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For a less dramatic creative destruction: Innovation and entrepreneurship as features of the market process

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Abstract: Innovation is at the core of any market economy and it is necessary for any organization to survive in competitive environments. This article aims to discuss the current approach to innovation seen in most of the management and economics literature and it will suggest that this understanding, loosely based on Schumpeter's ideas on creative destruction, is not capable of representing the actual dynamism seen in the markets. In order to better understand that dynamism, the market process approach of the Austrian School is presented as a substitute. The comparison indicates that adopting the market process approach, in which entrepreneurship and innovation are endogenous and not-necessarily related to breaks or shocks, leads to a much better understanding of the innovation phenomena and, consequently, and opens new paths in the understanding of the entrepreneurial role. The work concludes presenting limitations and suggestions for future research in management, and economics, and finally, some pedagogical suggestions are also given.

Keywords: Innovation, Creative Destruction, Entrepreneurship, Schumpeter, Market Process.

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Para uma destruição criativa menos dramática: inovação e empreendedorismo como características fundamentais do processo de mercado

Resumo: Inovação está no centro de qualquer economia de mercado e é necessária para qualquer organização sobreviver, em ambientes competitivos. Esse artigo objetiva discutir a abordagem atual de inovação, presente na maior parte da literatura de administração e economia, e sugerirá que esse entendimento, vagamente baseado nas ideias de Schumpeter sobre destruição criativa, não é capaz de representar o real dinamismo visto nos mercados. Para entender melhor esse dinamismo, a abordagem do processo de mercado, da Escola Austríaca, é apresentada como um substituto. A comparação indica que, adotando essa abordagem de processo de mercado, em que o empreendedorismo e a inovação são endógenos e, não necessariamente relacionados à quebras e choques, leva a uma melhor compreensão do fenônomeno da inovação e, consequentemente, abre novos caminhos para a compreensão do papel empreendedor. O trabalho conclui apresentando limitações e sugestões para futuras pesquisas em gestão e economia, e, finalmente, são dadas algumas sugestões pedagógicas.

Palavras-chave: Inovação, Destruição Criativa, Empreendedorismo, Schumpeter, Processo de Mercado.

Por una destrucción creativa menos dramática: innovación y emprendimiento como características claves del proceso de mercado

Resumen: La innovación está en el corazón de cualquier economía de mercado y es necesaria para que cualquier organización sobreviva, en entornos competitivos. Este documento tiene como objetivo discutir el enfoque actual de la innovación, presente en la mayoría de la literatura de negocios y economía, y sugerirá que esta comprensión, basada libremente en las ideas de Schumpeter sobre la destrucción creativa, no es capaz de representar el verdadero dinamismo visto en los mercados. Para comprender mejor este dinamismo, el enfoque del proceso de mercado, de la Escuela Austriaca, se presenta como un sustituto. La comparación indica que la adopción de este enfoque de proceso de mercado, donde el emprendimiento y la innovación son endógenos y no están necesariamente relacionados con fallas y choques, conduce a una mejor comprensión del fenómeno de la innovación y, por lo tanto, abre nuevas vías para la comprensión del rol emprendedor. El documento concluye, presentando limitaciones y sugerencias para futuras investigaciones en administración y economía, y finalmente se dan algunas sugerencias pedagógica.

Palabras clave: Innovación, Destrucción Creativa, Empredimiento, Schumpeter, Proceso de Mercado.

Introduction

Innovation is necessary for survival. The importance of the set of phenomena that the innovation processes encompasses is so large that many different sciences, especially economics and management (WADHWANI; LUBINSKI, 2017) show a lot of interest in it.

Entrepreneurial action is a basic phenomenon for both the Schumpeterian and the Austrian approaches (FERRERO, 2019), without such developments, economic growth and social development cannot happen. There is, of course, a deep connection between the role of the entrepreneur and its most fundamental outcome: innovation. But, unfortunately, "entrepreneurship remains outside the basic framework of mainstream economic analysis" (HOLCOMBE, 2007); something similar can be said about the way the topic is treated in business schools and academia more broadly[1].

Schumpeter´s (1942) work brought the discussion on innovation to the mainstream. His jargon 'creative-destruction' is the cornerstone of what the common sense understands as the main results of innovation. Following this path, many authors have been trying to understand the origins and how to foster innovation within organizations and markets.

As in the case of entrepreneurship, innovation is a hot topic. There is a growing importance of understanding these two phenomena from many perspectives. This importance can be credited to the dynamism that innovation imposes to the market, which seems to be increasing.

At the same time, the relationship between individual human action and innovation, however deep, seems to be non-comprehended and tends to be neglected by contemporaneous academia. Entrepreneurs are human actors and innovation, consequently, is a human prerrogative. If one wants to understand innovation, it is thus necessary to consider the actor responsible for the start and conduction of those processes: the entrepreneur (D´ANDREA, 2019a; KIRZNER, 1979; MISES, 1998).

Comparatively, economics – at least part of this scholarship - has been more inclined to try to understand the role of the entrepreneur in the market process (LACHMAN, 1977; 1986) than management studies did. Taking this perspective as a starting point, this work aims at inserting in the management and economics discussion a better understanding about innovation and entrepreneurship, one that is in line with the idea of the market as a process and that is, in opposition to the static market equilibrium approach, usually seen and taught in both economics and management academia. The work will defend the idea that the reading of Schumpeter's work that equates innovation to (mostly technological) 'shocks' – and consequently connected to Research and Development (R&D) [of products and processes][2]

[1] In spite of the increased existence of coursework and even majors in entrepreneurship in many colleges and universities across the globe, those tend to be connected to the "Sillicon Valley" type of entrepreneurship and tend to dismiss the overall entrepreneurship phenomena which is much broader (WELTER et al., 2017). In the academics side, for example, Johansson, Dan and Malm (2017) demonstrate that entrepreneurship is pretty much neglected in economics doctoral programs.

[2] Evidence of this claim is the widespread assumption in academia that innovation can be measured by assessing the amount of money invested in Research and Development, which, per se, is mostly connected to the development of new products (and sometimes, new processes) (OECD/EUROSTAT, 2018; RUFFONI et al., 2018; ZAWISLAK et al., 2012).

efforts - is not capable of explaining the continuous evolution and the dynamics of markets as they happen in reality. At the same time, it will present an alternative to that view, one that is grounded on the solid methodological grounds of praxeology and that endogenizes the role of entrepreneurs and the innovation that arises from their action.

The paper's aim is to discuss innovation theory, but some of the implications of the forthcoming discussions are to be seen in the pedagogical part of academia, since a different approach to entrepreneurship and innovation will be defended, this should have implications in the academic discourse and practice. The essay is further divided into four parts: the first briefly introduces some understanding about innovation; the second deals with the understanding of Schumpeterian ideas that support most of the thinking about innovation in the modern economics and management literature. The third part deals with a different approach, the market process one, that explains innovation from a different methodological standpoint. The final section compares the two and suggests the adoption of the second as the basis for the studies in innovation both in economics and management.

1. Innovation and what it is

"All theories of business eventually become obsolete. As a result, one competency that all organizations must have is the competency of innovation, preferably systematic innovation" (MACIARIELLO, 2009). Innovation is probably the most pervasive topic in management, Fagerberg (2006) illustrates the fact showing that in 2004, almost 20% of his sample of Social Sciences articles had 'innovation' in their titles, up from around 1% in 1955. The set of phenomena generally known as innovation is endogenous and it is the fundamental characteristics of any dynamic market arrangement (HUNT; MORGAN, 1997). Innovation's consequences are summed-up in the 'creative destruction' jargon (SCHUMPETER, 1942, Chapter 7).

There is not a single widely accepted definition for innovation, but a first step to understand it is to set the differences between invention and innovation. Innovations depend upon inventions, but not all inventions become innovations. More to the point, usually a number of different inventions will be needed for the success of a single innovation; in that sense, while invention can be defined as anything which is new in any sense, innovation should be understood as the commercial introduction of something new to a particular market (FAGERBERG, 2006, Chapter 1). The most useful understanding of the term is even more specific, innovation can be equated to the commercial introduction of something new to a particular market provided that this introduction brings new sources of revenue to the organization, sources that would not be available otherwise.

The goal of innovation is creating new value, generating positive impacts on organizations. Changes that have favorable consequences to organizations can be considered true innovations (KOTSEMIR; ABROSKIN; MEISNER, 2013)[3] and will be reflected in the financial figures,

[3] Kotsemir, Abroskin, & Meissner (2013) also present a very good discussion on the historical context in which the innovation concept emerged and the various ways in which innovation is understood. There is literature that disputes that kind of understanding of innovation, however, they normally do not offer a clearcut alternative, which leads to lack of clarity in the communication.

either by increasing revenues or diminishing costs. Due to its nature, innovation can only be classified as such *a posteriori*, consequently companies that claim to 'invest in innovation' are really investing in trying to innovate.

Complementary, Freeman and Soete (1997) talk about degrees of innovation by comparing the degree of change to the present standard in the following way: radical innovations are the ones that take a bigger leap forward from the current technological arrangement and end up affecting the industry/business as a whole, while incremental innovations are represented by small changes in the current technology that will hardly change the industry or the way of doing business, they exist especially to increment the productivity of the particular system in which they were implemented maintaining the overall arrangement. In their research, most academics only address radical innovations happening in technology oriented business and tend to equate this with entrepreneurship, neglecting the "other", much more widespread, type of entrepreneur (WELTER et al., 2017).

The 'classic' way to innovate is to have an internal Research and Development (R&D) division which will vertically control the whole process, from the investment in pure-science to the delivery of a final product to the market in a continuous and one-way flow. This is known as the 'closed innovation' paradigm (KNIGHT, 1967; PAVITT, 2006) and almost excludes organizations that do not produce products (think about wholesalers and retailers, and many service businesses, for instance) from the whole innovation agenda, it encapsulates innovation in a very narrow type of company, the manufacturers. This approach was the cornerstone of innovation in major corporations in the developed world for most of the 20th century. This idea deeply impacted the whole management understanding and, in particular, the role of marketing within firms, instead of thinking about the market first, companies had a product that had been fully developed internally - usually based on a technological development that was pushed into through various stages until a product ready to be commercialized was considered good to go to the market -; the company now needed to sell that product as much as possible, pushing it as much as possible on the consumer market, marketing became the business area responsible for the sales of that product. Management, in general, was responsible for making the whole thing work as flawlessly as possible. This kind of approach sees the word as mostly stable and, consequently, predictable. In this view, the organization is capable now of predicting what the consumers will buy a number of years from now and everything in between those decisions will work as planned.

More modern theoretical developments, based on dynamism seen in the market, see that a broader approach to the innovation processes, via the integration with stakeholders, may lead to better chances of success. This includes integrating the consumer in the process (MCKENNA, 1991), and gave rise to the customer-centric innovation (CCI) that aims to drive innovation efforts away from an inside-company paradigm to somewhere closer to the (potential) consumers (SELDEN; MACMILLAN, 2006). A spillover of the same thinking is also seen in the growing collaborations with other stakeholders, besides the consumers, which originated the broad concept of open innovation (CHESBROUGH, 2003; RANDHAWA; WILDEN; HOHBERGER, 2016). In that paradigm, organizations starting point is to try to understand the market(s) that they aim to serve, after that, they will possibly be able to develop and offer products that would fit future needs and desires. Contrary to the closed innovation paradigm, open innovation

involves enlisting the market (not only the consumer market, but the stakeholders in general as well) as a direct participant in the innovation process.

Moreover, innovation is not only about technological development, as R&D is mostly about, but it can and should be found and built on other parts of the organizations, more specifically, innovation can be seen in: products, processes (operations), management (business administration and model) and transactions (marketing) (OECD/EUROSTAT, 2018). Lundvall and Borrás (2005, p. 604) state that the emergence of this reasoning, in the mid 1990's, marks "the first time that innovation becomes widely accepted among economists as a fundamental factor that needs to be analyzed and understood".

Those four sources of innovation can been divided into two drivers, a business driver that includes management and transactions, and a technological one, that includes the development of products and operations (ZAWISLAK et al., 2012, p.20). Among them, the innovations that are centered on the softer capabilitites - related to the business driver - are much harder to imitate, so, innovating in the business driver usually leads to more durable competitive advantage, findings such as Lieberman & Montgomery's (1988) support that claim.

2. Schumpeterians and the 'creative destruction' approach

Schumpeter's (1942) sociological and economic analysis of the capitalist system and his position on the superiority of the market-based approach to understand the development phenomena were not always clear. Schumpeter was critical to the formalistic approach to economics that, in his view, lead to a lack of understanding of real competition, but he was also a big fan of the Walrasian general equilibrium approach[4], that was opposed to the market process approach presented by the Austrian School since Menger's original discussion on subjective value (BOSTAPH, 2013), he was "attracted far more" to the general equilibrium authors (SCHNEIDER, 1951, p. 104). At the same time, he believed in the feasibility of a socialist economy; he admired Karl Marx's sociology and was skeptical of his economics (SWEDBERG, 2003).

Moreover, although he was a contemporary of Mises and attended some of Mises' seminars in Vienna (HÜLSMANN, 2007), he believed that the capitalist system would naturally evolve to a socialist one; defendind the use of a Walrasian perspective, a static economy model (SALERNO, 1999, p. 40)[5].

This lack of clarity may have lead to some misunderstanding of his positions by a important part of his so called representatives. And it can be partially explained by Schumpeter's own early training at the Theresianum in Viena, where students were taught that they "should know the rules of all parties and ideologies, but not belong to any party or believe in any one opinion" (SWEDBERG, 1991, p. 12), consequently, Schumpeter's own idea was to employ

[4] In fact, Schumpeter referred to Walras as "by far the greatest economist of all time" (SAMUELSON, 1951, p. 103).

[5] "To set forth a theory of economic change from a Walrasian perspective, Schumpeter had to begin with the economy in a real state of general equilibrium. He then had to explain change, but that change always had to return to a state of equilibrium, for without such a return, Walrasian equilibrium would only be real at one single point of past time and would not be a recurring reality" (ROTHBARD, 2011, p. 263).

a 'pragmatic approach' in which the right method depended on the specific problem that is under consideration and that methodological disputes could not be settled a-priori (FERRERO, 2019, p. 16; SCHUMPETER, 2010, p. 16). Hülsmann (2007, p. 167) disagrees and affirms that "Schumpeter was the first real positivist among economic theoreticians". Those seemingly incohent thoughts have been extensively criticized and suggestions have been made saying that Schumpeter's flawed understanding on the entrepreneurial role lead to his wrong conclusions (MCCAFFREY, 2009)[6].

As Langlois (2002) states, this dichotomy in Schumpeter's thinking developed into a strange outcome in most of the discussion on creative destruction and, consequently, on innovation and entrepreneurship. This lead to the "two Schumpeters" idea in which an 'early' one was supposed to believe in the importance of entrepreneurs to the dynamism of the market process and the innovation that it entangles; and a latter one that replaced the entrepreneurial role with a bureaucratized model of economic organization, the firm, that, in order to escape the lack of investment funds arising that underlies the circular flow idea put forward in Schumpeter's approach, would need to be financed by capitalists, the bankers, that firm financed by bankers would sock the market, imposing changes to the previous equilibrium and taking the same market to the next equilibrium (FERRERO, 2019).

Many [probably most] students of Schumpeter adopted this later view and ended up dismissing the role of the entrepreneur and its importance to the market process while Schumpeter himself never explicitly did so (LANGLOIS, 2002), in spite of his aforementioned flawed understanding of the entrepreneurial role (FERRERO, 2019; MCCAFFREY, 2009).

The approach that considers (usually large) companies as the fundamental drivers of innovation has yet another perverse outcome, as soon as one starts to think about innovation as an exclusive feature of big companies, and since big companies tend to adopt a 'closed innovation' paradigm, innovation itself becomes connected to the 'technology shocks' - technological changes that deeply affect production outcomes through the invention of new production processes, the improvement of existing ones (ALEXOPOULOS, 2011), or, more broadly, to the creation of disruptive products (ARGYRES; BIGELOW; NICKERSON, 2015). A perfect storm is formed: one sees innovation as connected to large organizations, those tended to adopt a closed innovation paradigm, and for it to happen, investment in R&D and technological innovation was needed. In that arrangement there is pretty much no role left for a theorethically solid comprehension of the entrepreneur[7].

Creative destruction, as understood in that 'creative destruction' paradigm, is closely associated with the technology shocks and the break in the current technological standard that will discontinue the current market walrasian equilibrium only to create another equilibrium,

[6] Ferrero (2019) suggests that Schumpeter's entrepreneur would be dependent upon new money created by banks and distributed by bank owners, capitalists. Schumpeter would have used that image in order to be able to deal with the market dynamism that was, already by the time he was writing, very easy to perceive in reality.

[7] Ferrero (2019) suggests yet another issue: since the 'late' Schumpeterian approach depended on external financing, coming from the banks and its capitalists, to impose change to the market, and since bankers will tend to lend to larger companies, innovation, once again, will only emerge in those larger companies that are able to get financing from banks. Entrepreneurs in this view would be responsible for managing that new, disruptive, shock-provoking, production process.

ideally closer to the Pareto optimum. Once again, by taking that stance, the whole market process approach (BARBIERI, 2001) is dismissed and the fundamental dynamism of the market is forgotten. This understanding of the overall innovation phenomena is right in certain aspects[8], but it gets the causal-connection wrong because it adopts a general equilibrium point of view (even if not explicitly). Finally, understanding innovation from that perspective naturally places the changes as exogenous to the market, i.e., they do not belong in there and are seen as breaks, represented mostly by the aforementioned technological shocks.

3. The market process approach to innovation

The idea of the market as a process (contrasting to the mainstream microeconomic and business thinking) is to be connected to Menger's developments and the birth of the Austrian School of Economics (KIRZNER, 2002) and has seen lots of theoretical developments emerging from Hayek's contribution on the knowledge problem and the fierce debates between Lachmann and Kirzner during the 1970's and onwards (BARBIERI, 2001) among many other, more recent, contributions.

In this approach, the market is seen as a continuous process of discovery that goes on because of an entrepreneurial action. Consequently, the economic function played by the entrepreneur is fundamental *per se*, as Mises (1998) puts, the entrepreneur is the motor, the engine, of the market process.

Following that path, Foss and Klein and some co-authors (FOSS et al., 2002; 2007; FOSS; KLEIN, 2012; KLEIN, 2010) developed the idea of "Judgment-Based entrepreneurship". It takes a methodological individualistic perspective and looks at the economic function of the entrepreneur as the actor responsible for using his subjective and limited knowledge to judge, combine and recombine resources in order to bear the inherent Knightian uncertainty of the market, while risking his own assets in search for economic profit (D'ANDREA, 2019a). The judgment-based approach to entrepreneurship (JBA) is based on the ideas of Cantillon, Mises and Knight, in it, the entrepreneur uses his subjective evaluation of the future to try to create something that a profitable piece of the market will be willing to acquire by the time the product goes into the market. This approach considers both, the entrepreneurial action and its outcomes, as endogenous to the market process and not alien to it, as in the 'creative destruction' paradigm[9].

[8] It is impossible to deny that there are entrepreneurs and firms that act pretty close to what Schumpeter theorized, but they are far from being the norm in the market.

[9] Some might argue that the JBA is actually very similar to the 'creative destruction' suggested by Schumpeter and that adopting the JBA would not endogenize innovation, the same way the creative destruction approach does not endogenize it. However, the discussion here is focused on the particular understanding of creative destruction as external shocks that fundamentally change the market landscape (see Ferrero (2019) for an explanation of how Schumpeter considered the entrepreneur). the JBA together with the ideas presented by Bylund (2016) and D'Andrea (2019a) encompasses that kind of innovation, but it is not limited by it. The idea being presented here is, by consequence, different from the most common understanding of the creative destruction approach because it does not see the market as in a equilibrium state being broken by the creative destruction, but sees it as a continuous flow of entrepreneurial action that generates change and innovation.

In this setting, future profit streams depend not only on the market and its conditions, but **mainly** on the agent. The market supplies the grounds for those profit-seeking organizations to be created by the ingenious minds of the actors who hold one of (probably) the most valuable resource: [subjective] knowledge (ALVAREZ; BUSENITZ, 2001). For the JBA entrepreneur, the future is to be created, so the possibilities are much greater and limited only by his own ability to foresee what he aims at achieving and his ability to own (or at least control) the capital necessary to fulfill his plans.

The judgment-based entrepreneur is based on a solid methodological foundation and is coherent with the market process approach. Moreover, it deals with innovation as a natural phenomenon that might happen in all kinds of entrepreneurial settings and in different parts of the organizations, independent of their type (for and no-profit, service or product based, B2B or B2C, etc.) (D'ANDREA, 2019a). This approach is greatly complemented and exemplified by the break of the specialization deadlock suggested by Bylund (2016).

Bylund explains that the entrepreneur innovates when he adds to the production structure a different, previously inexistent, step. Essentially, the entrepreneur, when acting in search for competitive advantage, invents new ways (in terms of products, processes, managing or marketing) of producing a product or a service. Those breaks in the former 'specialization deadlock' will expand the market and the possibilities of action for both new and previously existent entrepreneurs, but it will only be considered innovations in cases in which they do lead to more efficiency and consequent financial gains to the actor. In this view, by definition, every successful entrepreneurial action, by specializing and expanding the division of labour, changes, to some degree, the competitive landscape while leading it to a direction in which more value is being created overall.

4. An Austrian way of analyzing innovation

Organizations are always struggling to create and maintain competitive advantages. This adaptive movement is based on innovation and its various sources, even when they do not explicitly mention them.(D'ANDREA; LUCE, 2019).

Market organizations that do not embrace change will, eventually, be expelled from the competitive arena. Some others that try to innovate, but are unable to, will also disappear. It is so the role of the entrepreneur to continuously break the many different specialization deadlocks, while adapting the newly invented production process to the pre-existing structure of production, in search for new competitive advantages. This deadlock-breaking movement should not, however, be understood as a 'technological shock', as innovations are seen in a great part of the readers of Schumpeter, but as a natural and fundamental feature of a healthy market process, as defended by the Austrian School tradition, one that will expand the structure of production by increasing the specialization (and augmenting the number) of steps in the production processes.

In the 'creative destruction' approach, the technological shocks come and destroy a previously existing equilibrium, creating a new one and leaving little room to insert the time dimension in the explanation. In the case of the market process approach, innovations are the way markets evolve naturally in a continuous process of trial and error, of creation, discovery,

and uncovering of solutions, this all happens based on entrepreneurial action (D'ANDREA, 2019a), moreover, the market process approach is consistent of natural inception of the time dimension, one of the differentiating features the Austrian School approach to economics (IORIO, 2011; 2015).

The difference between the exogeneity of innovation in the creative destruction approach and the endogeneity of it in the market process approach is a fundamental insight for both economics and business scholarships.

Understanding innovation as a feature of the market process is necessary to better understand the dynamism of the market itself. It is impossible to analyze or understand market phenomena correctly from an incorrect methodological standpoint. When most of the literature in economics and management that deals with innovation (at least passively) accepts that innovation is about radical change and [mostly technological] shocks, the vast majority of (incremental and non-necessarily tech-related) innovations, and the fundamental role of the entrepreneur, goes unnoticed.

To stress the importance of the entrepreneur, one can refer to Holcombe (2003, p. 33) "Each entrepreneurial action creates more entrepreneurial opportunities, increasing the pool of entrepreneurial opportunities as entrepreneurship takes place", i.e., because of the increasing specialization, the more entrepreneurs there are, the more the markets are expanded, the more individuals will be able to act entrepreneurially.

Most innovations occur in small, tiny steps in every process, every single hour of the day, in all organizations all over the world. The entrepreneurial action that tries to break the specialization deadlock looking for competitive advantage is what really defines the market process and, in particular, innovation.

The studies in management and economics that deal with innovation and the dynamism of the market process have much to benefit from the adoption of the methodological individualistic approach, based on the economic function of the entrepreneur as seen in the JBA and complemented by the ideas of Bylund (2016) and D'Andrea (2019a). The creative destruction approach derived from the Schumpeterian ideas is uncapable of dealing with most of the innovation that actually happens in the market process, consequently, adopting it to the study of innovation itself limits the understanding of innovation as a broad phenomena. Because the approach based on (a possible misunderstanding of) Schumpeter's idea is, by far, the most widespread about innovation, most of the management literature and many of the economics discussion never mention the entrepreneur or his role, when this happens, the connection between the responsible for the fact and the fact itself goes untouched.

The JBA entrepreneur (with the additions previously mentioned) as well as the Schumpeterian entrepreneur are both responsible for the changes in the state of affairs in a given economy, but they are not the same, especially because they have very deep methodological differences that cannot be overseen by an analyst of real, dynamic, markets.

Conclusions

The disciplines of management and economics overlap in a series of ways. Entrepreneurship in particular has been suggested to be connected to strategy because they both have innovation as the underlying phenomena (D'ANDREA, 2019a; DAVIDSSON, 2016). Innovation happens in all organizational settings. However, large firms often have more difficulties to innovate than smaller firms do, especially because of their higher levels of bureaucracy. In that perspective, it seems imperative to have people inside those companies that are able to act entrepreneurially to guide the innovation.

It is crucial to better understand how the entrepreneur can play this particular role in larger organizational structures - without losing the incentives that lead to entrepreneurial action. It is not possible, for instance, to appoint a manager to an entrepreneurial venture without him having power to exercise judgment or without risking his own wealth.

In that sense, managers in 'entrepreneurial initiatives' inside larger organizations should act, in fact, as entrepreneurs. In those cases, it would be important to appoint people that hold entrepreneurial characteristics as asked by Sarasvathy (2009) and by DuBrin (2010). It is also advisable to understand which would be the best set of incentives and intra-organizational settings for each particular situation in which such a behavior could flourish. It is also very important for decision makers above those actors to be aware of the possibilities of failure, after all, uncertainty will be higher for those that try to guide the market than for those that try to simply follow it.

In spite of the understanding of very relevant neo-schumpeterian scholars that say that the "core ideas of Schumpeterian theory are of course quite different from those of neoclassical theory […]. The competitive environment within which firms operate is one of struggle and motion. It is a dynamic selection environment, not an equilibrium one [… and] innovating entrepreneurs are critical forces for economic growth" (NELSON; WINTER, 1974, p. 890), most of the literature (in management and economics) that deals with entrepreneurship and innovation seem to forego the entrepreneur and even innovations that are not directly related to R&D [mostly tech-related] investment. The reasons for that are probably many, some of which have been outlined in this paper, but a research to uncover more specific answers still needs to be made. An educated guess would suggest to start from the prevalence of positivism in the social sciences and the consequences of the 'need to measure to be scientific' to the field of innovation both in management and economics. More broadly, the whole topic of positivism in the social sciences is yet to be explored, it is necessary to understand how modern, mathematized, models and even the most recent trends (for instance, the ones that use artificial neural networks, artificial intelligence and big data) necessarily undermine the inherent uncertainty of entrepreneurial action.

As for the pedagogical reflections, it is suggested that professors of economics, particularly at business schools and the courses that deal with innovation and entrepreneurship, have got to stay away from the most common understanding of the innovations phenomena, the radical innovations connected to the Sillycon Valley startup, and must embrace 'Everyday Entrepreneurship' (WELTER et al., 2017) in their teachings and research. In that sense, it is

possible to see that there is still much room for contribution and development of Austrian ideas in the management scholarship and in business schools in particular.

Additionally, a deeper integration of Schumpeterian (i.e., evolutionary) views of innovation and the JBA remains to be done, a scratch has been built on Ferrero (2019) and outlined in the present paper, an integration with the Austrian theory of business cycle, for instance, would be of great value. On a parallel path, a pedagogical study, complementary to D'Andrea (2019b), of the content of business school coursework considering Austrian ideas, along with suggestions for how to better integrate these ideas in the broader management scholarship would be much appreciated.

In conclusion, this essay tried to shed some light on the discussion about innovation that occurs both in economics and management from a more robust methodological perspective. The theory that supports entrepreneurship in Austrian Economics (BYLUND, 2016; D'ANDREA, 2019a; FOSS; KLEIN, 2012) is capable of facilitating the understanding of the innovation phenomena in a much stronger way than the usual 'creative destruction' approach to which management students and scholars are presented.

This 'Austrian approach to entrepreneurhisp' has a lot to collaborate with the understanding of firms in the market and their constant search for survival. It is the role of the management researchers interested in a sounder understanding of innovation to overcome the "not invented here" complex and use the knowledge coming from Austrian Economics to foster their comprehension of the phenomena under their scrutiny. At the same time, it is the duty of interested economists to replace the entrepreneurs in the center of their analysis of the market and innovation phenomena.

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