Issues of Determining Integration of Small and Large Business Enterprises Based on Systemic and Synergic Approaches

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Abstract: It is emphasized that the most important problems of developed and developing countries of the world, such as economic growth and increased competitiveness, will be solved by ensuring the integration of business entities. The article analyzes in detail the essence of the concepts of a systems approach and synergetics, the differences between the system-cybernetic approach and system-synergetic approaches, and also proposes a plan for studying the integration of small and large construction enterprises through the proposed system-synergetic approaches. an approach has been developed.

Keywords: system, system analysis, systems approach, synergetics, cybernetics, system-cybernetic approach, system-synergetic approach, integration, small and large enterprises, construction enterprises.

Introduction

Systematic research is a collection of scientific or technical theories, concepts and methods, in which the object of research or modeling is considered as a system. The general theory of systems created by Bertalanffy L. von in the 40s of the 20th century occupies the main place in systematic research. Most scholars in this field consider Unrly Turley to be a kind of Metaphysics of Knowledge about Systems (Including Systems Structure Visimly Approaches). In this, various systems are considered as a theory related to the study of systems theories that are considered as a science.

The general theory of systems is based on two important principles: the principles of systematicity and isomorphism. The principle of systematicity reflects the universality of looking at objects, events and processes of the world as a system with all its own laws. The principle of isomorphism usually means that the structure of one system is completely (isomorphism) or partially (homomorphism) compatible with the structure of another system, which allows it to be modeled again using similarity or other similar methods.

Systematic analysis is a decision-making methodology, and in a broad sense, it is a synthesis of the general theory of systems, approach and reasoning, systematic methods of decision-making. The main category of systems research, in particular, the systems approach, is the concept of systems.

Systems usually have internal and external communication, external communication is carried out by elements of influencing factors and resulting factors, as well as provided by the functions of the system. System components can be directly or indirectly connected to other components. Direct and inverse connections are usually observed. Connections transform the system from

simple components into a whole, and together with the components determine the state and structure of the system.

The operation of the system is the implementation of its functions in time and space, which mainly occurs in accordance with certain laws. Functionality or performance laws determine the behavior of the system within the corresponding quality range, change and development laws require quality change rules. Both types of laws interact and flow from each other. The formation of the system at a certain time is considered its state.

The essence of the system, its features, structure, and behavior are expressed in the principles of systematicity, which act as a set of principles of learning as a methodological direction of knowledge in the systematic approach.

Methods. In the process of preparing the article were used formal-logical, specific research methods econometric modeling, empirical research, and forecasting

Results. Recently, a large amount of material has been collected on the study of the essence of economic integration and the laws of its development. Despite the achievements of economics in this direction, it should be noted that the problems of organizing integrated associations in the investment-construction complex have not been sufficiently studied. In this work, it is aimed to combine the modern achievements of the system approach and the concepts of synergetics - two major worldviews and methodological trends of our century, as well as to study the fundamental problems of the theory of integration of small and large construction enterprises with their help.

The possibility of such a synthesis of the systemic approach and the concept of synergetics is determined by the unity and complementarity of the principles that form their basis - the principle of consistency and development, and the concept of synergetics is mainly based on the methodological and theoretical principles of the systemic approach. Systematic analysis and synergistic features and differences are presented in Table 1.

Table 1. Differences between the concepts of systematic analysis and synergistics[1]

Systematic analysis	Synergetics
1. System statics, focusing on their morphological and functional characteristics	1. Pays attention to the processes of growth, development and destruction of systems
2. Pays great attention to order and balance	2. Disorder plays an important role in the movement of systems not only from the point of view of disruption, but also progress occurs through disruption of balance
3. It helps to learn about systems regulation processes	3. It serves to check the processes of self-organization of systems
4. In many cases, it stops at the analysis stage of the system structure and abstracts it from the integration processes	4. Shows the cooperativeness of processes underlying self-organization and systems development
5. Considers the problem of interdependence mainly as the interdependence of components within a system	5. Checks the totality of external and internal connections of the system
6. Sees the source of the movement in the system itself	6. Recognizes the important role of the environment in the process of change

Currently, there are two main directions of the systemic approach in economics: cybernetic and synergetic, which, despite the rules common to both approaches, have clear and fundamental differences from each other (Table 2).

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[1] Муаллиф томонидан ишлаб чиқилган

Cybernetics is the science of general principles of control in various systems. In other words, the science of optimal control of complex dynamic systems capable of operating in self-control mode. Synergetics is the science of self-organization in systems. In fact, both cybernetics and synergetics are involved in the study of complex dynamic systems in various areas of human activity and the development of their control theory.

However, if the task of cybernetics is to bring the system to a certain stable state, to resist fluctuations, then the task of synergetics, on the contrary, seeks to balance the system, to bring it to a new, higher level. At the same time, cybernetics considers the possibility of some restructuring of the system structure due to changes in external conditions as an "inevitable evil", and synergetics considers it the main condition for the development of the system.

Table 2. Differences between systemic-synergistic and systemic-cybernetic approaches[2]

Characteristics	Approaches to the study of complex systems	
	Systematic-cybernetic approach	**A systemic-synergistic approach**
Perception of the external environment	It does not take into account quality changes in the external environment	Both quantity and quality in the external environment are taken into account
On the formulation of the development mission	Self-directed	It is self-organizing
Responsibility for the implementation of the mission	Negative (stabilizing) feedback	Positive developmental feedback
On the role of fluctuations in the system	It is considered as a favorable factor for self-management in stationary mode	The source of development is considered as the cause of phase, structural and quality changes
In relation to equilibrium	Balance is the basis of self-control	Balance is seen as an obstacle to development
In relation to linearity	It guides itself in the form of a linear trend	A non-linear environment is self-organizing in terms of environment
Considering different development mechanisms	It looks only at negative feedback mechanisms	Positive feedback, autocatalysis, autocorrelation and etc.
According to the description of the hierarchy in the syst	Homomorphism	hetrarchy

In economic problems, the "interface" between the synergetic and cybernetic paradigms focuses on the functional capabilities of economic systems: equilibrium, stability, recovery, self-regulation, development along complex trajectories in a cybernetic control system or transition period, changes arising from the synergetic paradigm, under the influence of the time factor self-organization processes.

A systematic-synergistic approach is used as a methodical approach in studying the integration process of small and large construction enterprises. Opting for this approach is more inclined to study 'development' as a non-linear, non-equilibrium, open, irreversible system, as opposed to a systems-cybernetic approach.

Thus, in order to develop the conceptual basis of the systematic organization of small and large construction enterprises, it is proposed to use general scientific research methodology

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[2] Муаллиф томонидан ишлаб чиқилган

(philosophy and systematic approach) as well as interdisciplinary methodological approaches with a structural structure; the network approach is to consider the mechanism of interaction of the participants of integrated education, and the synergistic approach is to evaluate the effectiveness of this interaction (Fig. 1).
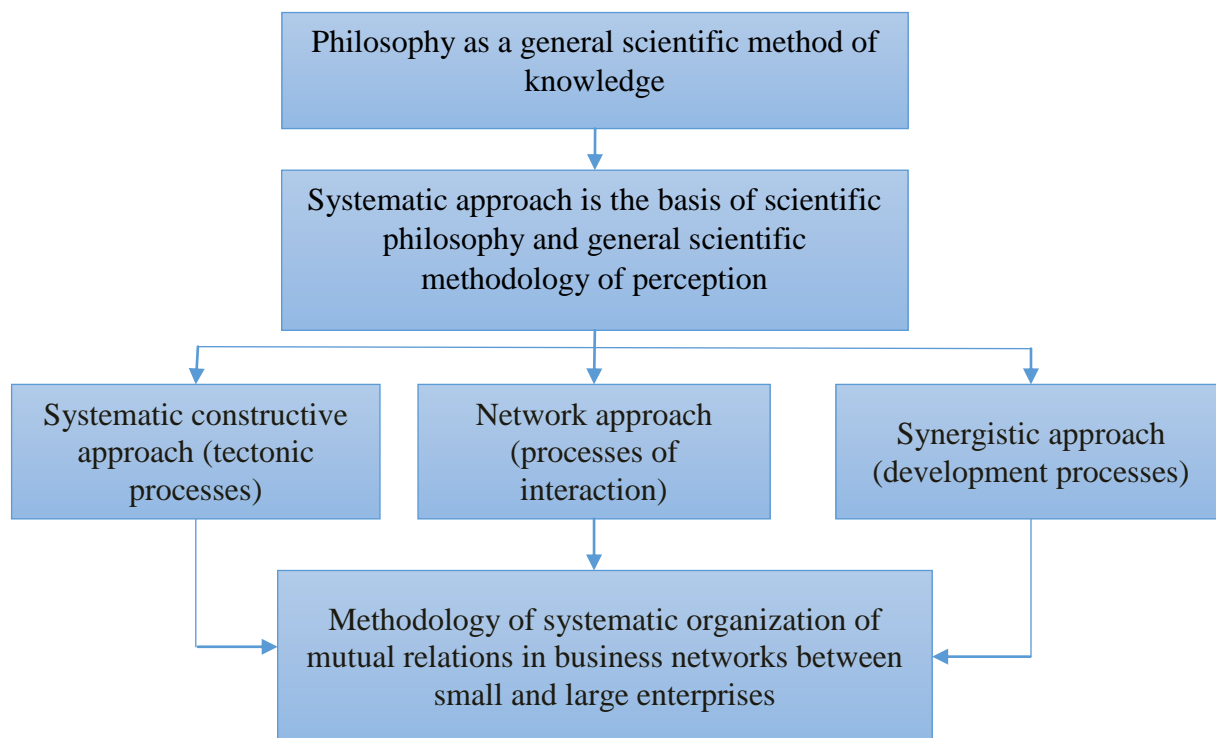

Figure 1. Methodological approaches to the formation of integration of large and small enterprises[3]

Systematic information on the integration of small and large construction enterprises is a research plan through the proposed system-synergistic approach, which includes the following steps.

1. Analysis of the state of the investment-construction complex;

2. The theoretical design of the system, analysis of the integration of small and large construction enterprises should be carried out within its framework;

3. Determination of clear systematic criteria of efficiency and optimality based on the systematic understanding of efficiency and optimization and their levels, as well as the efficiency and optimality of subsystems relative to each other and the system as a whole.

It is known from the results of the above analysis that the use of the method of systematic approach in the study of the object has its own advantage. It was also argued that it is important to use the general scientific research methodology, philosophy and systematic approach in developing the conceptual foundations of the systematic organization of small and large construction enterprises.

Analyses. Today, the rapid economic development of the construction industry is explained by the growing role of this industry in the country's economy, including in the GDP. From our side, the vertical analysis method was used in the analysis of economic indicators in this sector. In the course of research, we believe that it is appropriate to analyze economic indicators according to the coefficient of economic interest based on the approach presented in paragraph 1.3 of the first chapter. From the data of Table 3.1 below, it can be said that the growth of the construction

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[3] Developed by the author

industry in the studied period of 2011-2020 was rapid and the coefficient of interest was equal to 1.25. In turn, this means that in this period, it can be seen that the average interest rate of GDP in the country was equal to 1.2. In addition, it can be seen that in the studied period, the coefficient of interest in the industrial sector was 1.23, and the average coefficient of interest in the sector of agriculture, forestry and fisheries was 1.19.

Table 3. The main socio-economic development of the Republic of Uzbekistan INDICATORS [4]

Years	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average coefficient of variation
GDP (billion soums)	127590,2	153311,3	186829,5	221350,9	255421,9	317476,4	424728,7	529391,4	602193	734587,7	1,22
Volume of construction works (billion soums)	11753,9	15219,3	20060,4	25423,1	29413,9	34698	51129,3	71156,5	88130,3	107492,7	1,28
Volume of industrial products (billion soums)	57552,5	70634,8	84011,6	97598,2	111869	148816	235341	322536	368740	456056,1	1,26
Agriculture, forestry and fisheries (billion soums)	58549,3	69391,3	85101,7	103302	119726,7	154369,4	195095,6	224265,9	261892,2	317027,6	1,21
Number of employees (thousands)	12223,8	12523,3	12818,4	13058,3	13298,4	13520,3	13273,1	13541,1	13236,4	13538,9	1,01
Number of employees in the construction industry (thousands of people)	1105,7	1144	1183,3	1222,2	1263,6	1290	1205,5	1324,6	1305,6	1350,8	1,02
Total income of the population (billion soums)	104263	126268	146392,9	169344,3	197962,4	236893,1	300842,7	365735,6	420338,3	515660,7	1,20

This also means that today the construction industry is growing rapidly and is considered to have a faster development and interest rate than all other major industries. In the mentioned period, the average coefficient of interest for the increase in the number of permanent residents was equal to 1.02, the average coefficient of interest for the increase in the number of jobs in economic sectors was equal to 1.01, the average coefficient of interest for the amount of total income of the population We can see that the average coefficient of interest is 1.18 and per capita GDP is 1.16.

From the analysis of the table, it can be seen that there is a difference between the coefficient of GDP and the income of the population, besides, there is a big difference between the coefficient of the permanent population and the coefficient of employment in economic sectors. This also shows that today there is a big difference between the increase in the number of people and the increase in the number of employed people. Another noteworthy aspect of this table is that during the analyzed 11 years, the average interest rate of investments in the construction sector in our country was equal to 1.67, which is higher than the index of interest of investments in all other sectors and industries. organized. The information of this table is not only general, but also it is possible to see how much the coefficient of interest has changed every year, and the data with all quantitative indicators of this table can be found in Appendix 1.

Table 4 below shows the technological composition of investments in fixed capital in the form of percentages and their change in coefficients, where the main focus is on investments in fixed capital for construction and installation work, tools and equipment and all other Investments directed to capital works and expenses are presented in the form of a percentage and a ratio. It is noteworthy that the technological composition of capital investments in our country, i.e. investments for construction and assembly works, did not show a constant growth rate during the years 2013-2021, on the contrary, the highest rate was in 2016. it can be seen that it decreased a little in the next period, i.e. it was 48.7 percent in 2012, 52.0 percent in 2016 and 44.1 percent in 2021. Correspondingly, the coefficients of change of the interest of investments made in construction and assembly works were also different in different periods and were equal to 1.02 in 2013, 1.02 in 2016 and 1.08 in 2021. At the same time, we can see that the amount of investments made for tools and equipment has increased, i.e. it was 35.2% in 2013, 34.4% in

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[4] Oʻzbyekiston Ryespublikasi Davlat Statistika Қoʻmitasi maʼlumotlari asosida muallif tomonidan tuzilgan.

2016 and 48.4% in 2021, respectively. In addition, it can be seen that the coefficients of change of interest are different: 1.05 in 2013, 1.09 in 2016, and 0.98 in 2021.

Table 4. Investments in fixed capital by types of economic activity [5]

(in the current price index)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average coefficient of variation
	1,25	1,25	1,23	1,19	1,14	1,41	1,72	1,58	1,07	1,37	
Total	1,25	1,25	1,23	1,19	1,14	1,41	1,72	1,58	1,07	1,37	1,28
Including:											
Agriculture, forestry and fisheries	1,10	1,14	1,23	1,17	1,06	1,27	1,31	1,53	1,21	1,22	1,20
Mining and prospecting	1,48	1,45	1,51	1,39	0,74	1,98	1,13	1,25	1,17	1,36	1,31
Manufacturing industry	1,23	1,10	1,17	1,12	1,68	1,36	2,10	1,98	1,10	1,12	1,38
Supply of electricity, gas, steam and air conditioning	1,07	1,36	1,28	1,33	1,21	2,01	2,81	1,37	0,53	1,41	1,40
	1,55	1,74	1,29	1,03	1,01	1,54	2,75	1,40	0,91	1,11	1,47
Water supply, sewage system, waste collection and disposal	1,55	1,74	1,29	1,03	1,61	1,34	2,75	1,46	0,91	1,11	1,47
	0,87	1,51	4,30	0,58	0,88	1,53	1,79	2,83	1,40	1,41	1,67
Construction	0,87	1,51	4,30	0,58	0,88	1,53	1,79	2,83	1,40	1,41	1,67
Wholesale and retail trade, repair of motor vehicles and motorcycles	1,28	1,45	1,30	1,15	1,21	1,02	2,02	1,46	1,79	1,02	1,37
	1,19	1,29	0,96	0,89	1,55	1,10	1,33	1,66	1,01	1,05	1,20
Transport and storage	1,19	1,29	0,96	0,89	1,55	1,10	1,33	1,66	1,01	1,05	1,20
Accommodation and food services	1,31	1,19	1,35	1,07	1,95	0,59	3,12	1,55	0,98	1,12	1,41
	0,87	1,13	1,03	1,21	1,11	1,75	0,83	1,67	3,35	1,25	1,40
Information and communication	0,87	1,13	1,03	1,21	1,11	1,75	0,83	1,67	3,35	1,25	1,40
Finance and insurance activities	1,09	0,83	1,30	1,88	0,68	2,32	1,31	1,74	1,79	1,42	1,39
Professional, scientific and technical activity	1,23	1,01	1,65	0,80	0,56	1,10	2,69	1,80	1,28	1,01	1,31
	1,56	1,20	1,04	1,22	1,38	1,11	1,97	1,89	0,98	1,03	1,34
Education	1,56	1,20	1,04	1,22	1,38	1,11	1,97	1,89	0,98	1,03	1,34
Providing health care and social services	2,02	1,00	1,12	1,07	1,20	1,41	1,67	2,29	1,08	1,31	1,39
	1,04	0,97	1,17	0,84	2,00	1,49	3,36	1,75	0,68	1,34	1,43
Arts, entertainment and recreation	1,04	0,97	1,17	0,84	2,00	1,49	3,36	1,75	0,68	1,34	1,43
In addition to all activities											
Investments in housing construction	1,38	1,29	1,20	1,28	1,03	1,18	1,77	1,04	0,94	1,08	1,21
	1,28	1,17	1,26	1,13	1,54	1,70	1,72	1,60	1,02	1,54	1,34
Other activities	1,28	1,17	1,26	1,13	1,54	1,70	1,72	1,60	1,02	1,54	1,34

From the analysis of the data in the following table, it can be seen that the data on the houses commissioned in our country in the studied years 2012-2021 and the coefficient of change of their total area are given in Table 3.4. From the data of this table, it can be seen that during the ten years under analysis, it increased from 2017, and only in 2019 and 2020, as a result of the current situation (pandemic), we can see that the indicators decreased. It can be observed that the average interest rate of the total built houses in the studied period was equal to 1.04, which is explained by the presence of significant development in the construction industry and the fact that it has high development indicators.

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[5] Compiled by the author based on the information of the State Statistics Committee of the Republic of Uzbekistan.

Table 5. According to the commissioned houses information [6]

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(the coefficient of change of the total area of houses)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average coefficient of variation
The coefficient of change of the total number of apartments built	1,13	1,03	1,05	0,99	0,93	1,15	1,14	1,13	0,73	1,01	1,01
Including:											
state	0,60	1,67	1,20	2,33	0,43	1,33	1,38	5,45	0,58	0,85	0,96
non-state	1,13	1,03	1,05	0,98	0,94	1,15	1,14	1,09	0,74	1,02	1,01
In cities											
The coefficient of change of the total number of apartments built	1,16	1,03	1,12	1,17	0,89	1,16	1,39	1,23	0,68	1,12	1,06
Including:											
state	1,61	1,32	0,67	2,23	0,64	1,11	1,80	2,75	0,19	1,21	0,78
non-state	1,15	1,02	1,14	1,14	0,90	1,16	1,38	1,17	0,72	1,12	1,06
In rural areas											
The coefficient of change of the total number of apartments built	1,12	1,04	1,04	1,02	0,96	0,96	1,07	1,11	0,93	1,03	1,02
Including:											
state	1,06	0,22	49,25	2,29	0,23	0,70	0,28	1,52	75,13	1,05	0,59
non-state	1,12	1,04	1,04	1,01	0,96	0,96	1,07	1,11	0,91	1,03	1,02

From the data of the given table, it can be seen that the average coefficient of interest in the forms of ownership in the construction works carried out in the state network (0.96) is slightly higher, and the average coefficient of interest in the construction works carried out in urban and rural areas is 1. It can be seen that the coefficients of 06 and 1.02 are almost identical.

Discussion

Based on the information provided in the document, the following conclusions can be drawn:

Rapid Growth of the Construction Industry: The construction industry has experienced rapid growth during the period of analysis (2011-2020). The volume of construction works and the coefficient of interest in the construction sector have consistently increased, indicating the industry's significant contribution to the country's economic development.

Importance of Construction Industry: The construction industry has emerged as a key sector in the country's economy, with a growing role in the GDP. Its coefficient of interest (1.25) surpasses that of other major industries such as agriculture, forestry, and fisheries, indicating faster development and a higher interest rate.

Discrepancies in Economic Indicators: There are discrepancies between the coefficient of GDP and the income of the population, as well as between the coefficient of permanent population and the coefficient of employment in economic sectors. This suggests that the increase in the number of people does not necessarily correspond to an equal increase in employment opportunities.

High Interest Rate of Investments in Construction: The construction sector has shown a high average interest rate of investments (1.67) compared to other sectors and industries. This indicates a significant level of investment in construction and reflects the industry's potential for future growth.

Technological Composition of Investments: The technological composition of investments in fixed capital, particularly in construction and assembly works, has varied over the years. While investments in tools and equipment have increased, investments in construction and assembly works have shown fluctuations in growth rates.

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[6] O'zbyekiston Ryespublikasi Davlat Statistika Қо'mitasi ma'lumotlari asosida muallif tomonidan tuzilgan.

Housing Development: The construction industry has seen notable development in the housing sector, with an increasing number of houses commissioned during the analyzed period. However, there were decreases in 2019 and 2020 due to the impact of the pandemic. The average coefficient of interest for the total built houses indicates a positive growth trend (1.04) and highlights the industry's significant achievements.

Ownership and Construction Works: The average coefficient of interest in construction works carried out in the state network is slightly higher (0.96) compared to urban and rural areas (1.0). This suggests a relatively higher level of efficiency and performance in state-owned construction projects.

In summary, the construction industry has experienced rapid growth, demonstrated a high level of investment interest, and played a vital role in the country's economy. However, there are disparities in various economic indicators, and fluctuations in the technological composition of investments and housing development highlight the industry's susceptibility to external factors such as the pandemic.

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