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Joseph A. Schumpeter and Innovation

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Synonyms

Creative destruction; Growth and development; Modernization

A variety of factors will cause changes in an economy. Among the most important are growth and development. These involve the introduction of innovations into the economy – such as new products, productive techniques, or technology. These special factors were analyzed by economist Joseph A. Schumpeter who became known for his contributions to economic theory in the area of innovation and entrepreneurship. This entry introduces Schumpeter's philosophy as well as his theoretical construct of creative destruction. He is often credited for starting modern growth theory that is based on the inevitable by-product of the process of development and innovation. Schumpeter's description of the innovation process and its diffusion continues to be characteristic in the contemporary knowledge- and technologically driven global economy (Carayannis and Ziemnowicz 2007).

Entrepreneurial Innovation and Economic Change and Development

Schumpeter's Early Theory

Schumpeter pioneered the idea that entrepreneurial innovation was central to economic change and development. Schumpeter's first theory about the role of the entrepreneur was presented in 1911 when he authored the book about the evolution of economies while he was a professor of economics and government at the University of Czernowitz. The book was translated from German as "The Theory of Economic Development" in 1934. Schumpeter's primary focus on the role of the entrepreneur or businessperson was in contrast to that held by most Keynesian or pre-Keynesian theorists.

Schumpeter reflected on the business-cycle volatility of the 1890s and concluded that capitalist economics grow in the long run. His view of Walrasian-style equilibrium analysis was empirically inadequate and too static to explain economic growth. The passive, price-taking approach with continual economic equilibrium did not reflect real-world behavior. Schumpeter noted the continual process of change in real economies and markets. He postulated that in a dynamic economy, there must be an assumption that a force exists within such an economy that can account for change and development. Schumpeter argued that this force is embodied in the entrepreneur. He defined entrepreneurship as "the carrying out of new combinations"

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(Schumpeter [1911] 1934, p. 66). Schumpeter's entrepreneur was "the agent of innovation," and he described them as "the pivot on which everything turns." He wrote that an entrepreneur does not invent but rather innovates. He explained that the quality of the entrepreneurial activities determines the speed of capital growth and whether this growth would involve innovation and change.

This was in contrast to David Ricardo's approach that described the productive functions in an economy as one of the three English socio-economic classes at the turn of the nineteenth century: labor from the working class, land from the aristocracy, and capital from the merchant class. The entrepreneurial function was identified with the capitalist or with the manager. The entrepreneurial function was simply identified with the roles performed by the capitalist, or the manager (McCraw 2007). Expanding this approach, Robert Solow's mid-twentieth-century growth theory called for the use of three options: more labor, more capital, or more capital per worker, to achieve economic growth. However, this concept still did not include and explain the role of innovation within the economy. On the other hand, Schumpeter introduced the hypothesis of entrepreneurial innovation as the primary factor that propels capitalist economies upward. He explained that it is the entrepreneur who creates innovation and further pointed out that innovation is not only invention. Schumpeter's entrepreneurs were driven by numerous factors such as competition to improve their organization, incorporate technology, and even take advantage of financial opportunities; they created change and did not behave according to traditional economic equilibrium theories. Schumpeter described: "in capitalist reality as distinguished from its textbook picture, it is not [textbook]... competition which counts but the competition from the new commodity, the new technology, the new source of supply, the new type of organization (the largest-scale unit of control for instance)–competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives" (Schumpeter, Capitalism, Socialism and Democracy, 1942, p. 82).

Schumpeter thus identified innovation as the critical dimension of economic change. He elaborated his theory to describe the process of innovation and also distinguished five types of innovation: (1) new production processes, (2) new products, (3) new materials or resources, (4) new markets, as well as (5) new forms of organizations (Schumpeter [1911] 1934, p. 66). As such, he also broke new ground in the field of innovation management. Schumpeter went further to describe diffusion of innovation or the process over time of acceptance or absorption of it within an economic system. Without innovation, no diffusion can take place; correspondingly, without diffusion, an innovation remains a singular isolated event. Diffusion is thus complementary in Schumpeter's theory. He suggested that innovation without diffusion would not lead to economic development (Brouwer 1991, p. 58).

Schumpeter described that the entrepreneurs who initiate, create, and adopt innovations generally gain profits. The entrepreneur's original innovation produces increasing profits for them. Others attempt to replicate the success of the innovator by coping the innovation. Depending on the resources available and entrepreneurial capability, diffusion can be rapid or slow. Schumpeter thus postulated that this process and transforming innovations, as well as their diffusion, will lead to waves of economic change that affect the entire economic system.

However, Schumpeter pointed out that the entrepreneur is not primarily motivated by the prospect of gain but also something else: "the dream and the will to found a private kingdom," "the will to conquer," as well as "the joy of creating" (Schumpeter [1911] 1934, p. 93). This is another way of describing the pleasures gained from being an agent of change as a result of the entrepreneur's innovative capabilities. Schumpeter explained that change in an economy is a function of innovation and entrepreneurial activities.

Schumpeter's Later Theory

Schumpeter presented a further elaboration of his ideas after studying how the capitalist system is affected by market innovations. This contribution came in 1942, during the Second World War, in the book "Capitalism, Socialism and Democracy."

Schumpeter's analysis came on the heels of the Great Depression when the defense of democracy and the structure of future economic systems – capitalism or socialism – were in question. He described the process where "the opening up of new markets, foreign or domestic, and the organizational development. . . illustrate the same process of industrial mutation, that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one." This was a process that Schumpeter described as "creative destruction." He continued to argue that innovation by the entrepreneur leads to waves of "creative destruction" as numerous innovations cause existing stock of ideas, skills, technologies, and equipment to become obsolete. Schumpeter's core concept was not "how capitalism administers existing structures, . . . [but] how it creates and destroys them."

Schumpeter's seminal term of "creative destruction" came into existence late in his career, but it succinctly summarizes the theory of economic evolution that he held throughout his life. He had experienced a continuum of economic change during his career: from first-hand knowledge of entrepreneurial firms in turn-of-the-century Vienna to the large bureaucratic corporations during the 1930s and 1940s in the United States. He observed the innovations introduced by enterprises in the economy as "industrial mutation" that "incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one" (Schumpeter 1942, p. 83). Schumpeter's creative destruction theory is based on the process of modernization, the continuous progress implemented by individual entrepreneurs and corporate business managers working in a dynamic economy that bring about an improved standard of living for everyone. He stated that change is the only constant in the evolution of capitalist economies but that the rate of change is not constant. Schumpeter forewarned that capitalist economies do not evolve smoothly but discontinuously. He described the disruptive innovation process occurring at "irregularly regular" intervals.

After analyzing the capitalist model of the economy, Schumpeter tried to identify which companies would be in a better position to innovate. He developed the theory that a company's ability to innovate was mainly connected to its size. Initially he defended that small companies should be in a better position due to their flexibility, while large companies might get trapped in bureaucratic structures. Schumpeter now described that economic growth and technical progress is achieved by the enlargement of firms and the destruction of competition, not through the "invisible hand" of free competition. His theory was that large companies compete not strictly in price but in achieving successful innovations. In contrast to entrepreneurs and smaller firms, large corporations have better resources and more market power. Schumpeter explained that this type of competition proved to be more effective for achieving economic progress than the traditional approach through price competition.

Schumpeter's theory assumed that innovation-originated market power could provide more effective results than pure price competition. He described that technological innovation often creates temporary monopolies that produce excessive profits. This was driven by competition of the type that Schumpeter called product innovations. Schumpeter argued that this profit disequilibrium would be eliminated by the introduction of rivals and imitators. He explained that just as competition drives innovation, it also brings about "swarms" of imitators that want to capture the excessive profits and simply copy their rival's innovation. This process attracts investment and provides a boom in the marketplace. However, with more alternatives and supplies in the marketplace, the original innovator's profit advantage is eliminated as prices drop. Schumpeter explained that the market sector becomes less attractive, and investors leave until the next disruptive innovation is introduced, meaning the cycle restarts.

The "Creative Destruction" Process of Innovation

According to Schumpeter, the innovational process revolutionizes the economic structure from within, relentlessly destroying the old one while continually creating a new one. The process of creative destruction is the essential attribute of capitalism (Schumpeter 1942, p. 83), and Schumpeter described, "the history of capitalism is studded with violent bursts and catastrophes" (Schumpeter 1939) where "a perennial gale of creative destruction" is blowing (Swedberg 1991, p. 157). It is significant that Schumpeter's hero is not the competitive market but the creative daring entrepreneur (Schumpeter 1934). Creative destruction triggers entrepreneurship, and entrepreneurs produce benefits that permeate the free-enterprise system. Schumpeter describes this economic growth as the consequence of entrepreneurs bringing knowledge that is qualitatively new to the existing economic system (Langlois 1991, p. 5). Entrepreneurs are therefore the dominant force for change, and their primary weapon is their energy in action (Bauer 1997). They induce change by putting together existing elements in new combinations.

The strategic stimulus to economic development, in Schumpeter's (1934) analysis, is innovation: it may be a commercial or industrial application of something new, such as a new product, process, or method of production, but it may also manifest itself as new markets or sources of supply, as well as new forms of commercial business or financial organization. Entrepreneurs are change agents who challenge the status quo and create the new by destroying the old (Foster and Kaplan 2001). Schumpeter also extended and reoriented economic principles from the prevailing assumptions established during the 1920s and 1930s. His ideas concerning structural economic change evolved from classical economic theories, but he extended the fixed-structure theory of economic development.

Nevertheless, Schumpeter argued that the temporary monopolies provided the incentive necessary for corporations to develop new products and processes. Schumpeter now enhanced his theory that change in an economy is not only a function of innovation and entrepreneurial activities motivated by profit but also because of market power. Schumpeter explained that the results of these changes form what are known as "business cycles." Even though economic activity may recede, one of Schumpeter's arguments supporting the enduring strength of capitalism relates to the notion of creative destruction (Schumpeter 1934). He states that the competitive market is the key to the success of capitalism. In the real world of economic theory, the economy is always changing: new firms start up, old ones die out, new technologies are introduced, and old ones fade away.

Schumpeter's change in his view of innovation came late in his career, and his discussion of innovation theory was a marginal part of his work. Innovation theory is thus derived only from his analysis of the different economic and social systems and because Schumpeter provided no empirical foundation for this perspective. Moreover, there is no strong evidence to support Schumpeter's relationship between the size of a company and its ability to innovate. Nevertheless, Schumpeter's ideas provide an important insight that when innovation is viewed as "creative destruction" that creates waves in dynamic economies and markets, then those who grasp discontinuities faster will reap benefits. This is because of the diffusion process whereby new methods of production are generalized throughout the economy reaching equilibrium prices, thus eroding the extra profits that were captured by the innovators and even the first followers, while late adopters run the risk of being driven out of the market. Schumpeter stated, "the problem that is usually visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroy them" (Schumpeter (1942), p. 86). Managers on the forefront of the restructuring of markets and early followers will be rewarded, while late adopters may be driven out of business.

Competition compels the various agents in an economy to innovate as well as to imitate. More contemporary "endogenous growth" theories build on Schumpeter's idea as they describe technical change deriving from the profit-motivated research and development (R&D) corporate expenditures. Even more recently, it has been a fashion to focus on the "supply side" of innovation by being democratic in encouraging innovation and have everyone in an organization work on developing the next "big" idea. This approach has been institutionalized at numerous companies such as 3M and Google (The Economist 2010). This provides many ideas that require an evaluation system evaluated to identify the best innovations. Another way of promoting Schumpeter's ideas is to focus on closing the gap between the ideas and their implementation. This assists in making incremental improvements to existing products and processes but is less likely to produce breakthrough innovations as called by Schumpeter. Nevertheless, the entrepreneurial function will never become obsolete because as ever higher standards of living are achieved; wants automatically expand. Schumpeter was ahead of his time by identifying leisure goods as emerging economic wants (Schumpeter 1942).

Schumpeter took on the classical "static" mainstream economic doctrines and developed an innovative "dynamic" perspective, thus establishing the distinction between static and dynamic economic analysis. Schumpeter built upon the works of Smith, Ricardo, and Marx, but he introduced a dynamic theory that focused on understanding why economic systems change. However, he rejected Marx's violent revolutionary predictions about capitalism by examining factors outside normal quantitative analysis. He viewed different theoretical perspectives from other disciplines as complementary rather than competitive, able to coexist and enrich understanding of social phenomena (Schumpeter 1934). He thus took real-world examples and incorporated them into his economic theory. Schumpeter believed there were both internal and external factors that could make a cycle of change occur in an economy. This recognition is the key to his theory of entrepreneurship, which is at the core of "creative destruction" (Dahms 1995, p. 4).

Conclusion and Future Directions

Schumpeter's creative destruction philosophy is the rule, rather than the exception: organizations survive by focusing on what will allow them to be, and stay, one step ahead of the competition. Schumpeter observed how businesses conduct their operations and influence the quality of human lives and wrote that innovation was the preeminent mechanism by which individuals could rise and survive in competitive capitalism (Brouwer 1991, p. 18). Without innovation, business survival and success are unattainable. The contemporary environment abounds in disruptive (as opposed to sustaining) technologies, as well as discontinuous (as opposed to continuous) innovation. The latter type of innovation is significant because of the many attempts to determine the extent to which discontinuous innovations can be "managed" and how organizations can try to predict and leverage the emergence of disruptive technologies. Schumpeter's ideas are important because central to today's highly competitive global business environment is individual and organizational capacity for higher-order learning, as well as the ability to manage the stock and flow of specialized knowledge.

Schumpeter recognized that transformations within the economy were the key agents for innovation and economic development. He also identified change as the core factor for organizational survival. Obstacles to this creative process constrain growth, yet, managers often strive for business stability, making adaptation to changing situations difficult. Schumpeter also described economic evolution as altering the normal circular flow of demand, production, and consumption, demonstrating that moving away from the economic equilibrium can cause changes that generate new waves of opportunity. He regarded the introduction of innovation into economic activity as the destruction of existing arrangements. Advances in the contemporary knowledge-based global economy have resulted primarily from entrepreneurship and innovation – exactly as Schumpeter envisioned – and his ideas help explain how a climate of continuous change and potential improvement can create economic opportunity. Economic growth often brings rewards, but innovation can also create hardship for some because of the resulting upheaval. Innovation is frequently thus both the hero and the villain, because it impinges on every economic level in society. His ideas about innovation and its diffusion continue to be the foundation supporting the contemporary knowledge- and technologically driven global economy.

Cross-References

▶ Creativity and Innovation: What Is the Difference?
▶ Innovation and Entrepreneurship
▶ Knowledge Capital and Small Businesses
▶ Knowledge Creation and Entrepreneurship
▶ Product Innovation, Process Innovation
▶ Schumpeterian Entrepreneur

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▶ Innovation System of India