TOWARD AN “AUSTRIAN” THEORY OF SUSTAINABLE COMPETITIVE ADVANTAGE: THE ROLE OF VALUE-ENHANCING COMPETITIVE ACTIONS

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ABSTRACT

We develop a dynamic model of sustainable competitive advantage in hypercompetitive environments. We argue that competitive advantages of firms can be sustainable even if resource-based advantages of firms can be quickly replicated by rivals or when the barriers to entry are almost non-existent. This is accomplished through intensive entrepreneurial activity of firms during the equilibrating tendencies of the market process. We develop a concept of value-enhancing entrepreneurial actions to show that the intensity with which a firm recognizes more productive resource combinations and progressively enhances the value of its products and services is primary driver of sustainable competitive advantage. We then complement the Austrian methodological individualism with the network embeddedness to provide more comprehensive, contextualized understanding of sustainability of competitive advantages in hypercompetitive environments.

Keywords: Sustainable competitive advantage, Austrian economics, entrepreneurship, inter-organizational networks, competitive actions
“One of the most serious tensions in strategic management research today is the ongoing debate about the sustainability of competitive advantage” (Makadok 1998: 683). On one hand, the dominant theories in strategy research posit that a firm’s competitive advantage can be relatively durable. The sustainability of competitive advantages is, in general, explained by identifying factors that pose ex-ante or ex-post limits to competition (Peteraf 1993). Often, the sources of the sustainability of competitive advantages are recognized either in the characteristics of the industry (e.g., high barriers to entry) (Porter 1985) or in firms’ strategic resources that competitors are unable to replicate (Barney 1991; Wernerfelt 1984). Thus, according to this view, firms gain sustainable competitive advantage when competitors have ceased their efforts to imitate their advantages (Barney and Arikan, 2001).

On the other hand, some researchers have challenged the sustainability argument. They posit that in today’s hypercompetitive environments firms cannot protect their competitive advantage because any resource or strategy quickly imitated or leapfrogged by rivals. Here, competitive advantage is transient. Yet, firms can profit only when they continuously create new advantages and destroy the old ones. Thus, instead of focusing on the factors that pose limits to competition, firms need to frequently develop first-mover advantages and proactively disrupt the status quo on the market (D’Aveni 1994).

However, despite the obvious disagreement in respect to the durability of competitive advantages, both perspectives implicitly assume existence of market equilibrium. Researchers who posit that competitive advantages are sustainable assume that the market is in a state of imperfect market equilibrium, whereas those who deny the sustainability argument assume that equilibrium is quickly established after an innovative action has disrupted it. As a result, both perspectives ignore the equilibrative function of entrepreneurship in the market process. In this
paper, we argue that entrepreneurial tendencies of firms during the equilibrative market processes are crucial for gaining sustainable competitive advantage. We develop the concept of value-enhancing entrepreneurial actions to illuminate this equilibrative role of entrepreneurial actions in the market process. We argue that the intensity with which a firm initiates value-enhancing actions (as opposed to value-creating actions) relative to those of rivals determines its ability to gain sustainable competitive advantages. Here, we believe that competitive advantage exists when a firm’s products and services are perceived by customers as superior to those offered by closest competitors. The competitive advantage is sustainable when a firm persistently offers superior value to customers relative to rivals.

Following Hayek (1948, 1945), we assume that market is always in disequilibrium. This “always disequilibrium” state is generated by two distinct kinds of forces: those that are disequilibrative and those that are equilibrative. Individual actors (firms) generate disequilibrative forces when they make revolutionary discoveries of radically new products, production factors, sources of supply, or new technologies (Schumpeter 1950). This Schumpeterian process of “creative destruction” moves the market away from complete coordination (i.e., imaginary state of equilibrium) by creating a larger space of unrealized but potentially available combinations of productive resources for offering better, cheaper, or more desirable ways for satisfying customers’ needs and wants. We refer to this disequilibrative entrepreneurial activity of firms as value-creating entrepreneurial tendencies.

Once value-creating entrepreneurial tendencies of firms have created new possibilities, firms engage in intensive value-enhancing entrepreneurial activity. We define value-enhancing entrepreneurial activity as the tendency of firms to introduce a series of competitive actions (e.g., improved quality, new versions of the products, new features, increased product performances,
or lower prices) that augment the value of products and services for customers. Firms show value-enhancing entrepreneurial tendencies when they frequently recognize how the potentially available resources can be recombined to progressively offer better, cheaper, or more desirable products and services. By recognizing more productive uses of the available resources, these entrepreneurial actions move the market closer to the imaginary state of equilibrium, by creating “…higher degree of coordination both with the true pattern of technological possibilities and the pattern of consumer preferences…” (Kirzner 1999: 15).²

The distinction between value-creating and value-enhancing entrepreneurial tendencies of firms, we argue, is crucial for resolving the tension between the two contrasting perspectives in strategic management discussed above. Specifically, similar to the sustainability of competitive advantage argument, we acknowledge that competitive advantages of firms are sustainable even in highly competitive environments as suggested by Makadok (1998). However, sustainability of competitive advantages is not a result of reduced or ceased competitive rivalry as resource-based theory suggests (Barney and Arikan 2001). Rather, it is accomplished through an intensive entrepreneurial alertness and recognition process through which firms progressively “see” more productive resource combinations that enable them to out-compete rivals by more intensively enhancing the value of their products and services. This value-enhancing entrepreneurial activity enables firms to stay ahead of competitors and earn sustainable competitive advantages.

ENTREPRENEURIAL TENDENCIES OF FIRMS AND SUSTAINABILITY OF COMPETITIVE ADVANTAGES

Value-Creating (VC) Entrepreneurial Tendencies

According to Schumpeter (1939), entrepreneurship is a force that drives the market into disequilibrium. The role of entrepreneur “…is to reform or revolutionize the pattern of
production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening a new source of supply of materials or a new outlet for products, by reorganizing an industry” (Schumpeter 1950: 56). The entrepreneur here is seen as a pioneer who introduces innovative products and technologies and thus creates new demand, new supply, or both. Similar to the concept of mutations in evolutionary biology, Schumpeter describes entrepreneurship as an incessant process of destroying the old and creating the new (Schumpeter 1950). Kirzner (1973) reinforces this perspective and states: “…for Schumpeter, the entrepreneur is the disruptive, disequilibrating force that dislodges the market from the somnolence of equilibrium” (127). In our paper, we will refer to these tendencies of firms to disrupt the status quo on the market by discovering and introducing revolutionary discoveries as value-creating entrepreneurial tendencies. Thus, firms exhibit value-creating entrepreneurial tendencies when they frequently develop radically new technologies or when they discover new customer wants and create new product categories.

Most of the extant research in corporate entrepreneurship refers to this value-creating role of entrepreneurs in the market process. Indeed, such value-creating entrepreneurial tendencies are often conceptualized as: Systematic and recurring patterns of entrepreneurial behavior of firms reflected in firms’ tendencies to proactively introduce new products and services ahead of competitors, the pursuit of technological leadership and innovation, or to undertake risky investment opportunities (Miller 1983; Miller and Friesen 1978; Jennings and Lumpkin 1989; Covin and Slevin 1991, Covin and Miles 1999; Lumpkin and Dess 1996). Here, firms that exhibit value-creating entrepreneurship are expected to more frequently than rivals disrupt the market equilibrium and create first-mover advantages and profits (D’Aveni 1994).
Value-Enhancing (VE) Entrepreneurial Tendencies

However, to limit the role of entrepreneur merely to that of a pioneer who introduces revolutionary innovations obscures the true nature of the market competition. Firms compete by continuously discovering how their unique knowledge and resource potential that are used to offer more appealing product designs, to increase product quality or performances, to offer better prices or superior warranties, or to offer more convenient distribution approach. These actions are not so much single revolutionary, disruptive innovations as they are instead a series of clever, oftentimes-subtle entrepreneurial discoveries for satisfying customers’ wants in a slightly better, cheaper, or more desirable way. Indeed, Kirzner (1973: 12) describes this competitive market process as follows:

“…[firms] are continually testing their competitors. Each inches ahead by offering opportunities a little more attractive than theirs. Competitors, in turn, once they become aware of what they are competing against, are forced to sweeten still further the opportunities they make available to the market; and so on. In this struggle to keep ahead of one’s competitors…, market participants are thus forced by the competitive market process to gravitate closer and closer to the limits of their ability to participate gainfully in the market” (12).

Each discovery of a slightly better or cheaper way for satisfying customer preferences implies that a firm has made better use of the available resources (Kirzner 1999). For as Rothbard (2004) argued, “…the greater value of the factors [resources] is due solely to their being more highly demanded by the consumers, i.e., being better able to satisfy the desires of the consumers” (511). Thus, by recognizing how potentially available resources can be rearranged to better satisfy
customer wants, firms’ entrepreneurial actions move the market toward higher coordination with technological possibilities and consumer preferences (Kirzner 1999).

A focus on only the \textit{disruptive} effects of entrepreneurial tendencies of firms and ignoring this \textit{equilibrative} role of entrepreneurship fails to provide a comprehensive, yet nuanced understanding of the role of the entrepreneur the competitive success of firms. Indeed, the discovery of new demand, new supply, or both can only explain firms’ abilities to create first-mover advantages. However, ability of firms to create first-mover advantages tells us little about how firms can \textit{sustain} those advantages in the face of fierce and swift imitative forces and sustain above-average profits. Although the discovery of a new product or technology is an important step toward creating superior performance, it only creates a potential for gaining sustainable competitive advantage (Lieberman and Montgomery 1988). Whether a firm will sustain first-mover advantages will depend to a large extent on its ability to \textit{progressively upgrade and enhance} the value of the new products or services. Again, we refer to this tendency of firms to introduce series of actions that augment the value of products and services for customers as value-enhancing entrepreneurial tendency. These are principally an equilibrative force that moves the market into better coordination by recognizing more productive uses of the available resources on the market.

\textbf{VE Entrepreneurial Tendencies and Sustainability of Competitive Advantages}

Figure 1 illustrates the role of value-creating and value-enhancing entrepreneurial activity as equilibrative and disequilibrative forces in the market process. The dots in diagram 1 represent three products (automobiles) offered by three competing firms, say, Toyota, GM, and Ford. The curve represents the existing productive possibility frontier. The area within the frontier represents all possible resource combinations for producing value to customers. A firm that
offers a product closer to the productivity frontier offers better value (i.e., customer-perceived quality/customer-perceived cost) than products positioned farther inside the productivity frontier. No points are seen beyond the productivity frontier at this time because the frontier represents the maximum possible value (i.e., quality/cost ratio) that can be produced with presently available resource potential in this subset of the economy (production of motor vehicles).

Here, Toyota is closest to the production possibility frontier and is thereby more capable of offering superior products to those offered by GM and Ford (Toyota offers either better quality for similar price, or better price for similar level of quality, or both). The arrows in diagram 1 illustrate the role of value-enhancing entrepreneurial activity of firms. Here, they indicate that Toyota has created this advantage because of its entrepreneurial ability to more intensively recognize more productive resource combinations than either GM or Ford.

Now, imagine that Ford makes a breakthrough discovery of new alternative-fuel technology. This discovery expands the number of possible resource combinations for offering better value to customers for not only to Ford, but also to all other firms. Diagram 2 in figure 1 illustrates the outward shift of the productive possibility frontier. Thus, Ford’s discovery rapidly increases the space of ignorance – the zone between the previous production frontier and the new one resulting from Ford’s discovery – of more productive but unrealized combinations of resources available on the market. Given that entrepreneurship is sometimes view as the process of removing ignorance (Mises 1949), the increased space of ignorance provides greater scope for value-enhancing entrepreneurial activity. Ford, in this case, is the first firm to take advantage of
the market ignorance and to introduce a superior product (that incorporates this new technology), thereby creating first-mover advantage. Note also that this new product (e.g., a new electric-powered vehicle) may either instantly offer superior value to customers (as shown in diagram 2) or may initially offer lower value to customers (when for example the price is perceived by customers as too high).³

So, the key question of our study is: How can this value-creating entrepreneurial discovery provide sustainable competitive advantage for Ford? Resource-based theory posits that Ford can sustain its first-mover advantage insofar as competitors cannot replicate its new technology. Alternatively, as D’Aveni (1994) argued, competitive advantage is not sustainable in hypercompetitive environments. So, competitors will quickly replicate the new technology. Ford must create another technological breakthrough to keep gaining above-average profits. In this paper, we argue that Ford can indeed sustain the first-mover advantage even when competitors quickly replicate the new technology; as long as Ford is more alert than rivals to recognize new productive combinations of the available resources and progressively enhances the value of the new electric-powered vehicle.

To illustrate the significance of value-enhancing entrepreneurial activity of firms in achieving sustainable competitive advantages, consider the most recent entrepreneurial success of Apple Computer, whose introduction of the iPod initially created significant first-mover advantage for the company. Yet, despite the reactions of rivals, Apple has been able to sustain its competitive advantage for more than 6 years; not by introducing radically new products (like its recent iPhone), but instead carrying out a series of value-enhancing actions. These actions are reflected in actual published news reports about Apple’s competitive actions. Table 1 provides a selected list of such competitive actions.
In our view, the sustainability of Apple’s competitive advantage cannot be attributed to the company’s initial introduction of the iPod. Indeed, imitators introduced their own products shortly thereafter, which stands in contrast to the resource-based view (cf. Barney and Arikan 2001). In fact, several competitors including Creative, Dell, and Gateway did enter the market within one year of iPod’s introduction and offered close substitutes for iPod (with similar quality and even lower prices). Neither could it be explained by barriers to entry, as Porter’s theory (1980; 1985) would suggest. Firms entered the market quite easily.

We believe that the principal reason for the Apple’s success with the iPod in the years subsequent to its introduction was the way that Apple carried out a series of improvements on the initial iPod concept in, for example: Product design, increased memory, complementary software (iTunes), product bundles co-developed with BMW, Nike, Disney, Motorola and Timex, new versions (e.g., iPod shuffle, iPod movie, iPod nano, and iPod). These value-enhancing actions are reflective of Apple’s superior entrepreneurial alertness and recognition of new ways to enhance the value of iPod that sustained its market share. Figure 2 illustrates this process.

The top diagram in figure 2 illustrates D’Aveni’s (1994) view of superior performance based on a series of value-creating actions carried out by a given firm. Here, it is assumed that in
hypercompetitive environments the first-mover advantages are quickly eroded, and therefore, firms can re-gain above-average profits only when they are able to create a series of first-mover advantages. Thus, firms gain superior performance because by the time the first-mover advantage is imitated they are able to create new advantage. Note however that in D’Aveni’s (1994) view, the equilibrative process that we described above is nonexistent. Instead, we argue the equilibrative process – as illustrated in the lower diagram in figure 2 is crucial for understanding the sustainability of above-average profits. So long as the firm is capable of enhancing the value of their products or services more intensively than rivals – like Apple has with its iPod, it can stay ahead of competitors and gain above-average profits.

The importance of this value-enhancing activity of firms is implicit in ideas and theory related to a dynamic view of strategy. Brown and Eisenhardt (1998), for example, argued that managers of firms that “…compete on the edge of chaos not only improvise and frequently reinvent their firms but also keep their product and service platforms in the market longer than others, exploit derivative products more effectively, and extend their offerings into new geographies and customer segments more frequently” (9). This dynamic approach of strategy, they argue, requires “…rhythm of moves over time; not a set of disjointed actions. It does not comprise a few very large moves…Instead, it is about repeated, relentless change”… that generates a variety of moves with varying scale and risk and thus creates a robust and diverse strategy. Similarly, Ferrier (2001) adopts this view of strategy and empirically investigates how the uninterrupted and diverse sequences of actions affect performance.

In sum, we believe that a firm’s value-enhancing entrepreneurial actions (relative to that of rivals) is the most essential driver of its ability to sustain above-average profits in hypercompetitive environments.
Proposition 1: The intensity of value-enhancing entrepreneurial tendencies of firms will be positively related above-average performance.

VC Entrepreneurship and the Scope for VE Entrepreneurial Activity

As we argued above, value-creating entrepreneurial actions are a disequilibrative force in the market process. They make existing products and technologies obsolete and lead to restructuring, reorganizing, and redefining organizations, product markets, and industries (Covin and Miles 1999). A firm can disrupt the equilibrating processes when it discovers either new demand, or new supply, or both (Venkataraman and Sarsvathy 2001). We argue that this disruptive role of value-creating entrepreneurship expands the potential for value-enhancing activity.

First, the discovery of new customer wants (i.e., new demand) extends the potential for recognizing a wide range of different types of value-enhancing actions because the new product is initially not closely compatible with, for example, previously used equipment, production factors, raw materials, parts, or technologies. This disrupts the pattern of market activities by radically changing the plans and expectations of various suppliers, distributors, competitors, and customers. The resultant discoordination of plans increases the number of combinations of available but unrealized sets of more productive resources. Indeed, as Lachman (1986) observed:

“...in real world it will hardly be possible to produce a new good, or vary effectively the character of an existing one, without varying the blend of skills required in the labour force or the composition of raw material input used. Similarly, any change in the latter or the composition of the labour force is bound to have some effect on output. But it is no less true that there can be hardly any significant change in output or labour or raw
materials input which does not necessitate a regrouping of the capital combination with or without new investment” (64).

Thus, the introduction of a new product often requires modifications of the marketing strategies, reconfiguration of the production processes, development of new distribution approaches, changes in the auxiliary equipment, or learning of new competences by employees. In addition, radically innovative products are initially not closely compatible with customer preferences. This creates a large space of ignorance of unrealized opportunities for improved product performances, design, quality, durability, or aesthetics. Although the viable opportunities for enhancing the value of a given product category may be eventually exhausted (i.e., the product will eventually become highly standardized or made obsolete by other more innovative products), the intensity with which a firm progresses toward recognizing better value to customers is essential for its ability to earn above-average profits.

Second, radical innovation within the supply side (i.e., new technology, new administrative practices, new distribution systems, new inventory management, etc.) also extends the potential for value-enhancing actions. The discovery of new technology, for example, increases the potential combinations of resources that could be employed to enhance the value of the existing products (e.g., improving their quality or offering more sophisticated versions). According to so-called S-curve theory, new technologies initially offer limited consumer benefits. Then, the recognized opportunities for offering enhanced value to customers rapidly increase before diminishing as technology matures (cf. Foster 1986; Utterback 1994; Utterback and Abernathy 1975). This again suggests that although the new technology creates many opportunities for discovering more productive resource combinations, it is through the value-enhancing entrepreneurial activity that firms move the market toward better coordination by
recognizing more productive uses of the available technologies. Clearly, value-creating entrepreneurial activity of firms – either through discovery of new product markets or radically new technology – expands the potential for value-enhancing entrepreneurial activity for all firms in a given competitive context.

**VC Entrepreneurial Tendencies, VE Entrepreneurial Tendencies and Sustainability of Competitive Advantages of Firms**

Assuming that firms differ in their tendencies to discover value-creating entrepreneurial actions or intensively recognize value-enhancing entrepreneurial actions, we can derive several important implications for the interplay or interaction between value-creating and value-enhancing entrepreneurial tendencies of a focal firm in explaining the sustainability of its above-average profits. Figure 3 shows the proposed interactive relationship between value-creating and value-enhancing entrepreneurial tendencies in explaining firms’ abilities to earn above-average profits.

A firm may disproportionally focus on discovering pioneering technologies and products (high on VC entrepreneurial tendencies), while being unsuccessful in subsequently recognizing new combinations of the available resources to progressively offer superior products and service to the market (i.e., low on VE entrepreneurial tendencies). However, the exploration process often requires large investments in research and development for many years. In addition, the outcome of this exploratory search process may be a few exceptionally successful products, several mediocre products, and many failures (Brown and Eisenhardt 1999). The exploration-
related costs can result in substantial financial losses for the company unless a firm is capable of exploiting those advantages long enough to recover the exploration costs (March 1991). But to be able to capitalize on the successfully created first-mover advantages in hypercompetitive environments (wherein resource-based advantages are short lived), a firm needs to intensively initiate a series of value-enhancing entrepreneurial actions and keep ahead of competitors. This suggests that firms that exhibit higher value-creating entrepreneurial tendencies and lower value-enhancing entrepreneurial tendency than rivals will not be able to recover the exploration costs and thus will earn below-average profits. Firms with high value-creating entrepreneurial tendencies will earn above-average profits only when they also show high value-enhancing entrepreneurial tendencies. Note that here we assume that a major part of the value-enhancing entrepreneurial activity of the firm is generated by alert organizational members with superior knowledge of the particular circumstances of time and place (Kirzner 1973; Hayek 1948) – e.g., engineers, designers, marketing specialists, or sales representatives who have intimate knowledge of the customer preferences, technological processes, resources available, etc. This means it is a result of costless opportunity recognition processes rather than of purposefully made decisions to invest in exploration of radically new technologies (Kirzner 1985).

Alternatively, a firm may be less capable of disrupting the market process with value-creating entrepreneurial actions, but extremely capable of enhancing the value of the new products and services. These firms can still persistently earn above-average profits owing to their superior value-enhancing entrepreneurial activity. Assuming that they can quickly imitate the resource advantages of the first-movers or they have finances to quickly enter the newly created product market, their value-enhancing entrepreneurial ability will help them to gain advantage over rivals and sustain that advantage over time. Recall that the discovery of new technology or
new product category by the first-mover firm expands rapidly the productive possibilities frontier for all firms (see diagram 2 in figure 1). This expansion leaves opportunity for other firms with superior value-enhancing entrepreneurial abilities to quickly supersede the first-movers and persistently earn above-average profits. This suggests that firms with strong value-enhancing entrepreneurial abilities can persistently earn above-average profits even if they fail to show strong value-creating entrepreneurial tendencies. Finally, firms that exhibit both low value-creating entrepreneurial tendencies and low value-enhancing entrepreneurial tendencies are expected to underperform and earn below-average profits.

Proposition 2a: A firm with high value-creating entrepreneurial tendencies can earn above-average performance only when it subsequently engages in more intensive value-enhancing entrepreneurial tendency than rivals.

Proposition 2b: A firm with low value-creating entrepreneurial tendency can earn above-average performance if it shows more intensive value-enhancing entrepreneurial tendencies than rivals.

Proposition 2c: A firm with low value-enhancing entrepreneurial tendencies will exhibit below-average performance regardless of the level of value-creating entrepreneurial activity.

**Network Embeddedness and VE Entrepreneurial Tendencies of Firms**

Thus far, we have argued that value-creating entrepreneurial tendencies of firms extend the productive possibilities frontier and expand the space of ignorance of better or cheaper ways of satisfying customer wants. This, in turn, increases the scope for value-enhancing entrepreneurship. Firms with value-enhancing entrepreneurial abilities to more intensively
remove the ignorance and progressively offer superior value to customers can earn sustainable competitive advantage. Apparently, we hold an implicit assumption that the potential of a firm to frequently recognize more productive resource combinations depends solely on its internally driven entrepreneurial abilities. However, market knowledge and resource potential is unevenly distributed across market participants (Hayek 1948) as well as across industries, industry segments, or regional clusters (Burt 1992). This means that the entire space in the productive possibility frontier is fragmented across firms and groups of firms with limited connection with one another. This creates widespread ignorance, which in turn provides scope for entrepreneurship (Mises 1949).

Firms differ in their potential to remove the ignorance as a function of their awareness of the existent resource potential in the context in which they are embedded. Network researchers have argued that some firms are “better connected” with other firms, which in turn creates more opportunities for removing the ignorance (Burt 1992). Close collaboration with other market participants in a form of frequent meetings, intensive interaction, and information exchange is often the only way for a firm to gain access to this fragmented knowledge of other firms’ specific competences and technological advances (Gulati 1998; Ahuja 2000; Gullati and Singh 1998). In addition, collaboration through various inter-organizational collaborations such as alliances, joint ventures, or other long-term collaborative agreements enable firms to gain valuable information in a timely manner, so that the opportunity can be seized before competitors learn about it (Gulati and Gargiulo 1999).

The network embeddedness perspective is especially critical for the subjectivist view of the market processes as conceptualized by the Austrians. The recognition of profit opportunity is not possible without perceiving relevant context in which entrepreneurs formulate their plans for
achieving their envisioned ends. Firms engage in purposeful action believing that they have relevant knowledge of “…the technological relationships, the availability of resources, the alternatives sacrificed, etc.” (O’Driscoll and Rizzo 1985: 57). Hence, a firm’s capacity to recognize value-enhancing entrepreneurial actions is contingent on its awareness of and access to the resources potential available in a given time in the context in which they are embedded. Put differently, the total resource potential in the productive possibility frontier is not visible to all firms equally, and therefore each firm has different local potential to remove the ignorance of more productive resource combinations. This is so because “…we are dealing with a process whose every element takes considerable time in revealing its true features and ultimate effects” (Schumpeter, 1950: 83). Firms with better and timelier access to information about the newly developed resource combinations (an more productive ones) by other firms are systematically at higher “risk” of recognizing new value-enhancing actions (Burt 1992). This means that holding the firm-specific entrepreneurial abilities constant, “better connected” firms will have greater potential to recognize value-enhancing entrepreneurial actions, because of their greater exposure to information and knowledge of newly developed resource potential by other firms. Note here that the explanation of a firm’s tendency to systematically recognize new profit opportunities is derived from two sources: (1) the alertness of organizational members to more productive resource combinations that are available but overlooked by other firms (Kirzner, 1973) and (2) the position of the firm in the network that creates potential for the firm to exercise its alertness. A firm can be more alert to the available (but ignored) profit opportunities than rivals and at the same time have limited awareness of all potentially available resources that can be recombined to create better value to customers (the firm-level alertness here refers to aggregate propensity of organizational members to recognize profit opportunities). Conversely, a
firm can have high awareness of the resources possessed by other firms owing to its favorable position in the network structure, but may lack alertness to actually recognize and employ more productive resource combinations. Indeed, when both the degree of alertness and the network connectedness are high, the firm has greater potential for frequently recognizing value-enhancing entrepreneurial actions. This renders these two seemingly contradictory perspectives complementary (they seem contradictory since Austrians pursue methodological individualism, whereas network researchers are more sympathetic to holistic explanation of phenomena). Both perspectives would agree that alert individuals can recognize entrepreneurial opportunities under “particular circumstances of time and place” reflected in their position in the network of interrelated market participants (Hayek 1948: 80; Kirzner 1973; Burt, 1992, 2005).

**Centrality in the Interfirm Network, VE Entrepreneurial Tendencies and Sustainability of Competitive Advantages of Firms**

The total range of the opportunities for new resource combinations depends on the total number of resources (e.g., technologies, equipment, raw materials) available in a given time and context and the focal firm’s awareness of other firms’ competences and their interests to collaborate. Firms often do not know about all of their prospective partners and they learn about potentially beneficial collaborative relationships by using the information that is accessible only through network channels (Galaskiewicz 1985). Network partners in this respect are trusted sources of reliable information about other potential partners with whom the focal firm’s partners may have had direct experience in the past. Information benefits can accrue to the firms with favorable position in the network structure in three forms: access, timing, and referral (Burt 1992). Access refers to receiving valuable information about potential partners with complementary resources that can augment the value of its products. This information can be
obtained not only from current partners but also indirectly through third-party referrals. For example, IBM can become aware of opportunity to collaborate with Veritas Software, after it has established alliance with Dell, which closely collaborated with Veritas Software since 1998. Moreover, the network serves as conduit for timely access to information about potential alliance opportunity, when the alliance is beneficial for both parties. As one of the managers interviewed by Gulati and Gargiulo (1999: 1445-1446) put it “…timing is everything. And so, even for alliances to happen the confluence of circumstances have to be at the right time. We and our prospective partner must know about each other’s needs and identify an opportunity for an alliance together in a timely manner…” Gulati and Gargiulo (1999) extends the firms’ information benefits even beyond the indirect ties through information that resides in the larger network. In this respect, networks are repositories of information about the availability and reliability of prospective partners with complementarty competences.

Firms that are more central in such networks have greater awareness of the potentially productive resources other firms possess. We refer to centrality in this paper as “closeness” centrality. An actor is central if it is “close” (connected through direct or indirect ties) to many actors in the network and thus can obtain more information (and in timely manner) of the resource potential of other firms in the network (Freeman 1979). Firms that are more aware of the complementary resource of other firms can more frequently recognize opportunities for value-enhancing actions. Consider for example how Apple Inc. used alliances to enhance the value of iPod. On October 12, 2005, Apple Computers recognized that using Disney’s distinctive competences can add new video features on iPod (such as music videos, six short films, and popular TV shows) and established an alliance to strengthen iPod’s position as “the best music player on planet.” Then, on November 15, 2006, iPod became compatible with the aircrafts of
several airline companies (Delta Airlines, United Airlines, KLM, and Air France), which enabled its customers to power and charge their iPods during flights and watch video content from their iPods on seat-back displays. Alliances were also formed with several automakers to offer iPod as an integral part of all new 2007 vehicle models. Furthermore, on September 24, 2006, Apple and Nike announced Nike+iPod Sport Kit, which offered customers the ability to store the data on time, distance, and calories on iPod Nano and download them from iTunes. Several alliances were also used with local firms to enter new international markets (e.g., India and Korea). Finally, alliances with producers of auxiliary products further enhanced the customer value of iPod by offering wireless remote (alliance with TEC) and using Timex capabilities to develop watch control. Each of these value-enhancing actions was a result of collaboration with partners with complementary resources that substantially increased the value of iPod for customers. This suggests that firms can gain sustainable competitive advantage when they frequently recognize how other firm’s resources can be used to progressively enhance the value of their products or services.

Proposition 3: A firm’s centrality in the inter-firm network increases its potential for value-enhancing entrepreneurial tendencies. This in turn has positive effect on its ability to gain sustainable competitive advantage.

Network Range and VC Entrepreneurial Tendencies

As discussed above, centrality of a firm in the inter-firm network increases its awareness of the other firms’ complementary resources and competences, which in turn increases their potential for value-enhancing entrepreneurial activity. However, the network position can also be conducive for value-creating entrepreneurial activity. The evolutionary perspectives of technology development posit that firms tend to search for new technologies “locally” (Nelson
and Winter 1982). They pursue new R&D projects that build upon their previously accumulated technological knowledge. This often imposes constraints on their ability to discover radically new technologies.

However, “…firms don’t search in isolation; rather, they search as members of a population of simultaneously searching organizations” (Stuart and Podolny 1996: 36). Collaboration with partners from distant technological areas may increase firms’ potential to learn distant technological competences, which can lead to path-breaking discoveries. This means firms may differ in their value-creating entrepreneurial tendencies as a function of their position in the R&D network in which they are embedded. Furthermore, firms with diverse set of ties with firms from distant technological domains have preferential access to the radically new technologies developed in other areas. A firm that learns first about newly discovered breakthrough technology in different industries has greater potential to introduce radically new technologies in its own industry. This can create first mover advantage, which can be sustained through intensive value-enhancing entrepreneurial activity. Following the above, it is reasonable to argue that firms with wider R&D network range will have greater ability to make path-breaking discoveries and greater potential for being first to adopt the breakthrough technologies discovered by firms in other industries. R&D network range is defined as the extent to which a firm is connected with firms from wide range of distant technological domains\(^5\). The higher is the network range the greater the number of network partners from different technological areas is.

*Proposition 4: Firms with wider R&D network range will have greater potential for value-creating entrepreneurial tendencies.*
DISCUSSION

In this paper, we attempted to demonstrate that firms can persistently earn above-average profits even in highly volatile environments. We developed a concept of value-enhancing entrepreneurial actions to show that firms can gain sustainable competitive advantage when they are more capable than rivals to more intensively enhance the value of their product or service offerings. This value-enhancing entrepreneurial activity of firms is equilibrative force that moves the market toward better coordination with customer preferences and technological possibilities. Thus, the main focus of this Austrian theory of sustainable competitive advantage is on the process of entrepreneurial recognition of more productive resource combinations that are available but ignored by firms. Key explanation of the sustainability of competitive advantages of firms lies in their entrepreneurial ability to intensively recognize value-enhancing entrepreneurial actions rather than on their ability to prevent competitors from imitating or eroding either their resources advantages or the barriers of entry in a given market. Hence, in direct response to Moran and Ghoshal’s (1999) concerns that strategy research focuses too much “on appropriating the rents of others and preventing them from appropriating your rents…” (409), our theory’s main argument is based on the firms’ entrepreneurial abilities to progressively offer better or cheaper ways of satisfying customer wants. Through this coordinating (equilibrating) role firms can persistently stay ahead of competitors and earn above-average profits.

In this study, firms’ entrepreneurial ability refers to their ability to either frequently discover new product markets and technologies (i.e., value-creating entrepreneurial actions) or intensively recognize new ways of enhancing the value of the products and services (i.e., value-enhancing entrepreneurial actions). We distinguish the entrepreneurial ability of firms from the
other related concepts that appear under the umbrella of resource-based theory, such as resources, competencies, capabilities, dynamic capabilities, other organizational processes, routines, and so forth (Barney and Arikan 2001; Teece, Pisano and Shuen 1997). Each of these concepts reflects some configuration of resources, knowledge, competences, and production factors that can be difficult for competitors to replicate (and thus represent sources for greater value-appropriation). Entrepreneurial abilities on the other hand are concerned with entrepreneurial discovery of new production factors and technologies and/or recognition of more productive combinations of resources. We do acknowledge that firms’ resources can enable organizational members to perceive new entrepreneurial opportunities for more productive resource combinations because of the path-dependent nature of the learning processes (Penrose 1959; Dierickx and Cool 1989). This however does not mean that entrepreneurship should be considered as a part of resources and capabilities of the firm. It indicates only that there is interesting interplay between the resource potential of the firm and its ability to recombine that resource potential to create or enhance the value for customers. Just as the firm’s own resource potential influences its ability to initiate value-creating and value-enhancing entrepreneurial actions, so too may the resources accessible through network partners affect the firm’s ability to continuously enhance the value of product or service offerings. Similarly, many other firm-level concepts such as marketing orientation, entrepreneurial orientation, total quality management, or entrepreneurial mindset and culture may affect firms’ value-enhancing and value-creating entrepreneurial abilities.

Our focus on the entrepreneurial abilities of firms (as a distinct concept from resources of the firm) stimulates a new stream of research to explore which sources of competitive advantage are more critical for firms to gain sustainable competitive advantages in different industry
contexts—the unique resources (that are valuable, rare, inimitable, and non-substitutable), or the value-enhancing entrepreneurial abilities. Both sources of sustainable competitive advantages can be influenced by value-creating entrepreneurial discoveries. On one hand, a firm that systematically discovers new production factors or new technologies is more likely to create resources that competitors will be unable to replicate. On the other hand, value-creating entrepreneurial actions increase the scope for value-enhancing entrepreneurial activity. If resource advantages are only temporal as D’Aveni (1994) suggests, the sustainability of competitive advantages can be achieved when firms are able to intensively recognize value-enhancing entrepreneurial actions. This implies that the two sources of sustainability are complementary and may coexist. In different environmental contexts, either the resource-based view or the entrepreneurship-based explanation of sustainability of competitive advantages may have stronger predictive power.

Distinguishing entrepreneurial ability of firms from the other resources and capabilities possessed by the firm provides potential for greater inclusion of the Austrian subjectivism in the theories of sustainable competitive advantage in strategic management. According to Menger (1976), the value of resources is derived from the customer-perceived value of the products they produce (i.e., they satisfy customers’ wants in a better, cheaper, or more desirable way). This implies that the value of the resources will change as a consequence of the changes in the customer-perceived value of the products/services they produce. In other words, if consumers no longer desire a product that is produced by a particular combination of resources (e.g., as a result of competitors’ introduction of more attractive product offerings), then each of the resources engaged in the production of that product will lose their value (their value now will depend on their “convertibility” to alternative uses). In hypercompetitive markets, the value of the products
is being continuously eroded by more innovative or improved products. This means that only when a focal firm has entrepreneurial abilities to enhance the value of its products more intensively will its resources be more valuable than those of rivals. Hence, consistent with the subjectivist tradition in Austrian economics initiated by Carl Menger (that the value of the firm’s resources is imputed backwards – from their contribution in satisfying consumers’ wants), our explanation of the sustainability of competitive advantage is based not so much on the ability of the firm to identify difficult-to-imitate resources (and design strategy to exploit those resources) as it is on the entrepreneurial ability of firms to continuously recognize more productive resource combinations and progressively enhance the customer-perceived value of their products and services.

This paper also shows how network perspective of the market competition (Granovetter, 1985) complements the Austrian methodological individualism. Position in the network structure defines the scope for value-enhancing entrepreneurial actions. This however does not mean that the position in the network structure can exclusively explain entrepreneurial tendencies of firms. It only provides potential for firms to recognize more productive combinations of internal and external resources. Thus, the more central firms have greater awareness of the resource potential that has just become available in their context, which in turn provides greater potential for recognizing value-enhancing entrepreneurial actions. As a result, centrality of firms in the inter-firm network will have positive effect on their ability to gain sustainable competitive advantages. In addition, firms with wider range of R&D network ties have greater likelihood to discover radically new technologies, which increases their value-creating entrepreneurial tendencies. This suggests that different position in the inter-firm network provides different potential for value-creating and value-enhancing entrepreneurial tendencies.
In summary, this paper develops dynamic theoretical framework for understanding sustainability of competitive advantages. We argued that value-enhancing entrepreneurial activity of firms during the equilibrative tendencies of the market process is the primary driver of sustainability of competitive advantages. Firms can persistently earn above average profits when they intensively recognize more productive resource combinations and progressively enhance the value of their product and services. Entrepreneurship however is context dependent phenomenon, so firms’ entrepreneurial abilities must be examined within the context in which they are embedded.
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FIGURE 1
Value-creating and Value-enhancing Entrepreneurship

Diagram A

High

Quality

Low

High

Cost

Low

Productive Possibility Frontier

Highest possible value produced, given the available resource potential at time T

Distance created or maintained through value-enhancing entrepreneurial activity

Diagram B

High

Quality

Low

High

Cost

Low

New Productive Possibility Frontier

Value-enhancing entrepreneurial tendencies

Value-creating entrepreneurial tendencies

Intensity of Value-Enhancing activity determines firms’ ability to sustain their first mover advantages

Advantage gained from Value-Creating Entrepreneurial Activity
FIGURE 2
Value-enhancing Entrepreneurial Tendencies and Sustainability of Competitive Advantage
FIGURE 3:
Interaction between VC and VE Entrepreneurial Tendencies

Above Average Profits

Average Profits

Below Average Profits

Low VC          High VC

- - - - - High VE

- - - - - Low VE
### TABLE 1: Selected News Reports on Apple and Rivals

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>October, 23, 2001</td>
<td><strong>Apple introduces iPod:</strong> “Apple today introduced iPod(TM), a breakthrough MP3 music player that packs up to 1,000 CD-quality songs into an...”</td>
</tr>
<tr>
<td>March 21, 2002</td>
<td><strong>Apple enhances iPod:</strong> “Apple today announced a second model of its groundbreaking iPod(R) digital music player that features a 10GB hard drive ...”</td>
</tr>
<tr>
<td>October 14, 2002</td>
<td><strong>Creative imitates iPod:</strong> “Creative launches its NOMAD Jukebox Zen , a pocket-sized, 20GB MP3 player priced 40% less than Apple's iPod...”</td>
</tr>
<tr>
<td>July 17, 2002</td>
<td><strong>Apple enhances iPod:</strong> “Apple chief Steve Jobs said on Wednesday that Apple has expanded the audience for its popular iPod music player with new versions of the device designed to work with Windows-based personal computers...”</td>
</tr>
<tr>
<td>March 1, 2003</td>
<td><strong>Creative enhances Zen:</strong> “Thanks for the R&amp;D, Apple! Creative takes a look at Apple’s iPod and—thankfully—bites its design in new product extension...”</td>
</tr>
<tr>
<td>April 28, 2003</td>
<td><strong>Creative enhances Zen:</strong> “Creative introduces three exciting new speaker systems to match the Apple iPod...”</td>
</tr>
<tr>
<td>November 11, 2003</td>
<td><strong>Gateway imitates iPod:</strong> “Gateway's new digital jukebox is $100 less than Apple iPod; the 20GB Jukebox delivers industry's best value...”</td>
</tr>
<tr>
<td>December 8, 2003</td>
<td><strong>Dell imitates iPod:</strong> “Hoping to duplicate the success of Apple's iPod and iTunes music store, Dell introduces DJ Player with Dell Jukebox powered by Musicmatch ($249 for 15 GB; $299 for 20 GB)...”</td>
</tr>
<tr>
<td>January 6, 2004</td>
<td><strong>Apple enhances iPod:</strong> “Apple today introduced iPod(TM) mini, the smallest portable music player ever to hold up to 1,000 CD-quality songs. The new iPod mini is encased in an ultra-portable, lightweight...”</td>
</tr>
<tr>
<td>June 21, 2004</td>
<td><strong>Apple enhances iPod:</strong> “Apple Computer Inc. and BMW Group on Monday introduced an adapter that allows iPod and BMW customers to plug their music collections directly into their car sound systems...”</td>
</tr>
<tr>
<td>July 19, 2004</td>
<td><strong>Apple enhances iPod:</strong> “Apple introduces the new fourth-generation iPod featuring Apple's 'click wheel' and 12-hour battery life...”</td>
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<tr>
<td>October 26, 2004</td>
<td><strong>Apple enhances iPod:</strong> “Apple introduces iPod Photo, your entire music and photo library in your pocket...”</td>
</tr>
<tr>
<td>November 3, 2004</td>
<td><strong>Apple enhances iPod:</strong> “iTunes 4.7, the version of Apple’s music player released to coincide with iPod Photo...”</td>
</tr>
<tr>
<td>January 11, 2005</td>
<td><strong>Apple enhances iPod:</strong> “Apple introduces iPod shuffle, first iPod under $100...”</td>
</tr>
<tr>
<td>September 7, 2005</td>
<td><strong>Apple enhances iPod:</strong> “Apple today introduced the iPod(R) nano, a revolutionary full-featured iPod that holds 1,000 songs, yet is thinner than a standard #2 pencil and less than half the size of...”</td>
</tr>
<tr>
<td>September 7, 2005</td>
<td><strong>Apple enhances iPod:</strong> “Motorola, Apple unveil ‘iPod Phone’...”</td>
</tr>
<tr>
<td>October 12, 2005</td>
<td><strong>Apple enhances iPod:</strong> “Apple unveils new video iPod, Disney TV deal...”</td>
</tr>
<tr>
<td>November 20, 2005</td>
<td><strong>Apple enhances iPod:</strong> “Apple launches iPod Movie...”</td>
</tr>
<tr>
<td>February 5, 2006</td>
<td><strong>Apple enhances iPod:</strong> “Apple introduces cheaper iPod...”</td>
</tr>
<tr>
<td>February 28, 2006</td>
<td><strong>Apple enhances iPod:</strong> “Apple unveils iPod hi-fi home stereo system...”</td>
</tr>
<tr>
<td>March 29, 2006</td>
<td><strong>Apple enhances iPod:</strong> “Apple Computer unveils iPod max volume software update...”</td>
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<tr>
<td>May 24, 2006</td>
<td><strong>Apple enhances iPod:</strong> “Nike and Apple team up to launch Nike+iPod...”</td>
</tr>
<tr>
<td>July 10, 2006</td>
<td><strong>Apple enhances iPod:</strong> “Apple introduces talking iPod...”</td>
</tr>
<tr>
<td>September 12, 2006</td>
<td><strong>Apple enhances iPod:</strong> “Apple’s CEO Jobs unveils games for iPod...”</td>
</tr>
<tr>
<td>April 16, 2007</td>
<td><strong>Apple enhances iPod:</strong> “Apple to release WiFi iPod...”</td>
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</tbody>
</table>
ENDNOTES

1 To wit, see recently issued Academy of Management call for papers for a special issue on Transient Nature of Competitive Advantage.

2 Following the Austrian scholars, we use the concept of equilibrium solely for analytical purposes.

3 In this case, the act of new product introduction is discoordnative activity. Nevertheless, this action increases the potential for the first-mover to engage in value-enhancing activity. The subsequent value-enhancing actions will drive the market toward greater coordination, because they will exploit the unrealized opportunities for offering better value to customers. Either way has no bearing on the main argument of our study.

4 We distinguish only between opportunity recognition and opportunity discovery. Opportunities can be recognized when there are available means and ends that exist but are ignored by market participants. Opportunities are discovered when entrepreneurs discover new means, new ends or both. Although we acknowledge the potential usefulness for distinguishing between opportunity discovery and opportunity creation as clearly pointed out by Venkataraman and Sarasvathy (2001), we chose to use only the term discovery for the sake of simplicity as this distinction is irrelevant to our main argument.

5 Network researchers have used different approaches in operationalizing this variable, such as network constraint (Burt 1992), technology distance (Stuart and Podolny 1996) or Blau’s (1977) heterogeneity index (Powel, Koput, and Smith-Doerr 1996)