

The Entrepreneurial Mind

Lecture 9: Economic Theories of Entrepreneurship

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Lecture Learning Objectives:

At the end of the lecture, you will be able to:

1. Distinguish the main arguments about the role of entrepreneur from the perspective of classical, neoclassical, and Austrian school of thought.
2. Explain the reasons behind the inconsistencies between economic theories of the role of entrepreneur in the economy.
3. Explain the relevance of scientific observation, logic, and statistics to advance the study of entrepreneurs; and
4. Appreciate the value of entrepreneurship in adding value to limited resources by demonstrating entrepreneurial traits such as Industry, innovativeness, self-efficacy, and locus of control.

Overview

Entrepreneurs play a critical role in economic development. Since economic development varies across cultures, entrepreneurial development also varies with the culturally, social and psychological processes that either facilitate or impede the development of entrepreneurs. Albeit, the literature is replete with attributes of successful entrepreneurs, however, no attempt provides a systematic theory of entrepreneurial development in relation to economic growth. Even to this day, the study of entrepreneurship remains an underdeveloped theory. This lecture includes selected economic theories of entrepreneurship to bring the readers directly to the most influential. The next two lectures lumped together all the sociological and psychological theories taken from the multidimensional studies on entrepreneurship.

Economic Theories of Entrepreneurship

The study of entrepreneurship is a maze of theories as they are written in different approaches to discipline e.g. economics, psychology, sociology, and business management. Research showed no converging results that define entrepreneurs, the factors that drive them, and sources of survival and success owed to small samples used, and the lack of consensus about research constructs applicable at the individual, national, cross-cultural levels. Consequently, a systematic and unified economic theory of entrepreneurship remains underdeveloped. It is worth noting that economic theory deals primarily with the processes by which allocation of scarce resources helps attain the achievement of diverse competing economic goals. Hence, the consideration of diverse goals that set off economics from other disciplines such as sociology, psychology, and the like. Many economists from 1755 to 1975 contributed theories of entrepreneurship, each of whom provided a different role for the entrepreneurs in society. This lecture explains selected economic theories of entrepreneurship into three schools: Classical, Neoclassical, and Austrian market process. A selection of notable writers in each school of thought provided insightful ideas.

Classical Theories of Entrepreneurship

The pre-classical economic thought began in early antiquity and proceeded through the 18th century ending before Adam Smith. It covered the period from philosophical propositions of Aristotle to the mercantilist notion of an economy. Since, Cantillon's theory of entrepreneurs contributed a large part of classical theories particularly Adam Smith (Brewer, 1992), this lecture discusses entrepreneurship in the context of his entrepreneurship theory in the late pre-classical period. Classical economists restricted the role of entrepreneurs in the production and distribution of goods in the marketplace. Although the underlying principles of classical economic theories of entrepreneurship included free trade, competition, and specialization, implying the workings of market demand and supply, they generally put emphasis on the supply-side of the economy (Bartlett, 2008). Given that the market is free, competitive, and specialized. **Cantillon** emphasized the role of entrepreneurs is to bring the demand and supply side of the market together (Parker 2018). This lecture covers a brief discussion of notable theories of entrepreneurship expounded in simple terms.

Richard Cantillon (1755)

Richard Cantillon was the first to present a theory of the entrepreneur. Originally, the term "**entrepreneur**" is a French word that means "**ability to take charge**." Rightly, a banker and stocks speculator himself, he conceived of entrepreneurs as taking charge of business risk, overcoming it for profit. They are responsible for activating and stimulating all economic activity whereby the economic success depends. In his essay, he begins by distinguishing entrepreneurs from employees, the former with uncertain incomes, and the latter with fixed incomes (Brown and Thornton, 2013). The distinction between the two, however, withers in the final part of his essay as free and competitive forces ruling the market for goods and services and the market for land and labor would make everyone essentially an entrepreneur, mutually dependent upon each other, each takes risks, and must receive uncertain income. Cantillon's theory suggests that without entrepreneurs taking and overcoming the risks of business ventures, economic progress would have slowly stopped a long time ago. He categorized people not strictly according to their rigid social classes but in terms of their economic functions. These economic functions included not mainly landowning and laboring, receiving fixed incomes (rents and wages), but all entrepreneurial activities receiving uncertain profits. Hence, despite the risks, profits grew and are responsible for economic growth. **For example**, the farmer-entrepreneur bears the risk of fixed costs of production and of uncertain selling prices in the same way as the manufacturer pays similar fixed costs and relies on an uncertain return. Similar to the teachers, barbers, doctors, engineers, accountants, and market vendors are entrepreneurs. Except for those who only sell their own labor or lease their land in a lived amount (non-existent), entrepreneurs must invest money, and since sales and selling prices are uncertain, their profits are uncertain as well. According to Cantillon, the widespread uncertainty borne by entrepreneurs is partly the consequence of a competitive market. Unlike a business monopoly, the owner himself decides upon prices of products and production, and there is little entrepreneurial uncertainty. In the real world, entrepreneurs face a great deal of uncertainty because of competition and must bear the

risks. Since competition and entrepreneurship go together, profits are necessarily the outcome of successful forecasting and risk-taking and in this sense a monopoly. Cantillon's idea on the role of entrepreneurs is wholly modern as it vividly describes the liberty of people to engage in all business and trades, and to choose their careers and dreams into their hands without which economies would have reverted to feudalism.

In his essay, Cantillon distinguished three functions of entrepreneurs (Brown and Thornton, 2013),

First, buying and selling products from the villagers to the cities

Second, buying and selling products from the city to the villagers.

Third, producing goods and services sold in the villages or cities. These functions include any activity which organizes the inputs of production (land, labor, and capital) for the production and distribution of goods. There are assumptions implicit in Cantillon's theory.

For example, entrepreneurs must avail of the different forms of utilities in the production and distribution of goods. These utilities include time, form, place, service, and possession utility. Availability of time is very important in providing consumers with their desired goods at a certain time (holidays, seasons, weather) The transformation of raw materials into finished forms (finished goods) requires the creation of forms or designs that are more beneficial to consumers than the raw materials used to make them. Production and distribution also require the use of service utility such as public or private electricity, transportation, banking services, and entertainment. Exchange of goods requires possession utility by transferring goods ownership through various forms of payment, cash, credit, or leasing strategies that make a product more attractive to a consumer. All these utilities create value for the consumers without which neither production nor distribution can fully take place. Cantillon's theory of entrepreneurship is very modern and undoubtedly comparable or probably even better than the celebrated writings of Adam Smith and David Ricardo. At any rate, his entrepreneurship theory remains merely a part of his many contributions to economics rather than as a method and construction of economic theory.

Five pre-classical economic theories assume the central position in Cantillon's essay namely:

- 1) the role of entrepreneurs and economic geography, entrepreneurs and labor market.
- 2) critical role of entrepreneurs.
- 3) entrepreneurs and theory of value.
- 4) circular flow model; and
- 5) price-specie flow mechanism (Brown and Thornton, 2013).

The **first theory** refers to the importance of the "**taking charge**" role of entrepreneurs, coordinating the product market (commodities and services) and resource market (land and labor) which in turn determine the size, location, and proximity of markets. Consequently, the size of the town or city determines the number of

entrepreneurs that will live in the village or town. The number of entrepreneurs determines the size and composition of the population of the location. In order to satisfy the demand of the consumers, villages or towns should be in proximity to cities where there is a geographical build-up of consumers causing a larger and more diverse group of entrepreneurs to gather in the same location. In many respects, the idea of the role entrepreneurs play in determining location, distribution, the spatial organization of economic activities is entirely modern. Today, spatial economics is an important subject which deals with the importance of geography in economic growth that goes beyond a national border to a borderless global village.

The **second theory** deals with the critical role of entrepreneurs in labor value determination. This value differs from the classical theory of wages. The classical value of labor relies chiefly on the interplay of demand and supply of labor, fluctuating above or below the "**subsistence wage**" (borrowed originally from Cantillon) by David Ricardo and "natural price" by Adam Smith. If the market value of labor falls below subsistence wage and natural price economic losses fall heavily on the laborers. In contrast, Cantillon argued that not just demand and supply, but opportunity cost and risk as well determine the market value of labor (wage). He showed that the value of skilled labor is higher than unskilled since there is an opportunity cost of time in learning and preparation plus the sum of risks in the profession. Thus, the monetary value of labor goes hand in hand with risks since the present amount spent on training and learning must offset the future value of wages, which is uncertain in the future. Hence, the supply of labor skills in a line of work is at risk. Therefore, the supply of skilled and unskilled labor must be proportionate to the demand. If demand exceeds supply in a particular location, the wage will fall, and some laborers must leave to get work elsewhere or find some other line of employment. Cantillon's theory of market value of labor differs from classical demand-supply equilibrium value of wage and neoclassical marginal productivity of labor. If the demand and supply of labor incorporate the temporal element of risk and opportunity cost, an accurate forecast of prices and values of labor becomes a necessary instrument for entrepreneurs in reducing business risks. **For instance**, the future wage by discounting becomes ex-post its present value while in reverse by compounding present value to the future. An integration of Cantillon's theory of the value of labor to the Smith-Ricardo model adds a more vivid description of the realities of the market value of labor today.

The **third theory** refers to the "**intrinsic value**" of goods which is a corollary of the second theory considered antagonistic to modern economists. There were doubts about whether it represents labor value, land value, both labor and land value, or whether it was like Adam Smith's distinction between market price and natural price. Whatever that value refers to, Cantillon put all arguments together and defined the intrinsic value of a good as the amount and quality of the land and labor spent to produce the good in consideration of their respective opportunity cost (Thornton, 2007). The amount (quantity) and quality of labor and land relate to each other mutually. He argued that intrinsic value is immutable, but its market price changes all the time according to the "humor and fancies" of the market. In this view the price of goods would approximate the "intrinsic value" of goods in the long run. The long-run equilibrium between the value of land and labor and prices of goods speaks of what modern economists call the **equi-marginal principle**. A concept

in which entrepreneurs choose a combination of land and labor to maximize the total output of a good. Maximization of output occurs when the ratio of marginal productivity of land and labor and their respective prices are equal and by the forces of demand and supply will equilibrate with the prices of goods. Cantillon's intrinsic value implies the equilibrium between production and consumption where the cost of goods is equal with the value of inputs the produce them - the demand and supply equilibrium.

The price-specific flow mechanism proposition has reference to David Hume (1754) and with some exceptions, applies to the modern theory of the quantity of money, Cantillon showed that an increase in the volume of money has both positive and negative effects since the volume of money affects the relative prices of goods depending on where and when money spending takes place. The modern quantity theory of money refers only to the direct relationship between money supply to the general price level, but Cantillon's theory also refers to the sectors and the timing of money expenditure. **For instance**, if large money payments happen in speculative market sectors such as the stock exchange market, this sector as often the case will experience price increase ahead of other sectors than those sectors with small payments on, say, consumer goods. This means that inflation and standard of living are relative. The variation of price trends in various sectors popularly known today as barometers of business cycles such as leading, lagging, and coincident indicators reflect the robustness of his theory. These indicators help investors detect significant shifts in the market, measure current market conditions, and forecast market trends. Cantillon further showed that as domestic prices increase (localized inflation), entrepreneurs would change their production structure to address the changing pattern of demand. These structural changes known as "**Cantillon Effects**" cause changes in the money supply and causing changes in relative prices of goods. An increase in the prices of goods causes people to import goods and export gold since gold was an international medium of payments. Consequently, the importation of gold causes domestic prices to fall and in the long run brings domestic money supply in equilibrium with the foreign money supply. Since entrepreneurs change their plans according to the money supply, it is important for the country to make policies through a price-specific flow mechanism to stabilize the money supply to avoid unfavorable economic effects.

Cantillon's price-specific flow mechanism has limitations in modern international trade.

First, it does not apply to the present capital flows of the country since today's international payment used the convertibility of local currency into the dollar, not the fixed mint value of gold. In this sense, capital flows (capital and current account of the balance of payments) could be larger than the balance of trade (commodity or merchandise trade).

Second, the theory did not explain the effect of interest rate in the banking sector that affects the flows of capital in and out of the country.

Cantillon's circular flow model is essentially true. As a child of his own generation, he conceived that everyone depends upon the property owners (land or capital

ownership). However, workers do also each other, a mutual interdependence between the property class and laborers. Cantillon developed a circular flow model where entrepreneurs are responsible for bringing all goods and services from different but mutually interdependent classes of people together. It is important to note that without this mutual interdependence, the circular flow would grind to a halt. Thanks to entrepreneurs who are responsible for making the distribution of incomes and expenditures functionally dependent upon entrepreneurial decisions across the population. Although property owners are the source of wealth to stimulate economic activities, they depend upon the people who will carry out their demands. The role of supervisors (managers) of farms and workers is to act as proxy entrepreneurs to satisfy the demands of property owners (Foss et al., 2017). Through competition, risk, and uncertainty, everyone becomes an entrepreneur, some get rich while others remain poor or go bankrupt (Cantillon, 1931).

He used the farmer as an example of an entrepreneur: "The **farmer** is an entrepreneur who promises to pay the property owner, for his farm or land, a fixed sum of money" without the assurance of the profit he will derive from this enterprise. The farmer-entrepreneur hires and supervises labor and buys goods from other entrepreneurs. Cantillon described the entrepreneur as someone who uses "judgment" without being able to foresee which product will pay the best price depending on the forces of supply and demand. Cantillon also specified that the entrepreneurs as the owner of an enterprise operate under uncertainty who adjust to changes in the prices in the market. Changes in the demand for property cause entrepreneurs of all kinds to respond according to the profit and loss framework and regulate the flow back to equilibrium. The price mechanism that regulates Cantillon's circular flow is similar to Adam Smith's model of the "invisible hand" that drives entrepreneurs to regulate the flow of goods within the economy (Thornton, 2009). Cantillon is one of the few economists cited by Adam Smith, who directly influenced a large part of his celebrated economic theory of freedom of enterprise although in many respects Adam Smith advanced well beyond the scope of Cantillon (Brewer, 1992).

Neoclassical Theory of Entrepreneurs

The neoclassical theory of entrepreneurs contradicted the classical model based on the proposition that the value of goods does not depend solely on the cost of production (supply side) but also on the demand side of a closed economy. Equilibrium demand and supply determine prices as well as economic growth. Neoclassical economists give importance to the principle of diminishing marginal utility that drives entrepreneurial engagement. From a neoclassical perspective, entrepreneurs must consider the decreasing satisfaction of consumers as more units of a good consumed. The production method is direct instead of a roundabout with the assumption that entrepreneurs have knowledge consumers' demand before the production of goods takes place. This knowledge consists of the demand of the product or service across population segments or socio-economic-demographic characteristics of consumers.

Alfred Marshall (1949) emphasized that demand and supply determine the price and output of a good. He theorized the interplay of demand and supply to reach equilibrium however failed to explain how profit occurs at equilibrium (Bula, 2012). He examined the fundamental entrepreneurial functions, proceeds to the establishment of an enterprise, and extends to entrepreneurial motives, personal characteristics, and the justification of profit as a special reward. His theory presents a realistic theory of entrepreneur, which incorporates demand and supply factors into a single unified body of knowledge. In contrast to Schumpeter, **Marshall** stressed that the contribution of a very large number of small entrepreneurs in a state of partial equilibrium leads to economic progress. This is because of the fact that real markets characterize relevant elements such as product differentiation and advertising, varying demand elasticity owed varied customer preferences across cultures, and a variety of products and services. In Marshall's analysis, the focus is to sustain the equilibrium, and only when markets become too competitive that profit becomes zero leading producers to innovate (Bula, 2012-Karayiannis, 2009), **Marshall** focuses on sustaining entrepreneurial innovation by product differentiation in contrast to Schumpeter's view of the entrepreneur as the mainspring of innovation creating disequilibrium. In **Marshallian theory**, the entrepreneur possesses perfect knowledge of purely competitive markets (Grebel et al, 2001). An entrepreneur could predict changes in production, and what the consumer prefers. Hence, an ability for entrepreneurs to see new opportunities for supplying new goods or services (Davidson & Wilkins, 2001). In the Marshallian view, an entrepreneur is a risk-taker. However, there are criticisms of the Marshallian approach as it failed to explicitly explain what attracts an entrepreneur in a business that gives zero profits (Bula, 2012).

Frank Knight (1921) was the first to specify entrepreneurship function under pure uncertainty and extend this uncertainty within a general equilibrium system. In order to eliminate the problem of uncertainty, Knight assumes that producers and consumers have perfect knowledge. Take note that pure uncertainty differs from predictable risk, the former is the most pervasive fact of everyday life with unknown alternative outcomes, and hence, the accurate decision of cost and benefits is inaccessible. The latter has at least some probability of alternative outcomes and is measurable by a statistical distribution. Hedging and arbitrage minimize risks while the outcomes of uncertainty cannot. How then can the general equilibrium system function with the prevalence uncertainty? On this question, Knight argued that entrepreneurs assume uncertainty-bearing ventures and are responsible for restoring equilibrium. Only entrepreneurs, no other actors can make such a decision in the face of uncertainty. The distinctive uncertainty bearing ability entrepreneurs possess permits them to make such decisions. Some individuals have a greater foresight than others do and those with the greatest amount of foresight achieve high-level decision-making. These individuals are entrepreneurs, and they are not merely managers of routine administrative tasks. **Entrepreneurs** are strategic decision-makers who generate profits by their actions in deploying resources to optimal effect in an uncertain economic environment.

In addition, entrepreneurs make worthy strategic decisions to generate pure profits in the long run. Pure profits are gains after deduction of all implicit or opportunity costs borne by the organization, including salaries of managers and capitalists. Knight also

distinguished between entrepreneurs and managers in terms of uncertainty bearing. Managers do not bear uncertainty as entrepreneurs do; the same is true with capitalists although they may benefit from entrepreneurs' uncertainty-bearing actions. Knight also distinguished between self-employed and paid individuals, the former bears more uncertainty as they aim for higher income than the latter. In the same way, a higher level of profits motivates entrepreneurs. A modern corporate business organization has a way of reducing uncertainty by spreading the risks against uncertainty across many individuals by the law of averages. For a large scale, the capital corporation operates efficiently and profitably where a larger portion of which comes from the top of the hierarchy of stockholders for their uncertainty bearing. Entrepreneurial income is pure 'profit' and this is not a contractual income in the same way as a manager's salary. In this respect, entrepreneurship entails an element of monopoly. Firms that consistently earn profits over and above the average level in their markets do so because they have better entrepreneurs. This element of monopoly is beneficial to the economy because without it there could be no economic equilibrium as uncertainty would prevail. It is, therefore, uncertainty via monopoly that creates profit.

The neoclassical economic model has several limitations. The most obvious is the assumption of rational behavior that ignores the reality of the vulnerability of people to irrational behavior in maximizing utility and profit (Thaler and Sunstein, 2008). In real world, selfish maximization of utility or profit is not the only goal of an individual or firm. The desire for maximum utility or profit also consists of some altruistic goals such as empathy (Cory, 2006). In addition, it is overly dependent on mathematical models that do not adequately explain the actual normative interdependence of people within an economy neither verifiable nor testable.

Austrian Market Process Theory of Entrepreneurship (AMP)

Austrian school taken as a whole uses verbal logic of a priori thinking in contrast to classical and neoclassical school which make use of data and mathematical models to objectively prove their point. The Austrian school rejects the universal application of any economic theory. **Prices** are subjective as an individual's preference to buy or not to buy a particular good is subjective holds that objective of production determine prices while the neoclassical school holds that demand and supply equilibrium determine prices (Bula 2012), the Austrian school put emphasis on subjective factors that also determine the costs of production according to the value of alternative uses of scarce resources. Entrepreneurs play a pivotal role in the Austrian view of the economy. The entrepreneur is the active agent in the economy who uses the information available from prices and interest rates exercises judgment of expected future prices and conditions, make alternative economic plans, and bears the risk of an uncertain future by taking ultimate responsibility for the success or failure of the chosen plan. The Austrian view of the entrepreneur includes not just innovators and inventors, but business owners and investors of all kinds as well.

Austrian economics argued that entrepreneurs have the ability to seek and communicate knowledge throughout a market system via price information and are

responsible for innovation to take place, satisfying market needs, and changing the system wide structure to happen. **Entrepreneurs** know how to create new goods or services because they are better informed and reap profits through it. **Entrepreneurs** make use of knowledge because it will provide some individually defined consumer benefits.

According to AMP, entrepreneurs find it profitable to use knowledge to generate new economic value consistent with the three main conceptualizations of Kirzner (1973).

The **first** is an arbitraging market in which opportunities emerge for a given market that other markets may overlook certain opportunities.

The **second** was alertness to profit-making opportunities, in which entrepreneurs discover an entrepreneurial advantage.

The **third** conceptualization followed Say's (1803) and Schumpeter's (1934) proposition that ownership is distinct from entrepreneurship.

The latter does not require ownership of resources but an idea that adds value to uncertainty and risk (Knight, 1921). These conceptualizations show that every opportunity is unique and therefore, previous activity is unusable to predict outcomes reliably. The AMP model is not without criticism.

The **first** of the criticisms is that market systems are not purely competitive but can involve antagonistic cooperation.

The **second** is that resource monopolies can hinder competition and entrepreneurship.

The **third** is that fraud, deception, and tax controls also contribute to market system activity.

The **fourth** is that private and state firms are different, but both can be entrepreneurial, and the fifth entrepreneurship can occur in non-market social situations without competition.

Empirical studies by Acs and Audretsch (1988) rejected the Schumpeterian argument that innovation requires economies of scale. The criticisms of the AMP have given impetus to recent explanations from psychology, sociology, and business management.

Joseph Alois Schumpeter (1934)

While Cantillon defined entrepreneurs as a risk-bearing and profit-oriented type of people, Schumpeter expanded the idea of risk-bearing with innovation. Both authors are similar as they essentially emphasize the importance on the supply side. The big

difference is that Cantillon puts emphasis on bringing supply and demand closer as evident in his circular flow model. On the other hand, Schumpeter puts heavy emphasis on the supply side via innovation. The idea of innovation existed before Joseph Schumpeter, but his theory on entrepreneur-driven innovation was probably even more influential. According to him, consumer preferences are passive and do not change automatically. It means that they cannot be the cause of economic change. In his theory of economic development (Schumpeter, 1934), he described the development as a historical process of structural changes, largely driven by innovation. To be precise, entrepreneurs are responsible for innovation, that is, the adoption of new things or ways of doing things and abandonment of the old ones. He classified the historical process of change into **five types** (Schumpeter, 1934):

- 1) Introducing a new product or a new kind of an existing product.
- 2) Application of new methods of production or sales of a product (unknown in the industry)
- 3) Opening of a new branch of the industry:
- 4) Acquiring new sources of supply of raw material or semi-finished goods.
- 5) New industry structure such as the creation or destruction of a monopoly position.

Schumpeter argued that in a competitive environment anyone seeking profits must innovate. Through innovation, entrepreneurs are able to employ factors of production in many productive ways to gain profit (Schumpeter, 1934). It is competition, innovation, and profit that set the underlying forces of the economy (Porter and Stern, 1999; Hanush and Pyka, 2007). He described innovation in his book **Capitalism, Socialism and Democracy** (Schumpeter, 1942) as a "process of industrial mutation, constantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one," largely driven by innovation (Schumpeter, 1912, 1939, 1943).

In terms of how and when innovation has real economic effects, he divided the innovation process into **four phases**: invention, innovation, diffusion, and imitation (Burton-Jones, 1999). According to Schumpeter, the **invention phase or the basic innovation** has less of an impact, while the **diffusion and imitation** process have a much greater influence on the state of an economy. The macroeconomic effects of any basic innovation are hardly noticed in the short term or even longer. Hence, economic growth is not due to the discovery of basic innovation, but rather the diffusion of basic innovation - the time when imitators begin to realize the profit potential of the new product or process and start to invest heavily in that technology (Freeman, 1987). In addition, Schumpeter argued that invention does not lead automatically to execution (Schumpeter, 1939). This is of the fact that innovation does not solely by itself adequately lead to implementation. It is the entrepreneur with a strong character and by his influence leads to the implementation (Schumpeter, 1912). In this sense, it is not the power of ideas but

the ability that gets things done. Hence, his popular by-words "creative destruction" he argued as the essence of capitalism (Schumpeter, 1942).

In his theory of the business cycle, Schumpeter argued that the process change is non-stationary as "creative destruction," is ever evolving such that capitalism cannot be a stationary economy (Schumpeter, 1943). According to him, innovations are responsible for economic growth, and the "entrepreneur" played a central role as an innovator. He described in his "Theory of Economic Development" the entrepreneur's main function to allocate existing resources to "new uses and new combinations." One of his most enduring contributions was his idea that entrepreneurship is a unique factor of production and the rare social input that makes economic history evolve. In other words, **innovation** is the prime mover of the development of the economy and behind this is the entrepreneur who performs the function as a catalyst of change. According to Schumpeter, the typical characteristics of entrepreneurs are intelligence, alertness, energy, and determination (Schumpeter, 1942). Entrepreneurship is essentially the actualization of innovation, however, excludes the four complementary functions of innovation: invention, risk-taking, error-correction, and administration which in Schumpeter's economics of innovation are separate, distinctive, and non-entrepreneurial in nature.

There are several limitations of Schumpeter's theory of innovation. **For example**, his emphasis is that innovators are the only factor responsible for economic fluctuations in a capitalistic system. In fact, innovative activities can take place even in ordinary business activity and requires no special agent for carrying on such activity. The innovator-entrepreneur is adaptable who can overcome all sorts of difficulties, but, in the actual social and political life he may not be capable of adjusting to social and political changes. Economic growth does not depend solely on the personality of the innovator but also on the non-economic factors as well. Moreover, his concept of circular flow applies only to a stationary state where costs of production equilibrate with prices of goods, therefore, is not in tune with the development process as a dynamic and accumulative process. **Financing innovation** is through bank credits while development is dependent on the credit creation which in turn contingent upon the level of national savings. Lastly, his theory is not applicable to developing economies where marginal propensity to save and productivity of labor is low.

Reference:

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