International Journal of Economics, Commerce and Management
United Kingdom Vol. III, Issue 8, August 2015
http://ijecm.co.uk/ ISSN 2348 0386

JOSEPH A. SCHUMPETER'S PERSPECTIVE ON INNOVATION

Perihan Hazel Kaya
Research Assistant, Faculty of Economics and Administrative Sciences
Department of Economics, Selçuk University, Konya, Turkey
perihaner@selcuk.edu.tr

Abstract
The studies on the concept innovation and its effect on growth gained acceleration, especially after Second World War. Smith, a classical economist, says that there is division of work in the foundation of wealth of countries and technological innovations emerged as a result of division of work. In Neoclassical understanding, innovativeness was handled as a driving force on the back of growth and evaluated as externality. According to evolutionary economy, the ability to be able to make innovation is an extension of the existing system. This development revealed the system approaches in innovation. According to this approach, to be able to make innovation in a society is a result of interaction of all actors, economic or non –economic, in that society. The most important contribution of Schumpeter to the science of economics is that he made analyses becoming dominant the role of entrepreneur and innovations in the market system. Schumpeter, who stands on the dynamic role of entrepreneurs in economic development and defines the entrepreneur as someone who has taken the innovations, defined entrepreneurs bring innovations in production through discoveries as the driving force of liberal capitalist development. In other words, Schumpeter treats technological innovation and entrepreneurial activity as forces which transfer productive resources of the static economy to dynamic innovations. This activity is expressed as the entrepreneurship's innovative development firstly is taken by Schumpeter but also concepts of entrepreneurship and innovation are interpreted in different ways by different schools of economics. This study firstly reviews comments on the theoretical basics of innovation in the history of economic thought, and then explores the innovative entrepreneur analysis of Schumpeter.

Keywords: Entrepreneur, Innovation, Invention, Economic History, Capitalist Development, J. A. Schumpeter

This study is derived from the master's thesis named "the Terms of Entrepreneurship and Innovativeness in the Economic Thought: joseph A. Schumpeter"

INTRODUCTION

21st century is a century, in which technological changes and innovations continue to modify the economic structures and welfare increases are seen all over the world. However, in today's society, the concepts used from the past to present change rapidly and new lines of business based on the information emerge in almost every area. So, in this social and economic transformation, the concept entrepreneurship also changed. Entrepreneurship is the engine of economic growth and development and the source of innovation and creativity. Also, using the resources and inputs beginning with the determination of prices in the market, it is a dynamic process, where the new businesses are crated, and that changes the new economic opportunities into welfare. Schumpeter, from important economists of 20th century, attempted to present the dynamic mechanism of economic system with his studiers called The Theory of Economic Development and Capitalism, Socialism and Democracy and Business Cycle and while carrying out this, a separate importance attributed to the entrepreneur and through entrepreneur, to the innovation.

Schumpter, first of all, designed an economic mechanism in a static balance - Walrasian balance- in which there is no change. Later, adding the element of entrepreneurship to this system, created environment of incomplete competition, creating a variation in the situation of balance, in which there is complete competition. As a result of entrepreneur's creating a variation and economic change, a dynamic economic structure emerges. Also, Schumpeter, defining the economic fluctuations, introduced a four staged scheme, where there are the phases of booming, recession, regression, and re-booming. The most important part of this analysis of Schumpeter consists of innovations, because innovation should emerge so that a development can occur in an economy in stable position.

Aim of this study, considering the developmental processes of the concept of innovativeness is to discuss the views of Schumpeter handling the entrepreneur as a person realizing the innovations.

INNOVATIVENESS - CONCEPTUAL FRAMEWORK

Innovation coined from the word "innavatus" in Latin in the meaning of making something new. It refers to begin to use the new methods in social, cultural, and administrative medium. Innovativeness is an important concept with determinative for economic growth. Innovativeness, using the new and developed product and process, is a certain function of entrepreneurship. Innovativeness is that entrepreneur creates welfare, creating new resources or increasing the capacity of use of existing resources (Drucker, 1998:21). A number of definitions were done about innovation.

According to Karagöz and Albeni (2003), innovation is the products and processes making access newly and innovations emerge as a result of technological change. While Fisher, (2000) defined the innovation as new thinking ways, producing the new ways of making things, and actions of trying what is produced and using it economic and social activities concerning human being and adopting (1983:11). Innovation, as a concept, both accounts for an innovation process and an outcome. According to the literature of EU and OECD, innovation, as a process, expresses to transform an opinion into marketable product or service, the new or developed method of manufacturing or distribution, or a new method of social service (OECD, 2005).

Sorts of Innovation

Innovation is basically as product and process innovation; however beside these different classifications are given place in the literature. Among these classifications take place marketing and organizational innovation.

Product innovation expresses a product, whose performance features are increased, to be commercialized or to be adopted and in the simplest expressions, is defined as a new product. It is possible to divide into two the product innovation as goods and service innovation. In another word, the word “product” is a definition to encompass both goods and services (Sungur, 2007: 12).

The concept innovation includes both a process (to be renewed) and an outcome. According to EU and OECD literature, the innovation, as a process, expresses to transform an opinion into a usable product and service, a new or developed method of manufacture and distribution, or a new method of social service (TÜBİTAK, 1997). This innovation includes significant changes in techniques, equipment, and software and is made to reduce the production and delivery costs per unit, improve quality, and produce new products (OECD, 2005: 53).

The process here can be a distribution process out of a production process. The process introduced as a result of innovations of technologic process can be a new process technologically or a process developed technologically (Akyos, 2004).

This organizational innovation is an application of a new organizational method in commercial applications of firm, organization or foreign relationships of workplace, Reducing the administrative costs and transaction costs of organizational innovations, improving the satisfaction of workplace, or decreasing the costs of equipment, it can be foreseen to increase the performance of firm (OECD, 2005: 55).

A marketing innovation is a new marketing method including the important changes in product design and packaging, product positioning, and product description or pricing.

Marketing innovations target on responding the needs of customer more successfully, opening new markets, and newly positioning of product firm in the market, in order to increase the sales of firm (OECD, 2005:53).

Historical Development of the Concept of Innovation

Classical Economics and Innovation

Classical economics begins in 1776, when the work of Adam Smith called —Wealth of Nations" is published, and prevails until 1873, when J.S. Mil, from classical economists, died. The views of this flow prevailing on the doctrine of economics over one hundred century about technologic change and innovation are discussed below.

Adam Smith, in 1776 in his book called -Wealth of Nations-, evaluated the individual's specialization in the area he/she works in time, importance of scientific works, and contribution of these to the wealth and growth (Karagöz and Albeni, 2003:31). Smith had established that technical progress or innovation is the most important source of productivity growth. It becomes the backbone for the classical theory of endogenous growth which might be more aptly called an endogenous theory of capital accumulation. Accumulation of capital provides the creation of new technical knowledge forward, opens up new markets and enlarges existing ones, increases effectual demand and is thus the main force behind economic and social development. Investment was also endogenous and determined by the rate of savings (mostly by capitalists). The growth rate depends on the savings and investment behaviour of entrepreneurs, and the creativity and innovativeness they, and the workforce (Knell, 2010: 7-8).

Karl Marx is one of the economists first mentioning about innovation. According to Karl Marx, capital accumulation and specialization of labor increase technical productivity and return of capital (Karagöz and Albeni, 2003:31). According to Marx the motivation behind innovations is relative surplus value. A capitalist who introduces a new and superior method of production can sell the commodities above their individual, but under their social value. This augmentation of surplus value is pocketed by him, whether his commodities belong or not to the class of necessary means of subsistence that participate in determining the general value of labour-power. Hence, independently of the latter circumstance, there is a motive for each individual capitalist to cheapen his commodities, by increasing the productiveness of labour. Each individual capitalist therefore has a persistent motive to innovate (Kurz, 2008: 8-9).

Ricardo recognizes the importance of technological innovation. He, indeed, who made the discovery of the [new] machine, or who first usefully applied it, would enjoy an additional advantage, by making great profits for a time; but, in proportion as the machine came into general use, the price of the commodity produced, would, from the effects of competition, sink to

its cost of production, when the capitalist would get the same money profits as before. Ricardo also has a clear understanding of the fact that, in general, new technical knowledge cannot for long periods of time be monopolized. Typically, it sooner or later becomes a general good. Ricardo is also clear that new technical knowledge is non-rival and does not per se become an innovation (Kurz, 2008:7).

Neoclassical Economics and Innovation

Neoclassic approach in innovation economics is in position of an extension of neoclassic production economics. Its defining with "production function" showing the production technology and relationship between outputs and inlets is one of the most important characteristics of this theory. The concept "production function" is a general concept and in order for neoclassic models to be able to be functional, it is accepted that production function has some features such as substitutability, and decreasing marginal product (Taymaz, 2001: 6). In production function, how transformation of inputs to outputs will be provided is determined by the technology used. When this process is expressed with labor and capital in neoclassic production function in the most general way, the amount of output becomes Q = T (S,E). However, technologic development is seen as production of the same goods, in the same scale, and by using less input and it is accepted that these reasons are external (Ansal,2004:39). Technology is an external factor to provide continuous input and increase the productivity of inputs and is in public attribute and its transfer is not difficult (Freeman and Soote, 2003: 372). Hence, technology does not have a complex aspect and can be easily understood, bought, and sold. Just as it transfer from firm to firm do not require an effort and cost, in transferring from country to country, any problem is not faced (Ansal, 2004:39).

After the studies of Nelson and Arrow, many neoclassical economist argued that technologic innovation and technologic information did not hold the characteristic of being external and therefore, that the markets can be hampered; i.e., that the markets will not be able to allocate the resources effectively and therefore, that the policies of government on technology and innovations should be structured in such a way that they will affect the processes to allocate resource (Karaata, 2002: 3).

Evolutionary Economics and Innovation

Evolutionary approach, especially after the book Evolutionary Theory of Economic Growth published by Nelson and Winter (1982), gained prevalence in innovation economics (Taymaz, 2001:12). In forming this theory, theoretical approach developed by Schumpeter were both utilized and inter firms technologic differences that neoclassic economics left unanswered were

attempted to be described (Ansal,2004:42). This approach, setting off from the studies of Schumpeter, evaluates the technological innovation as the engine of economic development in long term. Therefore, in evolutionary analyses, technologic innovation processes have a central role (Taymaz, 2001:12).

In evolutionary theory, technology cannot only be defined as a physical process, where the inputs are converted to the outputs. Beside this, technological information and how this information is used in the organization are emphasized. And innovation is not only limited to the innovations related to product and production process, but also includes the new development in the domains such as management, information, organization, and finance (Ansal,2004:42).

The most important distinction of evolutionary approach from neoclassical approach is that it made dominant the processes of technological innovation and learning. Given that the resources and technological abilities of firms, while neoclassical approach examines the process of resource allocation, evolutionary approach examines how the firms developed the new technologies and adapted the technologic innovations (Taymaz, 2001:12).

Technological improvements in neoclassic approaches are a linear process following each other in the way of invention-innovation-spread and from here, continuing until the spread of technology (Edquist and Hommen, 1999: 65-66). But, evolutionary approach evaluates the technological improvement as a complex process, in which each stage is interknitted, not a linear process.

JOSEPH ALOIS SCHUMPETER'IN PERSPECTIVE ON INNOVATIVENESS

Formation of Schumpeter's Innovation Model

Just as all thinkers, Schumpeter was also affected by the preceding economists. In his work called Business Cycles, he made use of the work of Arthur Spiethoff on economic cycles. Business Cycles include capitalist evolution in the period from the late 18th century to 1930s (Dolanay, 2009: 173-174).

Schumpeter, in his work, examines the economic cycles in four separate stages as welfare, recession, depression, and booming (Aydoğmuş et al., 2009: 13). In addition, according to Schumpeter, it is not realistic to consider that there are a few of economic cycle; Capitalist society three different types of fluctuation. The first of these is Kitchin waves lasting 3-4 years; the second, Juglar waves lasting 7-10 years; and the third, Kontradief waves lasting 50 - 60 years (Tekeoğlu, 1993: 222).

The long cycles approach of Kondratieff constitutes the frame of Schumpeter's work called Business Cycle. In spite of similar points in his analyses, about the causes of economic cycles, the fundamental differences release. In the analysis of Schumpeter, the innovations are

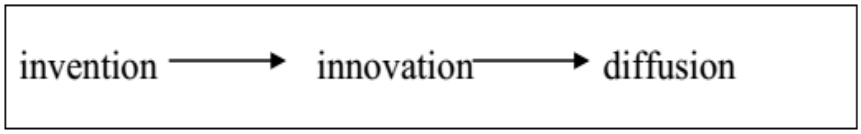
handled as the most important factor (Dolanay, 2009: 174-175). Schumpeter, in his analysis, accepted the waves of Kondratieff in general sense and argued that long termed fluctuations caused the innovations. In capitalist society, economic development is synonymous with change. Economic structure is not motionless. Producing the new goods or manufacturing the existent ones cheaper are major driving force of advancement (Özgüler, 2006: 8-9).

According to Schumpeter, economic fluctuation is not, in fact, something than adapting process of economy itself to the innovations. Even though economic system is in the position of turning to balance state, the innovations expose this tendency to be ceased. Hence, the process providing the economic development also creates conjectural fluctuations (Savaş, 2007: 834).

Schumpeter and Innovation Trilogy (Invention-Innovation-Diffusion)

The Schumpeterian trilogy that divides the technological change process into three stages is often considered to provide a useful taxonomy. The first stage is the invention process, encompassing the generation of new ideas. Invention is forming a new thought having a potential to apply in economy. It is assumed that the frequency of inventions was determined by the scientific knowledge and the invention is dispersed in almost accidental way in time (Taymaz, 1997:3).

Figure 1: Phases of a new product



Source: Karagöz,M.,Albeni, M.,Ekonomik Kalkınma ve Modern Yenilik, Teorisi, Süleyman Demirel Üniversitesi, İİBF,C.8,S.3,2003, p.29

The second stage is the innovation process encompassing the development of new ideas into marketable products and processes. Innovation is the first commercial application stage of invention. Developing innovations is determined by the technologic and economic conditions, in which the firm (making innovation) is. Innovations may be intensified in certain periods and sectors, because in order for a radical innovation to be able to use its all technological potential, many complementary (small) innovations are needed. In other words, after a radical (successful) innovation, technologic change follow a certain way defined as —technological trajectory.

Innovation is that invention becomes applicable in industry and this can realize after a long time from the invention. The third stage is the diffusion stage, in which the new products and processes spread across the potential market (Mahdjoubi, 1997:2).

The spread stage of innovation, even if it includes partial externalities and broke the monopoly profit of the entrepreneur first revealing it, when it is evaluated in terms of all economy, it becomes very important development mechanism. Because, even though it harms to the entrepreneur first revealing the innovation, spread of innovation provides economic growth and increase in employment (Karagöz and Albeni, 2003: 32). In addition, this emerging process of invention-innovation-spread cause's business cycles in the economy and thus technologic innovation, as an internal element of economy, becomes the most important factor providing the dynamic of economic development (Sungur, 2007: 32).

Innovation and Entrepreneurship

Schumpeter claims that as a requirement of its economic structure, capitalism is continuously in innovation and because of this success, its end will come. In Schumpeter, technological innovations are realized by the entrepreneur having credit. Increase of credit demands of entrepreneur leads to expansion in the economy; however, after a little time, in case that credits are not paid by entrepreneur to lenders, a credit fluctuation is experienced in the market. Also in this case, the increasing profits can leave its place to the loss. As a result, economic shrinkages remove the non-creative enterprises and provides the new creative businesses to be placed (Ulusoy, 2010: 75).

Girişimci disturbs status quo through innovations and carries out new combinations of factors of productions. Everyone is an entrepreneur only when he actually carries out new combinations and loses that character as soon as he built up his business. This implies that the entrepreneur is an innovator and a catalyst of change through the introduction of new technological products and processes (Winata, 2008: 21).

Following Schumpeter Mark 1 –the literature inspired by - The theory of economic development– the supply of entrepreneurs able to spot new technological opportunities and to understand the possible technological and economic applications of new scientific breakthrough is considered an important factor in understanding the pace of introduction of new technologies and their specific economic and technological characteristics. This approach praises the role of new firms as vectors of new technologies and suggests that only high birth levels of new firms can sustain rates of technological change (Antonelli, 2009: 621).

Innovation and Creative Destruction

Schumpeter‘s most condensed characterization of ‗the capitalist process is found in his phrase of ‗creative destruction‘. This catchy phrase is a piece of thought provoking rhetoric that clearly expresses his vision of capitalism. The essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process. [It is a process] that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one (Andersen: 2004, 2-3).

Schumpeter called this process in his book called Capitalism Socialism and Democracy as creative destruction process. The reason for him to call this process as creative destruction process, since the process is based on the technologic innovations, firms, creative but not keeping step with technologic developments, old sectors and even old technologies and even sectors are selected (removed) from the economy, process is qualified as destruction (Aydoğmuş vd., 2009:12).

This process of Creative Destruction is the essential fact about capitalism. Through the concept of creative destruction Schumpeter effectively pushes aside standard ideas about economic change. First economic evolution is not a simple growth process in which all sectors of economic life expand in a balanced way. Instead it is characterised by the creation of novelty and the destruction of old products and processes. Furthermore, the existing firms and other organisations do not smoothly upgrade their competencies and switch their areas of specialisation. Instead they often perish in the evolutionary process. Finally, employees that lose their jobs are often facing great stress and significant welfare losses that seem more obvious than their long-term advantages of capitalist evolution. Thus creative destruction is a concept that reflects the competitive struggle and that emphasises the reactions to the temporary welfare costs (Andersen: 2004, 3).

COMPARISON OF VIEWS OF INNOVATION

The concept of innovation such as entrepreneurship is defined in different ways by schools of thought throughout history.

In order to highlight the origins and the evolution of the economics of innovation, a matrix of analytical tools can be elaborated. It shows how the different analytical trails have contributed to the evolution of the field.

Table 1: Innovation Matrix

	Innovation and growth	Innovation and competition	Innovation and knowledge	Innovation within evolving systems
The classical legacies	Division of labor Demand-pull Inducement		Learning Collective knowledge	Industrial specialization Variety Structural change
The Schumpeterian legacies	Creative destruction	Creative reaction The Schumpeterian hypothesis Entrepreneurship Monopolistic competition Structure-conduct-performance Dominant design Network externalities	Gales of innovation R&D Technology push Technological opportunities	Dynamic efficiency Sectoral patterns Technological regimes Creative adoption General-purpose technologies
The Arrovian legacy	New growth theory	Knowledge as a production factor Knowledge quasi-rents Spillover	Knowledge as an economic good Knowledge spillover Industrial districts Knowledge asymmetries Knowledge governance	Technological systems Systemic interactions
Evolution and complexity	Learning as the engine of growth Technological trajectories	Life cycle Epidemic diffusion Replicator dynamics	Localized technological knowledge Distributed knowledge Innovation networks Knowledge as an input and an output Competence	Localized technological change Past dependence Positive feedbacks Path dependence Generative relationships

Source: Antonelli, Cristiano, From the Classical Legacies to the Economics of Complexity, 2009, p.613

On the relationship between innovation and growth, classical thought brings forward that growth will be provided as a result of division of work and specialization. Classics argue that, adopting demand-pull model, the demands, pleasures, and preferences of customer orientated the innovation. Neoclassic thought explains the relationship between innovation and growth through production function. In production function, how transformation of inputs into outputs will be provided is determined the technology used. Realizing the production of the same good through using less input in less scale is also seen as a technologic development. Evolutionary approach, like neoclassic thought, also gives importance to technology in transforming of inputs into outputs However, differently; it also handles how the technologic information and knowledge are adapted to the technology. Thus, evolutionary approach argues that technologic innovation and learning processes became effective on the growth. In Schumpeter, growth comes true as a result of creative flow process emerging the innovations of entrepreneurs innovations.

The Schumpeterian legacy has provided the basis of enquiry into the relationships between innovation and competition in the marketplace with important implications for the theory of the firm and the theory of the markets. The Schumpeterian approach has focused on the role of innovation as a competitive tool, and on both the corporation and entrepreneurship

as the driving factors. Evolutionary approach developed in parallel with the second half of 20th century with specialization process and provided possibility to understand systematic dependency characterizing dynamics of way dependency and technological and structural change (Antonelli, 2009: 613).

CONCLUSION

The studies on the concept innovation and its effect on growth gained acceleration, especially after Second World War. For innovation, in short, expressed as transforming an opinion to the production, there are very different definitions.

Adam Smith, a classical economist, says that there is division of work in the foundation of wealth of countries and technological innovations emerged as a result of division of work. According to Smith, the mechanism providing growth is division of work. In Neoclassical understanding, innovativeness was handled as a driving force on the back of growth and evaluated as externality. The opinions of Marshall leaded to evolutionist opinions to emerge and provided possibility to understand the processes of specialization and nonstructural change based on the interaction between heterogeneousness, complementariness and competition characterizing the process of innovation.

According to evolutionary economy, the ability to be able to make innovation is an extension of the existing system. This development revealed the system approaches in innovation. According to this approach, to be able to make innovation in a society is a result of interaction of all actors, economic or non –economic, in that society. The most important contribution of Schumpeter to the science of economics is that he made analyses becoming dominant the role of entrepreneur and innovations in the market system. Schumpeter, like Marx, following a historical track, examined the capitalism as a historical process. The driving force starting the engine of capitalism and keeping it in movable comes from new consumption goods, new methods of production and transportation, new markets the entrepreneur has continuously created, and new industrial organization forms. Schumpeter, while analyzing the role of innovation in oligopolistic competition, also handled the entrepreneurship as a primary power in the presentation of new technologies continuously. According to Schumpeter, the role of entrepreneur is to make innovations in the production order, using an invention to produce a new good or produce an old good in its new form, finding a new resource of raw material or a market for products; and organizing an industry. As starting point of realizing these innovations, Schumpeter considers the state of stable balance. An innovation should occur so that a development can be in an economy in a stable state. Thus, economy begins to develop and balance is upset. Due to the activities of entrepreneurs, credits increase, prices and

incomes rise up, and welfare enhances; So an environment that will drive the other entrepreneurs. But, with introducing of new firms to the market, positive effects begin to disappear one by one. With access of data to the entrepreneur area that is alone at the beginning in that area and receives monopoly profits, it will be obliged to share the profit. In booming period experienced, the rising prices will impede the investments and the competition between new products and old products will reduce the profits. When the entrepreneurs cannot pay for their debts, deflationist presses will increase, investments will decrease, and booming period will replace with recession period. Thus, until re- booming starts, the end of economic development will be reached. When a new innovation occurs, the same process will start again. In Schumpeter, economy has an evolutionary character.

REFERENCES

Akyos, M. (2004). Firma Düzeyinde Yenilikçilik (Yenilik) ve Bilgi Yönetimi, http://www.sistems.org/know_info_ozet.htm (E:02.08.2011).

Ansal, H. (2004). Geçmiş ve Gelecekte Ekonomik Gelişmede Teknolojinin Rolü, TMMOB 50.Yıl Yayınları,36-58.

Andersen, E. S. (2004). From Schumpeter's failed Econometrics to Modern Evometric Analysis: Creative Destruction as A Tale Of Two Effects, Conference of the International Schumpeter Society, Bocconi University, Milan, 9-12 June.

Antonelli, C. (2009). The Economics of Innovation: From the Classical Legacies to the Economics of Complexity, Economics of Innovation and New Technology, s.611-646.

Aydoğmuş, O., Türkcan, B., Tunali, E. and Kopurlu B. S. (2009). Kriz Teorileri: Kondratieff, Schumpeter ve Wallerstein, Ege University, Working Papers ın Economics.

Dolanay, S. S. (2009). Schumpeter Sisteminde Yenilikler, Ekonomik Gelişme ve Devresel Hareketler, International Journal of Economic and Administrative Studies, Sayı:1, s.171-188.

Dosi, G. (1988). the Nature of Innovative Process, Technical Change and Economic Theory, ed.by. g. Dosi et.al printer publishers.

Drucker, P. F. (1998). The Discipline of Innovation,Harvard Business Review, November- December.

Edquist, C. and Hommen L. (1999). System of Innovation: Theory and Policy for The Demand Side, Technology In Society 21, s.63-79.

Fisher, M. M. (2000). Innovation, Knowlege Creation and System of Innovation, The Annals of Regional Science.

Freeman, C. and Soote L. (2003). Yenilik İktisadı, (çev. Ergun Türkcan), Ankara :Tübitak.

Karaata, S. (2002). İnovasyonun Önemi Teknoloji ve Girişimci Finansmanı, Işık Üniversitesi İşletme Kulübü, Kasım.

Karagöz, M. and Albeni, M. (2003). Ekonomik Kalkınma ve Modern Yenilik Teorisi, Süleyman Demirel Üniversitesi İİBF, s.3, S.27-48.

Knell, M. (2010). Demand and Innovation in Economic Thought, Technical Change: History ,Economics and Policy a Conference in Honour of Nick von Tunzelmann.

Kurz, H. D. (2008). The Classical Heritage Schumpeter on Innovations and Profits, European Journal of the History of Economic Thought, 17(5).

Mahdjoubi, D. (1997). Schumpeterian Economics and The Trilogy of Invention Innovation Diffusion,http://www.ischool.utexas.edu/~darius/17-Schumpeterinnovation.pdf , (E.02.09.2011).

OECD, (2005). Yenilik Verilerinin Toplanması ve Yorumlanması İçin İlkeler, Oslo Kılavuzu, 3. Baskı.

Özgüler, V. C. (2006). Uzun Dönemli Dalgalanmalar Yenilikler ve Yeni Ekonomi,http://www.yeniekonomi.com/word_belgeler/Uzun.dalgalar.2003.do c (E.02.09.2011).

Savaş, V. (2007). İktisatın Tarihi, Siyasal Kitabevi, Ankara, 5.Baskı.

Schumpeter, J. A. (1934). The Theory of Economic Development, Harvard University Press, Cambridge, Mass.

Schumpeter, J. A. (1942). Capitalism Socialism and Democracy, Harper Collins Publishers, New York.

Schumpeter, J. A. (1947). The Creative Response in Economic History, The Journal of Economic History, S.7, No: 2, s.149-159.

Schumpeter, J.A (2010). (1942). Kapitalizm Sosyalizm ve Demokrasi, (çev.Hasan İlhan), Alter Yayıncılık, Ankara.

Schumpeter, J. A. (2011). (1934). The Theory of Economic Development, Oxford Unv. Press,16. Basım, New York.

Sungur, O. (2007). Bölgesel Ölçekte İnovasyon: NUTS2 TR61 Düzeyi KOBİ'leri İle Yerel Paydaşlar Arasındaki Bilgi Dinamikleri ve Ağbağları Üzerine Bir İnceleme, Süleyman Demirel Üniversitesi, Sosyal Bilimler Enstitüsü, İktisat Anabilim Dalı, Isparta.

Ulusoy, R. (2010). Piyasada Belirsizliğin Giderilmesinde Girişimcinin Rolü, Kocaeli Üniversitesi Sosyal Bilimler Estitüsü Dergisi (19)/1, s.69-80.

Taymaz, E. (2001). Ulusal Yenilik Sistemi: Türkiye İmalat Sanayinde Teknolojik Değişim ve Yenilik Süreçleri, TÜBİTAK/TTGV/DİE, Mart, Ankara.

Tekeoğlu, M. (1993). İktisadi Düşünceler Tarihi, Adana.

Winata, S. (2008). The Economic Determinants of Entrepreneurial Activity: Evidence from a Bayesian Approach, Massey University.