

# COMPLEX TRINOMIAL SYSTEM – BASIS FOR THE MANAGEMENT OF THE SOCIOECONOMIC DEVELOPMENT

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**Abstract:** *The paper aims at highlighting the operational complexity of the evolution and development trinomial nationwide, starting from the functional elements of the simple trinomial and extrapolating them to the complex trinomial, where the elements of the simple trinomial will be reflected in the structural pylons of the complex trinomial. The conclusion points to the complex interaction among the elements of the pylons, both horizontally and vertically, and it proves the complexity of the managerial action whereby the smooth operation of the complex trinomial may be “mastered”, as this one entails specialized structures, in terms of both decision-making and execution.*

**Keywords:** complex trinomial, pylons, trinomial elements, trinomial tower

**JEL Classification:** M<sub>0</sub>, D<sub>83</sub>, Q<sub>56</sub>

## 1. General elements

Human society's evolution and development has always been on the upraise, based on the people's desire to live a better, more comfortable, safer and healthier life. These desires have structured themselves altogether, over time, into interdependent participative components that, by effort structuring and targeting, should be focused and converged upon the aforementioned goals.

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The history of mankind has proved it to have had, over time, upturns and downturns, generated either by natural phenomena, or by social actions (migrations, rebellions, revolts) or military actions (wars, revolutions and so forth), all of them being the outcome of human actions and activities. The wane of these factors allowed the resumption of development-oriented human actions.

Development and the general concept do not exclusively signify “quantity”, but also imply quality and diversity, as well as the human needs and desires agreeing along with the possibilities of their achievement, or the evolutionary adaptation of the social-good achievement possibilities to the evolution of the human needs, desires and hopes.

All these adaptations and agreements had to be made by humans either independently or through organized systems.

The people’s independent participation to human society’s development presupposed “peaks” emerging; visionary, highly anticipative individuals coming along (Calvest and Martin 2001) – in relation to the general level of awareness, specific to human society of their time

These peaks launched innovative ideas, attainable not only by the society of their time, but also characterized of visionary achievement, within much more developed societies – societies of the future, as they were reckoned at that point; the visionaries of the peaks having eventually proved its truth and having changed into accomplishments highly influential on human society’s evolution and development (see Jules Verne, Leonardo da Vinci, Michelangelo, Einstein and so forth) (Dodgson et al. 2002).

World population has progressively grown and society requires development, which can no longer wait for peaks, but calls for an organization in structures whereby development be “created”, that is organized research systems have become necessary.

Nevertheless, in this very case of the organized research systems, only “peaks” – in the light of the awareness level – could act, in the variegated levels vital to human society’s development.

One can say, as a corollary, that human society has evolved, throughout history, by peaks and not by the number of people (the number having provided quantitative development, and the peaks having secured qualitative progress).

## ***2. Trinomial system of socioeconomic evolution and development***

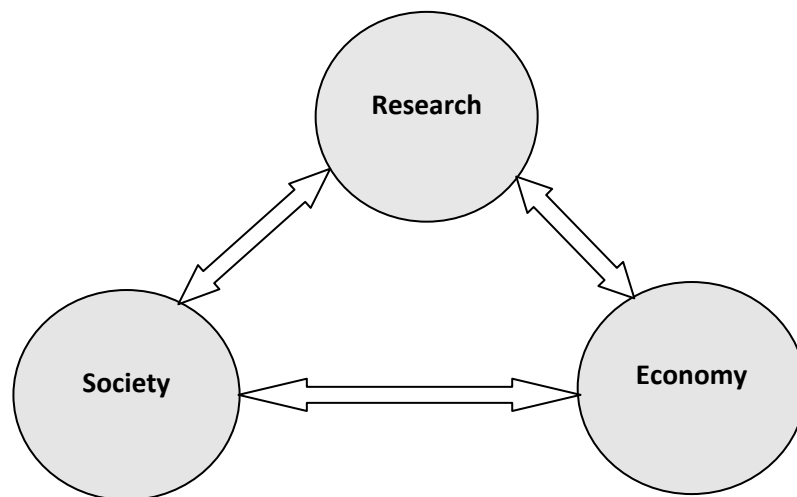
As shown by the previous analysis, we dare say human society’s evolution and development is underlain by a “trinomial” consisting of:

society-economy-research. The elements of the trinomial (as shown in figure 1) must operate in close interdependence, with concerted actions and effects, which constantly condition and redeem each other; the “spiral of evolution” being thereby fostered.

The simple trinomial shown in figure no.1 is specific and applicable to a given field, as a single simple trinomial is characteristic of each domain, given that each field is singularized by other participative elements, differing in form and substance, but similar in terms of systemic resolution.

For better understanding the systemic operation of the trinomial, an analysis is required, upon the participation of every element from the trinomial, in the congruity of the activities.

The most important element of the trinomial is human society, which “provides” the other two elements with people. Economy is provided with qualified, specialized and ever better educated and trained people, for all economic fields and activity levels – from unskilled workers to company, corporation, bank managers etc. Research is provided with highly educated specialists, for varied fields and specializations (mathematicians, physicists, chemists, physicians, engineers, sociologists and so on).



*Figure no. 1. Simple trinomial of socioeconomic evolution and development*

In order to attain this goal (to provide economy and research with people), human society is internally organized and layered (Pisoschi, 2005) in structures (Figure no. 2):

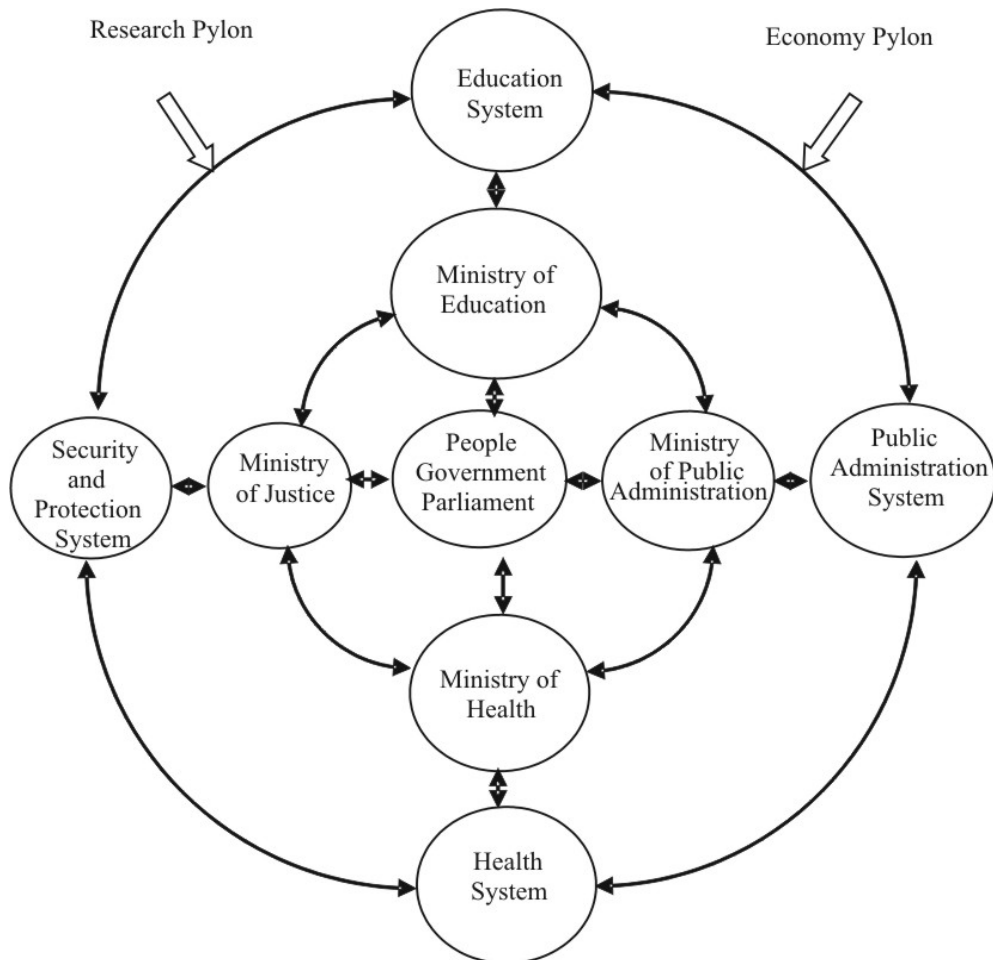


Figure no. 2. Partial structure of society (overview) – element of the evolution and development trinomial

- Education structure, which secures the youths' theoretical and practical education within the school network, consisting of

vocational schools, high-schools, colleges, higher education, as well as of post-secondary courses, qualification and re-qualification courses and so forth;

- Health structure, whereby the people's health is protected – children, adults, elderly people;
- Public-administration structure, from town-halls, county councils, regional councils, ministries, governments, president, associations, foundations, which enforce society's rules of operation;
- Social security and people's protection structure, consisting of police, intelligence, gendarmerie, firemen and so on.

Human society's operation as a single unit presupposes its members co-working, collaborating and its structures being very well, efficiently and operatively coordinated, an activity achieved by the government at national level, and by the local and county councils at local level.

The element of the trinomial, which ranks second in importance, in terms of operation "to the present time", is economy, which supplies:

- society – with goods, services, infrastructure, logistics – necessary for the smooth operation of society's structures – independently and overall;
- research – with direct research orders on fields, equipment, cutting-edge research technique, investment support etc.

Economy, in its turn, is organized on activity domains: industry, trade, services, energy, agriculture and so on. These activities are, in their turn, structured on sub-domains, such as:

- industry – on sub-domains such as: siderurgy, metallurgy, machine building, wood processing, civil engineering, chemistry etc;
- agriculture – on sub-domains such as: forest engineering, cereal cultivation, vegetable growing, zootechnics, pomiculture etc.

The third element of the trinomial is research. Although ranking third in importance for the activities ensuring the current operation of the trinomial, it normally ranks first in importance for the activities ensuring the future operation of the trinomial. Research is in fact the structure that represents the "peak" pulling society and economy up the spiral of ongoing evolution and development.

Research provides (within the operation of the trinomial) the other two elements, with results of the studies and experiences conducted by experts, this way:

- society is supplied with prognoses of the development directions salient in the sphere of education, health, population's security etc. and is furthermore the optimal solution for the application of these studies and for their transposition in the reality of our time, either in the short or in the long term; it underlies withal the managerial concepts that orient people's education and training, in terms of both specialization and continuing education levels. The studies are based on the current concept of human society internationalization – regardless of country or continent;
- economy is supplied with the latest research results on cutting-edge materials, products, technologies, organizational systems etc. In case it works with the system of design in tandem, it may likewise offer state-of-art products – prototype phase, which economy will take over and develop according to society's demands.

The analysis on the inter-functionality of the three elements of the evolution and development trinomial shows the complexity of the activities that “circulate”, harmonize, streamline and support each other.

### ***3. Trinomial tower of evolution and development***

On a complete view, the trinomial may be updated “on the horizontal”, this one consisting of economy-specific activity domains.

Taking into account the multitude of activity domains held and managed by economy, and imagining their superposition on the vertical (depending on the social importance of every economic field), the complex trinomial system would look like in Figure no.3.

The analysis of Figure no. 3 shows the “trinomial tower” to consist this time of three “pylons” namely:

- economic pylon, including all economy-specific activity fields;
- research pylon – comprising functional structures, characteristic of one or several economic fields;
- social pylon – represented by human society with all its structural elements (see Figure no. 2), which do not utterly correspond on the horizontal with the economic or research fields.

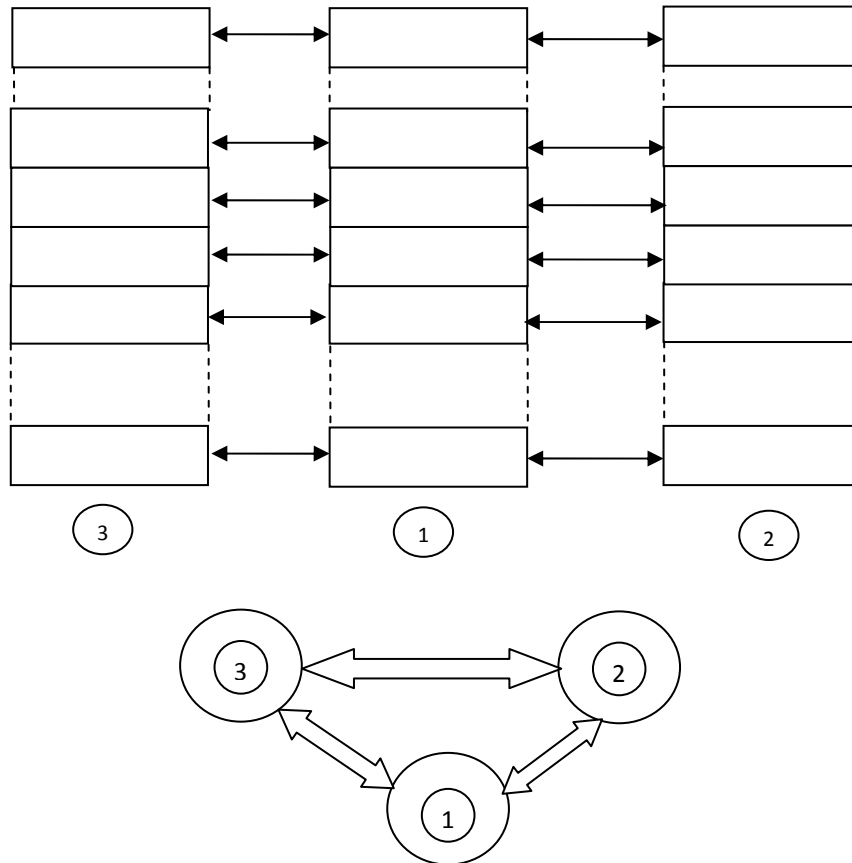


Figure no. 3. Complex trinomial system – horizontal relation among pylons  
 1 – economic pylon; 2 – social pylon; 3 – research pylon

For the smooth operation of the trinomial tower, “functional relations” may be established among pylons, not only on the horizontal of the fields, but also on the vertical, and complex relational systems are thereby created, as shown in Figure no. 4.

For instance,  $I_E$  is the structural economic element of the wood-processing industry, which interacts on the horizontal with element  $I_S$  of the social system, whereby it secures wood-processing experts (through the education system), information on the necessary and predicted manufacturing structure (from specialized institutions) as well as data on the timber and wooden-product market. Likewise on the horizontal, it interacts

with element  $I_C$  of the simple trinomial that represents specialized research (wood processing).

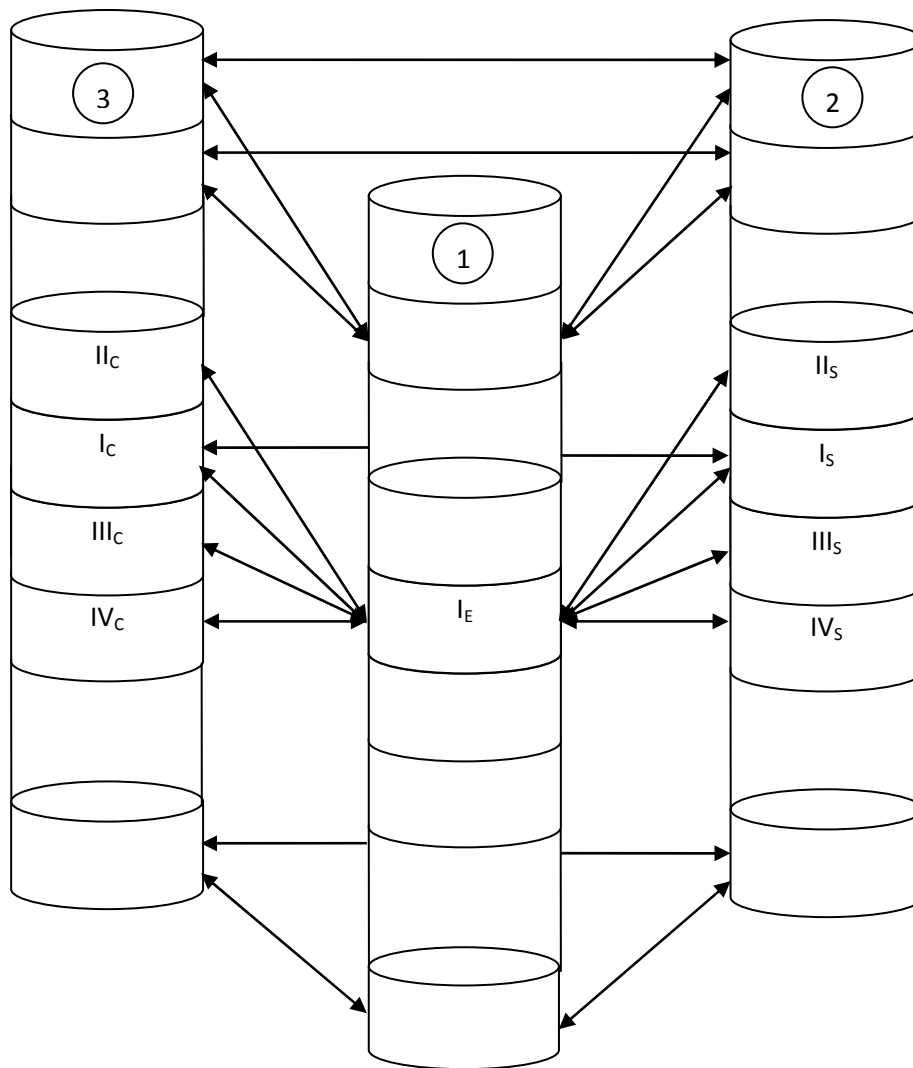


Figure no. 4. Complex trinomial system – horizontal and vertical relation among pylons



In the complex operation, the element  $I_E$  of the simple trinomial interacts (see Figure no. 4) on the vertical with elements of the research (Cismaru, 2013) and social (Cismaru, 2010, Purcărea et al., 2003) pylons:

a) from pylon 3:

-  $II_C$  – research-pylon element from the field of the chemical adhesives, paints and varnishes;

-  $III_C$  – research-pylon element from the field of the accessories for furniture;

-  $IV_C$  – research-pylon element from the field of wood impregnation and protection etc.

b) from pylon 2:

-  $II_S$  – pylon element consisting in the IT experts' training for product design;

-  $III_S$  – society-pylon element consisting in the experts' training for running numerically controlled machines;

-  $IV_S$  – society-pylon element consisting in the managers' training and in "updating" managerial activities (investments, foundations, specialized associations) etc.

In point of fact, the smooth operation of the complex trinomial calls for an "information(al) transfer" among the pylons of the trinomial tower and likewise for the knowledge of the simple horizontal systems with well defined competences, where to one may resort and which may be turned to good account.

The horizontal and vertical elements of the pylons may be interconnected either directly or through supplementary, vicarious structures, which may simplify and streamline the connection at both economic-regional level and national or international level (Cismaru, 2013).

The smooth operation of the trinomial tower generally falls into the responsibility of governments and parliaments, as well as of the institutions in their subordination.

The tandem government-parliament must constantly operate in a temporally synchronized synergy.

#### **4. Conclusions**

Human society's evolution and development is strictly related to the interactive operation of the elements within the pylons of the trinomial

tower, in the framework of their evolution and interrelation, as aforementioned.

The complexity of the interactions requires ongoing studies and researches, in order to establish which are the directions and fields of interconnection that should be functional both on the horizontal of the elements within the simple trinomial, and on the vertical, among the pylons of the trinomial tower.

The trinomial tower smoothly operates by means of current and perspective plans, of interconnection, support and targeting programs.

The research pylon must be intensively enhanced as it ensures the qualitative evolution and streamlines all activities of the elements within the simple trinomial and also within the trinomial tower.

The management of human society's evolution and development cannot be conceived without studies, analyses, plans, programs, support and investment at macro level (national, community, continental or even global), based on the principle of the trinomial tower. The macro level definitely presupposes "adding up" the micro levels (simple trinomial – field), the summing being a genuine "managerial art" whereby new elements, specific to the simple trinomial or to the pylons of the trinomial tower are abolished or established.

The management of human society's evolution and development presupposes ongoing investment, correction and updating actions – along with the elements of the evolution, which appear and may influence the former, or which may directly or indirectly influence evolution and development.

The coherence of the decision-making investments and actions, both on the horizontal and on the vertical of the trinomial tower, entails the existence of specialized systemic structures, in permanent interaction, with the possibility of covering the widest possible ranges of the problems to be controlled, solved or anticipated.

Systemic structures must constantly be on the "alert" in order to temporally keep up with society's evolution and to enforce, likewise to the pace of time, measures and solutions aiming at evolution and development.

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