This aligns with Kirzner's (1979) description of the market, which "performs a crucial function in discovering knowledge nobody knows exists" (p. 139). Likewise, Hayek (1980) describes the knowledge of time and place:

Today it is almost heresy to suggest that scientific knowledge is not the sum of all knowledge. But a little reflection will show that there is beyond question a body of very important but unorganized knowledge which cannot possibly be called scientific in the sense of knowledge of general rules: the knowledge of the particular circumstances of time and place. It is with respect to this that practically every individual has some advantage over all others because he possesses unique information of which beneficial use might be made, but of which use can be made only if the decisions depending on it are left to him or are made with his active cooperation. (p. 80).

While entrepreneurs begin with their own knowledge of time and place, the critical question is how to elicit knowledge of time and place that others have. Yes, market prices yield some of this, but there is vastly more knowledge available, and *if* the entrepreneur were able to

harness it, they could look more like the Schumpeterian or Misesian hero. This often includes knowledge of consumer preferences that is only generated (following Buchanan) through the market process. The build-measure-learn process of testing hypotheses to yield validated learning leads to a more comprehensive gathering of the systemic knowledge of what the consumer desires than mere access to market pricing does. Indeed, Hayek's description of the knowledge of time and place is almost exclusively focused on what a manager, not an entrepreneur, would be concerned with:

There is hardly anything that happens anywhere in the world that might not have an effect on the decision he ought to make. . . . It does not matter for him why at the particular moment more screws of one size than of another are wanted, why paper bags are more readily available than canvas bags, or why skilled labor, or particular machine tools, have for the moment become more difficult to obtain. All that is significant for him is how much more or less difficult to procure they have become compared with other things with which he is also concerned, or how much more or less urgently wanted are the alternative things he produces or uses. (p. 84)

Managers and entrepreneurs both need to understand the implications of changing market prices. But for the entrepreneur, there are bigger fish to fry—at least in the startup phase. Yet the knowledge they need is that which Hayek would label knowledge of time and place and Ries would call validated learning.

Ries (2011) argues that while this knowledge is essential to avoid waste, it is only a limited part of what makes a successful entrepreneur: “Only 5 percent of entrepreneurship is the big idea, the business model, the whiteboard strategizing, and the splitting up of the spoils. The other 95 percent is the gritty work that is measured by innovation accounting: product prioritization decisions, deciding which customers to target or listen to, and having the courage to subject a grand vision to constant testing and feedback” (p. 148).

In Ries's model, we still need a Misesian or Schumpeterian hero. The knowledge of time and place is essential, but that knowledge needs to be turned into actionable information, and that ultimately requires superior entrepreneurial judgment. The Lean Startup method does not offer a “rigid, clinical formula” (Ries 2011, p. 148) for describing an entrepreneur's decision of whether to pivot (if validated learning reveals that the business model or leap-of-faith assumptions are not valid) or persevere. Validated learning that may lead to a change in

business direction (the pivot) is precisely the kind of function that is captured in Mises's view of appraisal. For Mises, appraisal necessarily includes changing prices but also includes changing market realities more broadly, as the entrepreneur must be able to make superior forecasts, to include forecasting what kind of business model would be successful at meeting customer's desires. These forecasts must also include the entrepreneur's changing judgments about the viability of projects based on market feedback. Ries's pivot is therefore an application of Mises's entrepreneurial function of appraisal. And as Kirzner (1973) argues, "Taken over time, this series of systematic changes in the interconnected network of market decisions constitutes the market process. The market process, then, is set in motion by the results of the initial market-ignorance of the participants" (p. 10). Ries (2011) argues that the essential competitive advantage of an entrepreneur is not reacting to changes in the market, even though that is important, but "the ability to learn *faster* from customers" (emphasis in original; pp. 192–93). This faster response to customer feedback can be considered a form of Kirznerian alertness, and the correcting of market imbalances transforms an entrepreneur into a Misesian or Schumpeterian hero.

VI. Conclusion

Austrian scholarship provides a rich foundation for understanding entrepreneurship within the market process. And while prominent Austrians such as Mises and Hayek have different emphases, modern management literature on entrepreneurship provides a way to bridge their two focuses. Understanding Hayek's knowledge of time and place is an essential task for an entrepreneur to be able to appraise data more accurately and to make superior forecasts. Eric Ries's concept of validated learning thus provides a bridge between Mises and Hayek. And similarly, an understanding of Hayek and Mises helps scholars see how Ries's contribution fits into our understanding of what it takes to be a successful entrepreneur.

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