JOURNAL OF ENGINEERING annals OF FACULTY OF ENGINEERING HUNEDOARA
TOME VI (year 2008), FASCICULE 1, (ISSN 1584 – 2665)

COGNITION, INVENTION, INNOVATION AND ENTREPRENEUR SYSTEMS AND PROCESSES

Miroslav CAR

UNIVERSITY OF ZAGREB, FACULTY OF MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE DEPARTMENT FOR INDUSTRIAL ENGINEERING, REPUBLIC OF CROATIA

ABSTRACT:
Modern successful business sets up more requirements, of which are emphasized these three:
changeover from earlier enterprise business way, based on the manufacturer and offering system to business way, based on the purchaser, market and a demand system,
cognition system and transfer of its results onto the invent and other forms of application necessary have to be linked in some way with the innovation and entrepreneur system,
3) prior, because of purpose unification, the invents area have been regionally unifying, starting from the local regions to european levels.

KEYWORDS:
creativity, invention, patent, innovation, entrepreneur

1. INTRODUCTION

Earlier, company business was mainly based on domination of the manufacturer and the system of offers. These were the most important features: use of previously famous products and services; production of mass quantity products for, most frequently, an unknown customer on the market; determining of product and service prices on the basis of cost analysis and various kinds of calculation, determining of products and/or process quality mainly on the basis of its own quality standards.

Requirements on advancing of products, services, processes and business ensured application of some newer conceptions and strategies, but the dynamic bussines requirements of enterprises on the market caused new features: (a) cognition system and transfer of its results onto the invents and the other forms of application, (b) innovation system and process with purpose of a transfer to products or services for the market. Both of the previous ones are exhibited and explained by comparison of some parameters and quantitative indicators for two highly-developed countries, Japan and Germany; (c) necessary flexible manufacturing exists by appliance of Just-in-time and "by order" principles, but with the purpose of a demand system domination, with price determining and securing of the quality for any customer as the centre of the system, (d) entrepreneuric`s management and embracing of the strategies, along with the description of the methods and procedures of the series.

2. COGNITION AND INVENTION SYSTEMS AND PROCESSES

2.1. Structure and characteristics of the chain Cognition - the invent- results or forms of an application

Structure of chain (path), from the cognition/an idea to the invents and their forms of an application, usually contains the same elements and sequences in an aforementioned chain:

Cognition/ Idea – the invent – patent – licence – know how – cession – product – (innovation – entrepreneur)

Cognition/ Idea and the invent are the single permanent chain elements. As the forms of application results of starting elements of the chain Cognition/ Idea and the invent, innovation and entrepreneur are composing elements of the chain too (elements, subsystems and subprocesses relatively), but simultaneously, because of their own special characteristics and methodical, spacial, practical and other importance, they have also been observed as special systems and processes.

Cognition/Idea is the beginning in the chain and a result of **cognition system and process** presumption, **thinking and creating idea systems and processes** relatively, and that is why it`s necessary to exhibit their most important characteristics.

There exist **two basic divisions of thinking kinds/forms** for problems solving, based on different criterias. There are:

1) direction to adequate contents, which include, [18]:

a) convergent, in which all is directed to existance of only one view-point and only one solution of the problem (possible solution can always be found with the use of logic). It can be said that convergent kind of thinking/form in thinking processes and cognition/idea creating approaches represents a classical dialectical way of thinking with two approaches/methods, [11]:

(1) **theoretical/ideal approach** of G.W.F.Hegel: by his own dialectics, he established that thesis and antithesis are the highest levels of observing of the two opposite views, and that synthesis is a new cognition level, beside it, the idea can be created as one added product,

(2) **practical model**: a thesis is set up, and if antithesis is created, or if it`s set up too late, it means that neither the synthesis can be set up as the new level of cognition;

b) divergent, whose flow is entirely different than convergent, and where minds are not directed to one possible solution, but they`re dissipated on very varied possible ones;

2) in psychology, which **distinguishes vertical and lateral thinking:**

a) vertical thinking, it has been developing step by step in a way, and this fact is usually showed on a flow chart. In some ways, it is similar to the rational and analytical approach (a complex problem is divided in parts and it has been solved step by step). The mind has been developing gradually, and it`s directed to one goal and to one solution, and in this matter, conscious control, like inner censure,does not allow the diverting of minds of the one-direction way. Cognition process is permanent and slow, miserable and unreliable, but it is effective for solving of well-structured problems;

b) lateral thinking, solving of an existing problem of only one view, is use of more views/approaches, illustrated by the following sentence:

"To open the brain because it is similar to umbrella, meaning it works correctly only in its opened state!".

It means, that it doesn´t exist the right main line the all the minds flow through, because there are selected "curves", which "disturbs" them, and main flow has the following characteristics: many associations which have permanent flowing out from all sides; ideas follow one another similar to meditation position in which exists the emphasized sense of freedom and relaxation; prohibitions, orders, rigid control, self-critics or influence of various conformable mechanism "kill" this mode of creative thinking; ideas are suddenly coming and solution of the problem hits the innovators as a flash; opposite the rational form of thinking, there is the confirmed intuitive cognition and sometimes, the terms used are "subconscious thinking", "precognitive cognition", or for more emphasized situations, "clairvoyance".

Solving of problems is classified in four categories/types, each one mentioned is a combination of an (un)stable enviroment and a (mis) understandable problem situation. Two more simple categories have been solved in rational, vertical and convergent ways, and the other two more complex categories (changeover of: technology, market, product, quality) have been solved in innovative, lateral and divergent ways.

Simplified model of improving ideas approach includes two degrees of the belonging procedure: the first degree contains creating ideas by lateral thinking; the second degree contains basic hypothesis of the thinking process; the second one contains logical thinking

about creating ideas and its classification by analytical approach on smart/useful and on wild/mad ideas. In both of previous divisions, and generally, concept of creativity can be observed on two levels, [6]:

1) social creativity, which depends on two types of factors, on microfactors, that act in inner company organization (motivation for creative work, structure of employees, quality of an inovative potential, way/type of organization leadership, application of modern management techniques, and on macrofactors, which are coming from the broader enviroments, where such macro clime of some country is created by the entire series of political and economic characteristics for some region, composed of democratization degree, freedom of thinking, stability of the legislative system and the government rules of the law in the country, the infrastructure quality (communicational, scientific, financial, traffic or educational).

2) single creativity (idea, definition, etc.) is described, among the others, by the following characteristics:

a) scientists have been trying to describe creativity and they made up to about 400 notions so far;

b) creative men are those with creative thinking and who quickly create new and valuable origin ideas, and such creative/divergent thinker is different than the noncreative/ convergent one in some essential dimensions/criterias, [18].

c) creativity is accorded with the aphorism "Today, we are where our yesterday thoughts have led us and tomorrow, we shall be where today`s thoughts carry us". Contrary to the average man, whose inflexible and uses already experienced ways and routine solutions transfer (he doesn´t see the original, or he is afraid of it), he used already experienced ways, with consequences that he is not creative;

d) creative thinking isn´t if and idea accidently comes to mind to "the bearers of idea and development", but it is a need in advance to set a goal for the creation of a new idea, new solution and by means of some of the methods and techniques to conceive, generate or "produce" many ideas, of which the best are selected, [15];

d) Japanese advance with the hypothesis "very fast, very cheap, very great". Strange? Japanese are the best in understanding and applying the procedure of operating ideas, which means that better way of thinking is the propulsive force for them, not only the better way of work (many people think that work is "god`s mercy" for Japanese, and "god`s punishment" to us);

f) previous ones show the importance of thinking, but some contain blockades and misconceptions: (1) creativity is "god`s gift" or an inborn talent, (2) creativity is not possible to learn and it`s the reason it doesn`t exist the need for learning and exercise, (3) it is correct to care, that one is the most reliable (the most secure), to do what all do and that`s regulated, to believe in the one all believe.

Preceding citations can be used to point out few of the most important and most frequent of **creativity principles,** where possible, between total five, the first two in the order can be called general and fundamental, but three ones that follow could be special and additional.

Two general and fundamental principles, of **five** total, are, [1]:

(1) the first principle is creative freedom, expressed in thesis "Bringing forth of ideas pulls society in advance, and deficiency of ideas pulls them back", [18];

(2) the second principle, which indicates the direction and the way for initiating and reaching of creative freedom, expressed in thesis " Society initiates creativity (and innovation) in the best way, if it allows or even stimulates greater differences in ways of thinking!".

Three special and additional principles, of total **five ones,** but which unknowingly hold back the innovations, are divided in two groups on the basis of direction for acting in creativity realization criteria, and those are, [11];

(3) the third principle **excludes** the habit of too fast and too early ideas estimation and emotional discriminating: established are about more than hundred "murderous phrases" which are "stifling" for ideas and need to be excluded from communication, [11];

(a) the first, with **excluding** activity, which disturbs creativity realization. It consists of one principle:

(b) the second, which consists of principles that serve for **inclusion** of new ways of thinking, but that have the aim to generate better ideas with the purpose of progress and a better life. It consists of two principles:

(4) the fourth principle ensures creative thinking with inclusion into acting and contemplating things and concepts, which, as it seems in the first moment, have no connection with the solution of the problem, respectively tying those that, in the first moment, seems without connection;

(5) the fifth principle ensures one more testing of exact and absolute ideas and laws, beside striving for their "upgrading".

Methods, techniques and skills of the creative thinking stimulation are very important, and the most known are:

1) Common techniques: Brainstorming; some modified methods, for example, reverse Brainstorming;

2) Individual techniques: Solo storm; technique of free association; technique of the same kind of relationships; technique of making Check lists;

3) Combinations of methods;

4) Technique of Brainwriting.

Methods of forseeing and predicting give very important position in the development and application of the creative thinking. One of the most used method, and this one simultaneously accounts to the techniques for stimulation and application of the creative thinking, is the Delphi method.

2.2. Transformation of selected ideas into invent and forms of its application

Continuation in the chain of ideas– the invent includes the transformation of selected ideas into the invent and some forms of its application (forms and metamorphosis into product and services are explained in the systems and processes of the innovation and of the entrepreneur).

The invent is a human creation/work, that must have at least two basic characteristics: novelty/news, a possibility of functioning and/or transformation into some shape of its application (patent, licence, cession, know-how), [11].

Inventor doesn`t have to be, and most often can`t be and isn`t, the innovator. In the chain of inventions and innovations for inventors is often indispensable condition for success, even the mere appearance of the invent of some forms of its appliance in public, while the necessary condition is realized through some form of acknowledgement (medals, letters of thanks, etc.) and/or prizes (financially expressed) to the inventors.

Patent is a public document, that was issued by the government of some country to the inventor or his succesors (organization). That is the right gained on the invent.

The development of the regions of founding and the usage of instruments of right protections from the areas of industrial ownership was achieved through the next most important levels and their belonging traits, [3].

1) the protection was entirely left to **the national legislative**;
2) the protection has been realized through **international contracts**.

Basic goal and the task of interventional contracts is to ensure the same legal regime in acquiring, usage, transfer and discontinuance of rights from domains of industrial ownership for all members (both physical and legal bodies) of countries that signed that contract, [19]. The first and the oldest source of the international law and the protection of industrial ownership is the **P**aris **C**onvention **PC** (accepted at the diplomatic conference in Paris on march 20th 1883., that became effective on july 07th 1884.), [3]. It forsees three basic principles: **N**ational **T**reatment **P**rinciple **NTP** as the principle of formal reciprocity; **A**ssimilation **P**rinciple as principle of assimilation; principle of minimal rights or minimal protection, [1].

According to regulation of belonging Law, State Department for patents, with competence industrial ownership (patents, merchandise and obliging stamps, models and samples, geographic marks of origin), 07.11.1996. continued with the work as **S**tate **D**epartment for **I**ntellectual **O**wnership **SDIO,** with basic goal and assignment of making a law from the area of industrial ownership, with the aim of harmonization of the law and joining to the world and european activities, acts/documents and institutions. His competence, except the industrial ownership, embraces copyrights law (literal and art creativity), and

neighbouring or relating rights (artists-performers rights, rights of phonogram and videogram producers, rights of organization for radiodifusion), [4]. Republic of Croatia, at first, joined **I**nternational **U**nion for **O**wnership **P**rotection **IUOP** and international institution **W**orld **I**ntelectual **P**rotecting **O**rganization/ **O**ffice **with international agreements WIPO**. In transitional period, although there was interest, weren´t undertaken any activities for the approach of the Republic of Croatia towards further international agreements and institutions, but in the area of industrial ownership with some slight changes were adopted regulations of the ex-SFRJ. The most important reason was in the point of view that, at first, its own laws should have been made as a base, built inside the entire legal system of Republic of Croatia, [2]. International agreements have been made, which ex-SFRJ ratificated and for what, after succesion, the Republic of Croatia as a party overtook the responsibilities. Also, joining some world and regional institutions was realized, like **G**eneral **A**ssociation for **T**rade and **T**raffic **GATT/ W**orld **T**rade **O**rganization **WTO, T**raffic **I**ntellectual **P**roperty **S**ystem **TRIP, P**atent **C**ooperative **T**reaty **PCT:**

3) funding of **E**uropean **P**atent **O**ffice **EPO**

At the München diplomatic conference on 05.10.1973., the funding of European **P**atent **O**ffice **EPO**, with the headquarters in München, **was suggested,** where every member was represented. EPO was funded when it **EPC** came into force on 19.10.1977., when simultaneously the International patent institute was integrated. EPO, by taking first patent reports, had made possible the creation of the patent protection in 17 european countries, based on one patent report and in a unique process, [8, 16]. In the preparation of the joining process of Republic of Croatia to EPO, contacts and interviews od **SDIO** and **EPO** workers have been carried out, with constant problem of SDIO, uninvolvment into project called **R**egional **I**ndustry **P**roperty **P**roperty **RIPP**, caused by the fact that the Republic of Croatia still hasn´t been accepted in the programme called **P**oland and **H**ungary **As**sociated in **Re**newal **PHARE**, the funding of **E**uropean **P**atent **C**onvention **EPC,** [12].

Now, in EU there are three patent systems, of which only two have been performed:

a) national patents, and

b) european patent, result of the München Conference from 1973.

The development of EPC shows Convention undersigned on diplomatic conference in München, and with the coming into force 19.10.1977.; the first report was submitted on the basis of its regulations, on 01.06.1978. (until 1978., increasements are around 30 000 and until 1992. already around 500 000), [10]; the first patent is approved in January 1980., and till 1992., there are already 200 000 patents approved, [10].

EPC is one special multilateral contract among european states and states- members of EU, simultaneously also a regional patent contract, which, towards regulation art.19, may not approve any means of regulations of **PC**. Towards **PC**, EPC represents only its special agreement, which the regulations about the rights priority and acting of the foreign reporter in national legislative are applied in the procedure by EPC, too. Legally, there are many specially regulated details of submitting report procedures for acquiring and issuing of the european patent. Acquiring of european patent procedure isn´t separated from the national procedure for patent acquiring and both ones have the same rights and the same effects;

c) new protecting system is ready for implementation and it represents the european patent on the basis of the Convention about european patent of the Common market, apropos the **L**uxembourgh **C**onvention **LC** from 1975. and its supplement from 1989, and which is not coming in force because all states- members of EU didn´t undersign that.

European **C**onvention for **U**nification of some **P**atent **L**aw **I**deas **ECUPLI** earlier already established the principles/criterias of the invent patentability and there are: novelty/news, the invent inventity (the results of inventing work) and economic application. By european patent, the new invents are protected, which are a result of the inventing work and which can be applied by industry (art.52, passage 1 of EPC). Principles definition, besides the previous patentability principles and technique status; the invent is considered new (or absolutely new) if it isn´t a result of the technique situation (art. 56. of PC); it is considerated that the invent is applicable in industry, if it can be performed or used in any branches of industry, including agriculture (art. 57. of PC).

European comission proclaimed 1995. the **G**reen **P**aper on **I**nnovation **GPI**, in which, as one of two basic tasks, advertising of intellectual and industry property is mentioned, [9, 10]. In 1997., the European comission made and announced the **G**reen **P**aper on **E**uropean **P**atent **GPEP**, which illustrated and solved some of the shortcomings.

Further forms of the invent application are: **1) Licence** is a contract about yielding of utilization law for the invent protected by patent. During technology transfer, the salesman of the licence usually protects his own laws and makes himself privileged. **2) Know-how** contains inventive work, and the other practical knowledges of innovators built-in in the transmission/transfer technology. Notions of usually materialized product shape and services aren´t the object of this article. **3) Cession** is one contract about transmission of property over patent. When you buy a patent, you do with it what you want.

3. INNOVATION SYSTEM AND PROCESS

3.1. Innovation

Generally speaking, innovation is social and economical, but not technical, concept and a tool of entrepreneur, with which he constantly searches for the resources or sources of innovations, changes and its sympthoms, that point out towards suitable chances for successful innovation and all with the principles application of successful innovation. Some substance or occurence can be unusable, until man finds a way how to use it and then they became a resource/ source or a mean; starting as technological, productive, business or social and ending as economical, expressed in capital, material resources, manpower, managerial cadres and time. In social and economic sphere, the biggest resource is purchasing power.

Innovation is a process, that embraces the use of knowledge and important informations and commercialization of something new and usable, (J. Kumerički). Innovations (rarely) **mean** change (most often technological, for instance, an aeroplane from Wright brothers), and (more often) **use** change (innovation is the diagnostic with which the system examines changes), with purpose of looking for suitable opportunities for the entrepreneur. From economists point of view, innovation is a special instrument of entrepreneurs, with which resources gain possibilities of creating some new value, respectively, it is all that changes potential for creating wealth from existing resources, [7].

3.2. Systemic innovation, [7]

Unlike spontaneous or improvised one, this is purposeful and organized search for changes, with systemic analysis of suitable opportunities and with purpose of finding social and economic innovation that can come out as a result. It represents the systemic search of seven sources of successful innovation, that are split in two groups.

Group I includes sources of suitable opportunities for innovation, that manifests themselves inside some activity, industry or market and can even be symptoms of outer changes in economy, society and knowledge, that come to the surface. The group includes following sources of successful innovation:

1) unexpected: unexpected success, unexpected failure, outer influence;

2) incompatibility between: economic reality, between reality and image of it, between presumed and real value, and rhythm or logic of the process;

3) innovation that is based on process needs, conditioned with five criterias: self-existing process, one "weak" or "nonexistent" link, clear goal determination, possibility of clear determination of solution specifies the generally accepted notion, that "there has to be a better way", so called, high level of acceptance;

4) surprising changes in structure of industry: it can be in industrial structure; the most certain indicator is fast growth of some industry, because its structure will change itself, at the latest, by doubling of production volume; after mentioned doubling from a), the way that industry experiences and serves its own market become inappropriate; the second evolutional direction is mutual acquiring of technologies (integration of informatic and communication technology); some industry is mature for radical structural change, if its dealing with changes fast; occurence of global, innovative but unpredictable, strategy of some production.

Group II includes the outer sources of suitable possibilities for innovation and it means changes in social, philosophical, political and intellectual surrounding:

5) demographic indicators: most favorite and most ambiguous changes, with the most predictable consequences, are changes of population characteristics: number, age structure, structure, employment, education and income;

6) changes in comprehensions/ concepts, behaviour and opinion: saying "Glass is half full" and "Glass is half empty" **mathematically are identical**, **but differ in meaning and consequences**; while other saying shows satisfaction with the existing condition and direction towards it, like also a passivity towards possible (glass filling) new condition, **first** saying shows **dissatisfaction with existing condition** and **activity towards (glass filling**) **new condition**, **discovering suitable possibilities for innovation**. It´s important to determine the most appropriate moment for some innovation, it´s important to be first and because of uncertainity, to decide whether the change is a fashion quirk or something more lasting, to determine what are its consequences based on conceptions, and because of which, it must be simple and very specific;

7) new (scientific and unscientific) comprehensions/ new knowledges include following more important characteristics: idle walk, which is longer than by all other innovations; convergence, because they are never based on one factor, but on activity of more different (un)scientific and (non)technological kinds of knowledge; **special requests that are different than those for all other kinds of innovations**: attentive analysis of all factors: knowledge; orientation on strategic position of innovation; innovator of this type, especially, has to learn and practice entrepreneuric managing, because it´s more important for innovations based by knowledge, more than for the rest; special risks, because these innovations are turbulent and because there exists a special importance of opening/closing "a window" (of available time for changes); time of selection: starts the moment "window" closes; while all the innovations use changes that have already played out and satisfy the existing need, the innovation based on knowledge must "mature", attaining high level of acceptance, because it alone brings to changes, creating some need;

8) smart idea: to it belongs about 70- 80% patents. Still, they are the riskiest and the most unsuccessful source of appropriate possibilities for innovation. Nobody knows which of this smart ideas is for innovation and which will fail. Number of casualities is big, only about 1% earns enough to compensate for their expenses of making and patenting and only about 0,02% will maybe bring bigger profit than are expenses paid from their own pocket;

Boundary between group I and II is unclear, groups partially cover one another.

3.3. Innovation principles

Recommendations (for it) include: purposeful, systemic innovations begin with thinking it over and source analysis of appropriate possibilities for innovation; innovation is of equivocal nature: national, for its logical and systemic analysis and noticable, which asks for the behaviour observation of people and their reactions; for some innovation to be efficient, it has been simple and with one unique use; successful innovations begin humbly regarding application of all, or big majority, of needed resources (small money investments, small amount of manpower, small and limited market). "Revolutionary" innovations probably won´t succeed; successful innovation must strive for accomplishing the leading role, although there are no guaranties it will actually achieve that or be realized.

Recommendations (contra) include: the innovation must not desire to be (too) smart, because it will have to serve even people who, in bigger or smaller amount, aren´t; it must not go too much into broadness, or even try to do many things at once; it must not try to create innovations for the future, but it has to create them for the present.

Conditions for innovations are: innovation is a job, that seeks knowledge and, often, big imagination; to succeed, innovators have to think about many suitable possibilities and have to use their strong points: innovation influences economy and society, changes behaviour of the people, processes and other factors of the surrounding, and it has to be market oriented (connected to the market and aimed onto the market).

For illustration of the application of relationship between system and process creating process and selection of ideas, and system of their metamorphosis into dicovery and the other forms of its application, in table 1. are shown quantitative indicators from Institute of german

economy about comparison of "productivity" for improvement suggestions in productive shops between Japan and Germany, [13].

In the area of **improvement suggestions, it** is possible to reach the following more important conclusions:

Japanese suggest about 231 times bigger number of improvements on 100 coworkers than Germans do,

average premium in DEM per suggestion is smaller about 213 times for Japanese than for Germans, but Japan with much bigger number of suggestions makes up for much smaller average premium per suggestion than Germany, and total premium of Japan is still for about 70% bigger than the one for Germany.

In the area of **suggestions realization, it** is possible to reach the following important conclusions:

Japanese realize 2,23 times (223%) more suggestions than Germans do,

realized number of suggestions per 100 coworkers (productivity) for Japanese is bigger about 514 times than the one for Germans, despite the fact that, for them, net savings per realized suggestion are about 18 times smaller than the one for Germans or rather, their net savings amount to only about 5,5% than the one for Germans. With supposed yearly expenses of 100 000 DEM per worker, Japanese with that kind of collaboration realize yearly production growth of 5,9% and Germans only 0,2%, or rather, their realization is about 118 times bigger. This makes possible to easily understand roots of often quoted productive goals of Japanese ventures of 6,0% per year.

Know-how contains inventive work and the other practical knowledges of innovators built-in transmission/transfer technology. Notions of usually materialized product shape and services aren´t an object of this article.

The importance, which Government and corresponding institutions in Republic of Croatia have devoted to the innovations and new technologies is visible from more ongoing competetitions of Department of Science and Technology of Republic of Croatia (far: DST RC), published in source, [14]. Programme of Croatian innovating technological development (**CITDE**; **HITRA**, abbreviation in croatian language), with carried out documents is special form of integration of scientific and technological politics, oriented onto connecting scientific research sector and economy, which is conducted by DST RC with goal to promote knowledge based on economy. The programme called **HITRA** and carried out documents, the Directions for programme **HITRA** by including domestic scientific research potential and Regulations about perfoming procedure of programme Development on knowledge based firms, and conditions and the way of financing the programme (messenger NN 33/ 2001.) had been accepted by the Government of RC on April 05, 2001.

4. THE ENTREPRENEUR

4.1. Difference of classical economy and entrepreneur

According to A. Smith´s cites and later, in M.Friedmann´s and J. M. Keynes`s theories, classical economy strives for optimal usage of existing resources, using the theory of offers. In approach and models of all previously known economists, the entrepreneur is included in the outer influences. Just J. Schumpeter in 1911, in the work called "The Theory of economic development", rejected the classical economy, with the hypothesis that the entrepreneur-innovator causes dynamic balance, whose consequences is theory of demand. Consequentially, unsuccessful entrepreneurs fix and redesign existing condition, while successful entrepreneurs create new values with transformation of matter for an occurrence into resource. Theoretically, classical economy and optimal usage of resources should be the riskiest dealing, while entrepreneur should be the least risky dealing. Many firms have results beyond average, [7].

4.2. Entrepreneuric managing, [7]

According to J.B.Say (around 1800.), word entrepreneur means chaos or disorder and represents a manifest of dissatisfaction with the existing condition and the need of some things working differently, and not exclusively better than existing. In german language, synonymous word to it is Unternehmer, which means owner and manager simultaneously.

Entrepreneurs usually don´t bring change, but search for it, consider it normal and desirable occurance and that`s why they react to it and use it for appropriate possibilities. The entrepreneurs are innovators. Entrepreneur is "creative destruction".

Entrepreneur dealing demands managing of firms in a different way than the existing one. But like the existing one, it requires systemic, organized and purposeful approach. It is established on the same principles, independent of whether the entrepreneur is practising in big institutions or a single man, which is just funding his own enterprise, productive or nonproductive/servicing organization, government or non-government institution. Rules are the same, the procedures are rather same identically for those who are leading to success, as well as those that don´t act like it, and the same goes for the innovation kinds, where areas can be researched.

Entrepreneuric determinations contain innovation schedule with the analysed aims: innovations should become attractive to leaders only with systemic leaving all of worn out, old-fashioned, nonproductive delusions, nonsuccess and wrongly directed efforts, even necessary testing every three years in a single product, technology, market and other affecting applications; if the aim is to reach that some practising company shows desire for newish things, it needs to reconcile aforementioned with fact that all products, services, markets, distributed channels, processes, technologies and etc. have limited (usually short) time of duration; rentgen record of some company give adequate information for determining number of necessary innovations in some company, on which areas and inside questionable time frames; systemic leaving of old-fashioned products or services, rentgen records of practising companies and its techologies, products, markets and determination of innovation conduit as well as needs enabled to companies designing the entrepreneuric schedule, which contains innovations aims and performing terms.

Entrepreneuric managing in new companies assumes existing of four conditions: market directing; making of financial predictions; especially about future money acquiring and needs for capital; the leader team creating much earlier than mentioned companies needs, that teams or companies can finance; entrepreneur-funder determines his own role, work area and relationships.

Entrepreneuric strategies, [7]

Beside necessary entrepreneuric managing strategies, where each has its own hypothesis (determinations and procedures) in an entrepreneur inside of company, there are necessary entrepreneuric strategies (determinations and procedures) outside of the company.

There are four known entrepreneuric strategies, where each of the four ones have its own hypothesis, adequate to determine its own innovation kind, assumes determined entrepreneur behaviour, has its own borders and pulls behind itself its own determined risks. This strategies are not rigidly separated, but on the contrary, entrepreneurs in practice often combine elements or the entire two or three strategies into one. Those are:

1) "Who will go faster, who will go higher". it is important to be first or dominant on some market;

2) "Hit there where aren´t any": this entrepreneuric strategy includes two completely different entrepreneuric strategies, creative behaviour and entrepreneuric judo;

3) Finding and taking place of special "ecological niche/hole". different from previous strategies of competing nature, which strive for finding a place for some firm inside some big market or important industry, strategy of ecological niche/ hole strives for monopoly on some small territory and wants those who are successfully maintained, to make immune of the competition and protect from challengers. There are three niche strategies, each one with its own hypothesis, limitations and risks: charging place strategy; specialised skill strategy; specialised market strategy,

4) Changing of economic characteristics of the product, market or industry: to previous entrepreneuric strategies, the goal was introducing innovations, while this enterpreneuric strategy is an innovation itself. Observed strategy is being realized in four ways with common characteristics of buyers creation, belonging to every (economical) activity: by creating usable value; policy of prices; adaptation of buyer`s social and economical condition; by giving the very things, that signifies the real value to the buyer.

5. CONCLUSIONS

The following conclusions are most important:

1) modern society will depend, more and more, on creativity, which has to be built-in, systemically and individually, in the designing and using of many man acting areas, as well as including modern management strategies and methods,

2) bearers of important decisions have to be acquainted with the mentioned techniques and methods and to change existing blocks and mistakes about impossibility of creativity learning,[7],

3) a correct comprehension and application of idea generating procedure ensures a transfer of better thinking ways, not just better performing ways, into a motivating power to realize the hypothesis "very fast, very cheap, very great".

REFERENCES

[1.] Čizmić, J.: RH in the World Intelectual Protecting Organization/Office with international agreements WIPO, Economy and law, Vol. 31, nb. 11-12, pg. 713- 714, 1992

[2.] Čizmić, J.: Industrial Property protection in the Republic of Croatia, Intellectual Property and Entertainment Law, Vol. 3, br. 1, pg. 35., 1994.

[3.] Čizmić, J.: Paris conference for protection of industrial ownership, Economic law, Vol 33, nb. 9-10, pg. 648- 658., 1994

[4.] Čizmić. J.: Sample-Trademark of distinguishing in the economic traffic, Economic law, Vol. 34, nb. 9-10, pg. 734-735., 1995

[5.] Čizmić, J.: Regional unification of the patent law, Informator nb. 4507, Zagreb., pg. 1-3, 1997

[6.] de Bono, E.: Lateral Thinking, Penguin Books, New York, 1977.

[7.] Drucker, P.F: Inovation and enterpreneurship-practice and principles, Globus publishing, Zagreb, 1992.

[8.] EPO-Facts and Figures, EPO, Munchen, pg. 31, 1991.

[9.] EPO- Annual Report 1995., EPO, Munchen, pg. 5., 1996.

[10.] Europaischer Schutz fur Erfindungen, EPO, Munchen 1992. str. 7.

[11.] Kumerički, J.: Inovation and creativity, Mechanical Engineering 26(1984)2, 99-1083.

[12.] Messenger of the State department for patents, 2, nb. 6, pg. 1457, 1995.

[13.] Maričić, I.: Lean management, RRIF nb.5/may 1993, Zagreb, pg.118-121, 1993.

[14.] MZT RH: Programme of HITRA, Internet, www.mzt.hr, (794- 797), 2001.

[15.] Osborne, A.F.: Applied Imagination, Charles Scribner and Sons, New York, 1973.

[16.] Schumpeter, J.: The theory of economic development, Transaction Publishers, 1912/1934

[17.] Singer, D.: The European Patent Convention, Sweet and Maxwell, London, 1999.

[18.] Srića, V.: Principles of modern management, Zagreb business school, Zagreb, 1992.

[19.] Verona, A.: Industrial ownership rights, Zagreb, 1978