

PLATFORM STRATEGIARCHY AS A TOOL FOR REDUCING INFORMATION ASYMMETRY, TAKING INTO ACCOUNT THE SCALE, CARDINALITY AND ORDER OF THE STRATEGY

Formulation of the problem

Information asymmetry is one of the key problems of modern economic theory and practice. Fourth industrial revolution does not solve this problem, but at the same time creates some opportunities to decrease it. The volume of information is constantly increasing at an accelerating rate. The possibilities for organizing this information without the use of artificial intelligence technologies for people and companies are exhausted.

Under these conditions, some people and companies cannot assess the intentions of others. As a result, activity is directed not at the coordinated construction of the desired future for all, but at the construction of one's own future through the futurocide of someone else's. For example, through deprivation of the last necessary development resources.

However, there is an opportunity to understand it much more broadly and deeply. The development of the platform economy creates both opportunities to overcome information asymmetry and its aggravation. This determines the relevance of studying this problem.

Literature review

Problems associated with information asymmetry attract close attention of the scientific community around the world. For instance, over the past 10 years, the Scopus scientometric database alone contains more than three thousand publications related to this topic (Fig. 1) only in the three fields (Business, Management and Accounting – 2 183; Economics, Econometrics and Finance – 2 040; Social Sciences – 731).

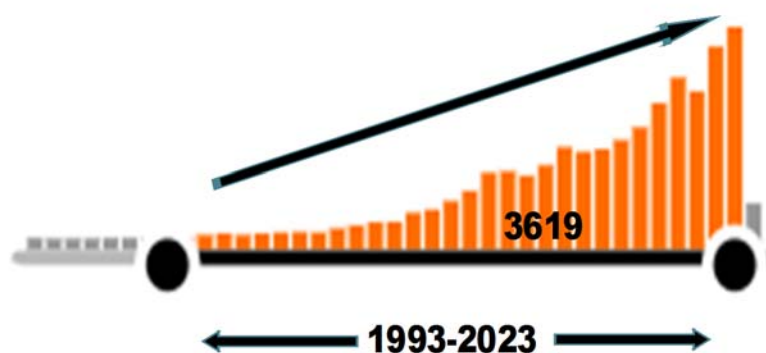


Fig. 1. Number of articles related to the study of information asymmetry in the Scopus database

Scientific description of information asymmetry was done more than 50 years ago. “The foundations for this theory were established in the 1970s by three researchers: George Akerlof, Michael Spence and Joseph Stiglitz. They received the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel, 2001, for their analyses of markets with asymmetric information” [1]. However, earlier (more than 200 years earlier) Emanuel Kant wrote “All actions relating to the rights of other men are wrong, if the maxims from which they follow are inconsistent with publicity.” [2, p. 185]. In fact, he emphasizes that there is an unacceptable

asymmetry of information in actions regarding other people if these actions cannot be public.

Now, in the age of the Fourth Industrial Revolution, we can see strong attention to asymmetric information in conditions of digitalization [3-7].

Mutascu and Sokic studied the asymmetric information in online social network. They came to the conclusions, that “many posted information wrongly passes the validation control, being profoundly altered from a qualitative point of view in reality. This suggests that the posted information without serious filters during the reading stage is a serious source of asymmetry” [3,

p. 14]. This indicates that digital platforms (for example, online social networks) create conditions for increasing information asymmetry. Which they try to reduce through improving the quality of user education or censorship.

Dong Quang Dang and others investigate information asymmetry on stock market. "Our findings confirm the two proposed hypotheses and are consistent with previous findings that earnings manipulations through accrual bases can distort the market and exacerbate the problem of information asymmetry. There are differences in outside investor's abilities to process and analyse earnings-related information. So, low quality of earnings can divide investors into the informed and uninformed and exacerbate the information asymmetry in the stock market" [4, p. 15]. Position, that "information asymmetry has a positive effect on earnings management", is supported by scientists from Indonesia [5, p. 84].

Some researchers show relationship between signaling theory and asymmetric information. They prove, that "signaling theory best explains the relationship between quality financial information and asymmetric information and thus, engaging in quality financial information can substantially reduce asymmetric information in capital markets and other economic dealings involving corporate firms and financial statements users" [6, p. 26]. As result "information asymmetry influences investors' decisions greatly, causing fluctuations in the value of these companies in the financial market" [7, p. 15].

At the same time number of articles related to the study "strategy" in the Scopus database (1993-2023) is 2 486 322. But none of them is linked to "information asymmetry".

The potential for reducing information asymmetry through the use of the general theory of strategizing [8] remains outside the focus of the scientific community. The practical implementation of the general theory of strategizing using a digital strategizing platform [9] forms the platform strategiarchy, a description of which will be presented below.

Consequently, the problem of reducing information asymmetry in various areas, both at the corporate and individual levels, remains unresolved.

Purpose of research

Based on the review of the literature and unsolved research problem, the purpose of study is to substantiate the conceptual foundations of reducing information asymmetry using platform strategiarchy taking into account scale, cardinality and order of the strategy.

Presentation of main results

The structure of the study assumes the following logic. At the first stage, it is described what strategiarchy means. At the second stage, the role of strategiarchy as a tool for reducing information asymmetry is substantiated. The third step describes a digital platform enabling strategiarchy (platform strategiarchy). The

fourth step proposes a metric to compare different strategies based on scale, cardinality and cardinality order of the strategy, which is going to be used as filter on digital platform.

Definition of strategiarchy

Previous studies [8] have shown that strategy is a necessary and sufficient condition of subjectness. An object (for example, a hired worker) becomes a subject (master) as soon as it realizes (formalizes) its strategy. When a subject (for example, a capitalist) loses the ability to form and implement a strategy, he transforms in an object. For example, in the case of relations between owners and top managers, the strategy is created not so much in the interests of the owner as in the interests of top management. This is especially noticeable in relation to minority shareholders, who, being co-owners, are mostly removed from the management of the company. The actions of objects are always reactive, and the actions of subjects are always proactive. The presence of a strategy guarantees the presence of reflected goals in an individual [8, p. 122].

Strategy is a mutually agreed upon mission, vision, values, goals, plans and risks. The presence of a strategy provides not only an understanding of the direction in which an individual or organization plans to move, but also the space of this movement, including the rules (laws, patterns) operating in this space. This structure has universal character and it is relevant for different level from individual to state or multinational companies. So that we can see basis for implementation of fractal logic, when the structure characteristic of a lower level is reproduced at a higher level [9, p. 171].

There exist only two options: (1) person or organization has own mission (key element of the strategy) or (2) person or organization does not have own mission therefore stays in position "submission" (in relation to person or organization who has mission).

In a broad sense, strategiarchy is a model of social structure aimed at increasing subjectivity in society and minimizing information asymmetry through the institutionalization of strategizing.

Key characteristics of strategiarchy:

1. Every capable individual and legal entity has a public strategy.

2. Every capable individual and legal entity has the ability and opportunity to evaluate any strategy (of the other capable individual and legal entity).

In a narrow sense, strategiarchy is a system for coordinating strategies at various levels of governance and management. In other words, strategiarchy is the result of ascent from the abstract (general theory of strategizing) to the concrete (digital platform for strategy consolidation [10]).

As will be shown below, the system of coordinating public strategies leads to a reduction in information asymmetry.

Elements of the logic described in the concept of strategiarchy has already been implemented on the stock

exchange (during listing, when companies indicate the priorities of their activities), in state and municipal administration (when forming strategies and monitoring their implementation), in TNCs (when coordinating the general strategies of parent and subsidiary companies). These examples provide reasonable assurance that it can be deployed at other levels as well.

Role of strategiarchy as a tool for reducing information asymmetry

Information asymmetry is a natural characteristic of any communication. The origins of asymmetry are explained by people having different goals and images of the future. Party A always knows more about its future actions than party B and vice versa. However, it is possible to significantly reduce the unpredictability of other Party's actions.

There are two main causes of asymmetry – (1) hidden properties and (2) hidden actions. The asymmetry caused by hidden actions relates primarily to the secrecy of strategic aspirations. Asymmetry may also relate to the properties of the product, which is generally described in the organization's mission.

The way to overcome information asymmetry caused by hidden actions is signaling [11-12]. For example, in what has become a classic paper, Michael Spence showed that having completed academic degree is a powerful signal from applicants to employer that typically leads to higher earn compared to applicants who have the same number of education years but no official diploma [11].

A public strategy gives signals about its planned actions for all stakeholders. Consequently, strategiarchy is a signaling way of overcoming total information asymmetry.

Digital platform for implementation of strategiarchy

The digital era creates opportunities to bring the concept of "strategiarchy" to life through the use of digital platform capabilities. As it has been shown in work "Digital platformization of the process of strategizing the development of the national economy" [9, p. 347-348] such digital platform must use blockchain technology.

The development of decentralized digital platforms based on blockchain technology allows the use of strategic management at the individual and collective levels in all aspects of its manifestation. The digital blockchain platform combines authenticity, privacy and publicity. Therefore, not only national or regional (local) strategies, but even individual strategies can be publicly posted, made visible only in necessary cases or to some extent, but without the possibility of being destroyed or deleted from the data storage.

Thus, the presence of a digital blockchain platform containing the strategies of all collective (bodies of state power, local self-government, state enterprises, political parties, public organizations, etc.) and individual (officials, civil servants, politicians, heads of structural

divisions of state enterprises) users allows you to compare the goals, values, etc., declared in the strategy with the real activity of individuals and organizations, which is recorded through an indestructible digital profile and the digital footprint they leave. When comparing digital footprints and strategic goals with each other, an opportunity is created for:

- formation of a general and universal culture of strategizing;
- aggregation of goals from individual to higher levels;
- increasing the level of trust between counterparties and, as a result, reducing transaction costs;
- the transition to a digital society with dominant subjectivity;
- transformation of the economic model of management.

Consequently, the implementation of strategiarchy using a digital platform is called platform strategiarchy.

Of the currently existing international organizations, the UN has the most suitable organizational, economic and political capabilities. Digital platform of strategizing, that would operate in the UN, will henceforth be called multinational digital platform of strategizing (MDPS). And the basic strategy for placement on this platform could be the "Sustainable Development Goals" to create opportunities for further coordination of the strategies of other collective and individual entities. This would be an interesting example of top-down movement.

However, there are no restrictions for the simultaneous coordination of strategies at the lower level of a large community or small enterprise.

General features of strategy: scale, cardinality and cardinality order

Main feature of each platform working with big data is filter. In the target state MDPS would contain more than one billion of members (individuals and legal entities) and their strategies. And every user of MDPS would face with a problem of how to prioritize existing strategies, compare your strategy and strategies of others.

As tools for solving this problem, you can use scale of strategy and cardinality of strategy, which will be discussed below.

The scale of a strategy reflects the location of the strategy in the resource- impact coordinate system. The quantitative assessment of the "resource" is determined through the number of employees of the organization. The quantitative assessment of the "impact" is determined through the number of clients or stakeholders.

Based on the characteristics of the strategy scale, it is proposed to evaluate the integral indicator "cardinality of strategy", defined as the square root of the product of the strategy resource and the impact of the strategy. Cardinality order is determined by the order of the number characterizing the cardinality of strategy.

We will now formalize the above definitions.

Let

- A – individual or organization (group of individuals);
- St(A) – strategy A;
- R(St(A)) – resource strategy A;
- r – order of R(St(A));
- I(St(A)) – impact strategy A;
- i – order of I(St(A));
- Sc(St(A)) – scale of strategy A;
- N(St(A)) – cardinality of strategy A;
- v – cardinality (strategy A) order.

Then

$$\begin{aligned} R(\text{St}(A)) &= 10^r & (1) \\ I(\text{St}(A)) &= 10^i & (2) \\ \text{Sc}(\text{St}(A)) &= R(\text{St}(A)) * I(\text{St}(A)) = 10^{(r+i)} & (3) \\ N(\text{St}(A)) &= (\text{Sc}(\text{St}(A)))^{(1/2)} = 10^{((r+i)/2)} & (4) \\ v &= (r+i)/2. & (5) \end{aligned}$$

As we can see unit of measurement for Sc(St(A)) is people squared, that suggests the advisability of introducing a category representing its square root. This category is cardinality of strategy (N(St(A))).

The cardinality order is calculated as the arithmetic mean between the resource order and the impact order or decimal logarithm of cardinality of strategy.

To deepen understanding of these concepts, it is necessary to consider specific examples. To do this, let us take various individuals and organizations: 1) United Nations, 2) USA, 3) Facebook, 4) Kiev, 5) Elon Musk, 6) Felix Arvid Ulf Kjellberg, 7) Robinson Crusoe.

In cases where there is no formalized strategy or group of strategic documents, it is assumed that the current assessment of impact and resources corresponds with the target.

1) United Nations is the most powerful intergovernmental organization, which tries to speak on behalf of whole human race and have influence on all world. Wherein, United Nations Secretariat staff is over 36 000 people¹. So that, using formulas (1) – (5), if R(St(UN)) – direct current resource of United Nations and I(St(UN)) – influence of United Nations strategy whole human population:

$$\begin{aligned} R(\text{St}(\text{UN})) &= 36\,000 = 3.6 * 10^4 \approx 10^{4.56} \\ r(\text{St}(\text{UN})) &= 4.56 \\ I(\text{St}(\text{UN})) &= 8 * 10^9 \approx 10^{9.9} \\ i(\text{St}(\text{UN})) &= 9.9 \\ \text{Sc}(\text{St}(\text{UN})) &= R(\text{St}(\text{UN})) * I(\text{St}(\text{UN})) = 10^{15.46} \\ N(\text{St}(\text{UN})) &= (\text{Sc}(\text{St}(\text{UN})))^{(1/2)} = 10^{7.23} \end{aligned}$$

$$v(\text{St}(\text{UN})) = 7.23$$

2) For USA as country, resource R(St(US))=R(US) equals population (about 330 million) and impact (I(US)) – global world (8 billion). In this case, evaluation of resource has extremely broad character. In reality US “strategy” includes corpus of strategic documents such as National security strategy (October 2022²) or National Cybersecurity Strategy (March 2023³) and so on. This situation is typical for any government entities.

We count all population. So that

$$\begin{aligned} R(\text{St}(\text{US})) &= 300 * 10^6 \approx 10^{8.48} \\ r(\text{St}(\text{US})) &= 8.48 \\ I(\text{St}(\text{US})) &= 8 * 10^9 \approx 10^{9.9} \\ i(\text{St}(\text{US})) &= 9.9 \\ \text{Sc}(\text{St}(\text{US})) &= R(\text{St}(\text{US})) * I(\text{St}(\text{US})) = 10^{18.38} \\ N(\text{St}(\text{US})) &= (\text{Sc}(\text{St}(\text{US})))^{(1/2)} = 10^{9.19} \\ v(\text{St}(\text{US})) &= 9.19 \end{aligned}$$

3) For company Meta (Facebook), resource (R(FB))⁴ is calculated based on the number of employees and impact (I(FB)) – as a number of Facebook users (3,05 users⁵). So that

$$\begin{aligned} R(\text{St}(\text{FB})) &\approx 67 * 10^3 \approx 10^{4.83} \\ r(\text{St}(\text{FB})) &= 4.83 \\ I(\text{St}(\text{FB})) &= 3.05 * 10^9 \approx 10^{9.48} \\ i(\text{St}(\text{FB})) &= 9.48 \\ \text{Sc}(\text{St}(\text{FB})) &= R(\text{St}(\text{FB})) * I(\text{St}(\text{FB})) = 10^{14.31} \\ N(\text{St}(\text{FB})) &= (\text{Sc}(\text{St}(\text{FB})))^{(1/2)} = 10^{7.15} \\ v(\text{St}(\text{FB})) &= 7.15 \end{aligned}$$

For city Kiev, resource (R(K)) is calculated based on the number of employees at administrations (city + districts, as of 2019 about 4 000⁶) and impact (I(K)) – as a number of citizens in Kiev about 3 million people. Of course, this approach to estimate resource is very conservative, by its low limit. In any case, as example, we have:

$$\begin{aligned} R(\text{St}(\text{K})) &\approx 4 * 10^3 \approx 10^{3.6} \\ r(\text{St}(\text{K})) &= 3.6 \\ I(\text{St}(\text{K})) &= 3 * 10^6 \approx 10^{6.48} \\ i(\text{St}(\text{K})) &= 6.48 \\ \text{Sc}(\text{St}(\text{K})) &= R(\text{St}(\text{K})) * I(\text{St}(\text{K})) = 10^{10.08} \\ N(\text{St}(\text{K})) &= (\text{Sc}(\text{St}(\text{K})))^{(1/2)} = 10^{5.04} \\ v(\text{St}(\text{K})) &= 5.04 \end{aligned}$$

Next group of samples shows scale and cardinality of strategies on individual level.

¹ United Nations (2023). Report of the Secretary-General on the Work of the Organization (A/78/1, seventy-eighth session). URL: https://www.un.org/sites/un2.un.org/files/sg_annual_report_2023_en_0.pdf (p. 15).

² URL: <https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf>.

³ URL: <https://www.whitehouse.gov/wp-content/uploads/2023/03/National-Cybersecurity-Strategy-2023.pdf>.

⁴ By the end of 2023, Facebook reported 67,317 employees. URL: [https://fourweekmba.com/facebook-employees-number/#:~:text=By%20September%202022%2C%20Facebook's%20\(Meta,bringing%20the%20headcount%20to%2075%2C964](https://fourweekmba.com/facebook-employees-number/#:~:text=By%20September%202022%2C%20Facebook's%20(Meta,bringing%20the%20headcount%20to%2075%2C964).

⁵ Number of monthly active Facebook users worldwide as of 3rd quarter 2023(in millions). URL: <https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/>.

⁶ URL: <https://kievlast.com.ua/mind/kilkist-chinovnikiv-u-kiivradi-kmda-ta-rda-bezperervno-roste-navishho>.

5) Elon Musk strategy must be coherent with companies' strategies, which he owns or manages (main actives are SpaceX: 13 000 employees¹ and 1.3 million customers in the US²; Tesla: 127,855 employees worldwide³ and 1.8 million delivered vehicles⁴, Twitter/X: 1300 employees⁵ and 550 million users⁶). So that resource is about 133 155 (13 000 + 127,855 + 1300) and impact is 553.1 million (1.3 + 1.8 + 550).

$$\begin{aligned} R(\text{St(IM)}) &\approx 133\,155 \approx 10^5 \cdot 1.2 \\ r(\text{St(IM)}) &= 5.12 \\ I(\text{St(IM)}) &\approx 553.1 \cdot 10^6 \approx 10^8 \cdot 8.74 \\ i(\text{St(IM)}) &= 8.74 \\ \text{Sc}(\text{St(IM)}) &= R(\text{St(IM)}) \cdot I(\text{St(IM)}) = 10^{13.86} \\ N(\text{St(IM)}) &= (\text{Sc}(\text{St(IM)}))^{1/2} = 10^{6.93} \\ v(\text{St(IM)}) &= 6.93 \end{aligned}$$

6) Felix Arvid Ulf Kjellberg doesn't have clear public strategy, but we have some information for interpretation and understanding of his strategy. $I(\text{St(PDP)}) = I(\text{PDP})$ and equals to subscribers number in the YouTube (111 million⁷). Of course, this most popular YouTube blogger has accounts in other social networks such as Instagram, TikTok, Twitch. But YouTube is the most popular of them. As a result:

$$\begin{aligned} R(\text{St(PDP)}) &= 1 = 10^0 \\ r(\text{St(PDP)}) &= 0 \\ I(\text{St(PDP)}) &= 111 \cdot 10^6 \approx 10^8 \cdot 8.45 \\ i(\text{St(PDP)}) &= 8.45 \\ \text{Sc}(\text{St(PDP)}) &= R(\text{St(PDP)}) \cdot I(\text{St(PDP)}) = 10^{8.45} \\ N(\text{St(K)}) &= (\text{Sc}(\text{St(K)}))^{1/2} = 10^{4.23} \\ v(\text{St(K)}) &= 4.23 \end{aligned}$$

7) The final example is Robinson Crusoe, who personifies the one-man economy. In case of Robinson Crusoe we can see next characteristics of strategy:

$$\begin{aligned} R(\text{St(RS)}) &= 1 = 10^0 \\ r(\text{St(RS)}) &= 0 \\ I(\text{St(RS)}) &= 1 = 10^0 \\ i(\text{St(RS)}) &= 0 \\ \text{Sc}(\text{St(RS)}) &= R(\text{St(RS)}) \cdot I(\text{St(RS)}) = 10^0 \\ N(\text{St(RS)}) &= (\text{Sc}(\text{St(RS)}))^{1/2} = 10^0 \\ v(\text{St(RS)}) &= 0 \end{aligned}$$

Robinson Crusoe has shown minimum order cardinality ($v=0$). Maximum order cardinality is achieved if $R=I=8 \cdot 10^9$ ($r=I \approx 9.9$) and $v=9.9$, which corresponds to the situation of full involvement of the entire population of the Earth as both a resource and a stakeholder.

Aggregation of the results obtained above is presented in Fig. 2. This figure shows the map of scale of strategies.

By comparing the order of the strategies considered as examples, we can build a series according to their significance:

$$\begin{aligned} v(\text{St(RS)}) &= 0 < v(\text{St(PDP)}) = 4.23 < v(\text{St(K)}) = \\ &= 5.04 < v(\text{St(IM)}) = 6.93 < v(\text{St(FB)}) = \\ &= 7.15 < v(\text{St(UN)}) = 7.23 < v(\text{St(US)}) = 9.19. \end{aligned}$$

By transferring this information to the MDPS, or a group of platforms that is collectively equivalent to the MDPS, strategies can be compared and prioritized to determine the most important strategies.

Also, MDPS allows you to form a one-to-one match between each strategy and the individuals and companies that act as resources or stakeholders. As a result, individuals receive an information about what focus of attention they are in. Consequently, digitalization and coordination of strategies makes it possible for the subject of strategy implementation to wisely choose the focus of his attention on the strategies of other actors when forming and implementing his own strategy.

Discussions

The proposed indicators for assessing resources and impact are not exhaustive. As measure of resources, we can use other parameters than a number of people. For instance, gross revenue for commercial companies, budget for countries or cities. As measure of impact, we can use other parameters than a number of clients. For instance, contractors and suppliers can also be considered as people influenced by the company.

Conclusions

1. The problem of information asymmetry in the context of digitalization of economy is influenced by two multidirectional factors. On the one hand, an increase in the volume of information leads to an increase in asymmetry, and on the other, digital technologies create conditions for its reduction. One of the possible tools for reducing information asymmetry is a model of society called strategairchy.

2. Ultimately, strategiarchy presupposes the presence of public strategies among all individuals and legal entities. However, the presence of such strategies without the possibility of systematizing and comparing them creates little added value for society. A partial solution to this problem can be obtained by introducing the concepts scale, cardinality and order of strategy cardinality.

¹ URL: <https://storage.courtlistener.com/recap/gov.uscourts.txsd.1934705/gov.uscourts.txsd.1934705.1.0.pdf> (p. 4).

² URL: <https://www.pcmag.com/news/spacex-starlink-now-has-13-million-customers-in-the-us>.

³ URL: https://ir.tesla.com/_flysystem/s3/sec/000095017023001409/tsla-20221231-gen.pdf.

⁴ URL: <https://www.cnbc.com/2024/01/02/tesla-tsla-q4-2023-vehicle-delivery-and-production-numbers.html>.

⁵ URL: <https://www.cnbc.com/2023/01/20/twitter-is-down-to-fewer-than-550-full-time-engineers.html>.

⁶ URL: <https://www.cnn.com/2023/09/18/musk-says-twitter-now-x-is-moving-to-monthly-subscriptions.html>.

⁷ PewDiePie (2023). URL: <https://www.youtube.com/@PewDiePie>.

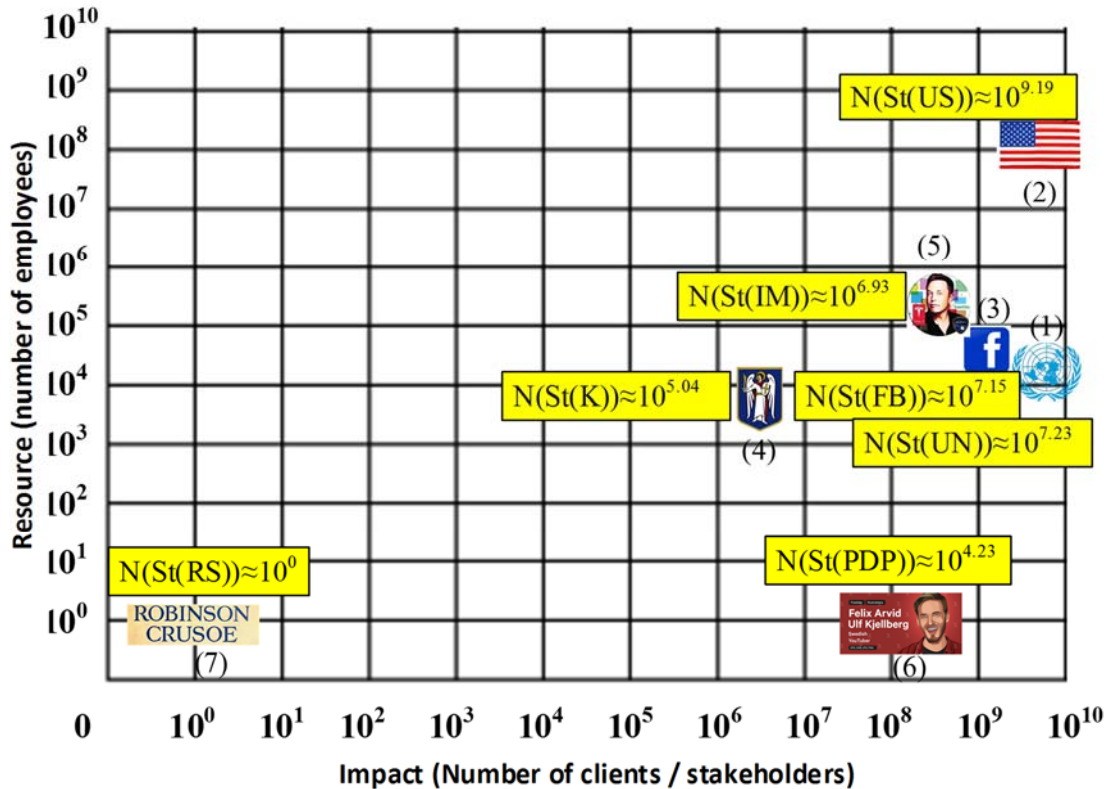


Fig. 2. Scale of strategy (examples)

3. The scale of the strategy is equal to the product of influence and resource of the subject of strategy implementation. The quantitative assessment of the "resource" is determined by the number of employees of the organization. "Impact" is quantified through the number of customers or stakeholders. The cardinality of a strategy is defined as the square root of the scale of the strategy. The order of strategy cardinality is determined

by the order of the number characterizing the cardinality of the strategy, i.e. the decimal logarithm of the power.

4. Order of strategy impact allows to classify the strategies. If $I(St(A))$ – strategy impact of company A, i – order of $I(St(A))$, $i(St(A))_{t=0}$ – order of the impact on the start of the strategy, k – strategy implementation period, that is systematized in Table.

Table

Name and description of the strategy depending on the order of its impact

| Changing the order of strategy impact | Name and description of the strategy |
|--|---|
| $(i(St(A))_{t=0} - i(St(A))_{t=k}) \leq -1$ | <i>Exit/retreat strategy</i> : (1) termination of current activities; (2) failure to meet the needs of existing customers |
| $-1 < (i(St(A))_{t=0} - i(St(A))_{t=k}) < 0$ | <i>Survival strategy</i> : (1) reduction in the number of clients; (2) maintaining hopes of returning to previous positions |
| $(i(St(A))_{t=0} - i(St(A))_{t=k}) = 0$ | <i>Position retention strategy</i> : (1) maintaining the current number of clients |
| $1 > (i(St(A))_{t=0} - i(St(A))_{t=k}) > 0$ | <i>Development strategy</i> : (1) increase in the number of clients |
| $(i(St(A))_{t=0} - i(St(A))_{t=k}) \geq 1$ | <i>Accelerated development strategy</i> : (1) a sharp increase in the number of clients; (2) very risky for realization |

5. Based on the proposed definition of the scale and power of strategy, the power of humanity’s potential strategy is approximately 10^{10} ($8 \cdot 10^9$). Consequently, increasing the scale, power and order of the strategy of "humanity as a whole" presupposes a constant increase in population. This is in conflict with the environmental capacity of the planet. Resolution of this contradiction is possible through human’s exploration of space.

Based on this, space exploration can be considered a tool for increasing subjectivity in society based on the construction of a strategariarchy.

6. The *scientific novelty* obtained as a result of the research lies in the description of new scientific concepts: strategariarchy, scale, cardinality and order of strategy. The introduction of which allows us to form a scientific and theoretical basis for the further institutionalization of strategizing, which in turn creates

conditions for reducing information asymmetry when moving from the abstract-theoretical to the concrete-applied level.

Directions for further research.

Based on the findings, promising directions for further research are the formation and updating of strategies, taking into account their intersections in resources and clients.

Literature

1. George A. Akerlof, A. Michael Spence, Joseph E. Stiglitz: Information for the Public, Markets with Asymmetric Information. Nobel Prize in Economics documents 2001-1. *Nobel Prize Committee*. The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, 2001. URL: <https://www.nobelprize.org/prizes/economic-sciences/2001/popular-information/> (дата звернення: 01.11.2023).
2. Kant I. Perpetual Peace. A Philosophical Essay. 2016 [EBook #50922]. URL: https://www.gutenberg.org/files/50922/50922-h/50922-h.htm#Page_185 (дата звернення: 01.11.2023).
3. Mutascu M., Sokic A. Do online social networks affect information asymmetry? *Online Journal of Applied Knowledge Management*. 2023. Vol. 11(2) P. 1-24. DOI: [https://doi.org/10.36965/OJAKM.2023.11\(2\)1-24](https://doi.org/10.36965/OJAKM.2023.11(2)1-24).
4. Dang D., Korkos I., Wu W. The effects of earnings management on information asymmetry and stock price synchronicity. *Cogent Economics & Finance*. 2023. Vol. 11 (2). DOI: <https://doi.org/10.1080/23322039.2023.2290359>.
5. Wijaya J., Herwiyanti E. A study of information asymmetry in financial research. *The Indonesian Accounting Review*. 2023. Vol. 13, No. 1, January - June. P. 79 – 89. DOI: <https://doi.org/10.14414/tiar.v13i1.2935>.
6. Ayagi S. R., & Salisu, M. Financial Reporting Quality and Information Asymmetry: A Review of Empirical Literature. *FUDMA Journal of Accounting and Finance Research [FUJAFR]*. 2023. №1 (3). P. 19–29. DOI: <https://doi.org/10.33003/fujaf-2023.v1i3.51.19-29>.
7. Cescon J., Rosa da Silva J., Lima N., Ferreira J. Continuity risks: information asymmetry between the management report and the independent auditor. *Revista Catarinense da Ciência Contábil*. 2022. Vol. 21. № 1-20, e3326. DOI: <https://doi.org/10.16930/2237-7662202233262>.
8. Вишневецький О. С. Загальна теорія стратегування: від парадигми до практики використання: монографія / НАН України, Ін-т економіки промсті. Київ, 2018. 156 с. URL: https://iie.org.ua/wp-content/uploads/2019/01/mono_Vishnevskiy_ukr_2018.pdf (дата звернення: 01.11.2023).
9. Вишневецький О. С. Цифрова платформізація процесу стратегування розвитку національної економіки: монографія. Київ: ІЕП НАН України, 2021. 449 с. URL: <https://iie.org.ua/monografiyi/cifrovaplatformizacija-procesu-strateguvannja-rozvitku-nacionalnoi-ekonomiki/> (дата звернення: 01.11.2023).
10. Вишневецький О. С. Цифрова платформізація стратегічного управління економікою України. *Економіка промисловості*. 2021. № 3. С. 5-24. DOI: <http://doi.org/10.15407/econindustry.2021.03.005>.
11. Spence M. Job Market Signaling. *The Quarterly Journal of Economics*. Vol. 87. Issue 3. August 1973. P. 355–374. DOI: <https://doi.org/10.2307/1882010>.
12. Akerlof G. The market for “lemons”: Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*. 1970. Vol. 84. P. 488–500. DOI: <https://doi.org/10.2307/1879431>.

References

1. George A. Akerlof, A. Michael Spence, Joseph E. Stiglitz: Information for the Public, Markets with Asymmetric Information. Nobel Prize in Economics documents 2001-1. The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. (2001). *Committee Nobel Prize*. Retrieved from <https://www.nobelprize.org/prizes/economic-sciences/2001/popular-information/>.
2. Kant, I. (2021). Perpetual Peace. A Philosophical Essay. [EBook #50922]. Retrieved from: https://www.gutenberg.org/files/50922/50922-h/50922-h.htm#Page_185.
3. Mutascu, M., Sokic, A. (2023). Do online social networks affect information asymmetry? *Online Journal of Applied Knowledge Management*. 11(2):1-24. DOI: [https://doi.org/10.36965/OJAKM.2023.11\(2\)1-24](https://doi.org/10.36965/OJAKM.2023.11(2)1-24).
4. Dang, D., Korkos, I., Wu, W. (2023). The effects of earnings management on information asymmetry and stock price synchronicity. *Cogent Economics & Finance*, 11 (2). DOI: <https://doi.org/10.1080/23322039.2023.2290359>.
5. Wijaya, J., Herwiyanti, E. (2023). A study of information asymmetry in financial research. *The Indonesian Accounting Review*, Vol. 13, No. 1, January - June, pp. 79 – 89. DOI: <https://doi.org/10.14414/tiar.v13i1.2935>.
6. Ayagi, S. R., Salisu, M. (2023). Financial Reporting Quality and Information Asymmetry: A Review of Empirical Literature. *FUDMA Journal of Accounting and Finance Research [FUJAFR]*, 1(3), pp. 19–29. DOI: <https://doi.org/10.33003/fujaf-2023.v1i3.51.19-29>.
7. Cescon, J., Rosa da Silva, J., Lima, N., Ferreira, J. (2022). Continuity risks: information asymmetry between the management report and the independent auditor. *Revista Catarinense da Ciência Contábil*, Vol. 21, no. 1-20, e3326. DOI: <https://doi.org/10.16930/2237-7662202233262>.
8. Vyshnevskiy, O. S. (2018). Zahalna teoriia stratehuvannia: vid paradyhmy do praktyky vykorystannia [The general theory of strategizing: from paradigm to practical use]. Kyiv, IIE of NAS of Ukraine. 156 p. Retrieved from: https://iie.org.ua/wp-content/uploads/2019/01/mono_Vishnevskiy_ukr_2018.pdf [in Ukrainian].
9. Vyshnevskiy, O. S. (2021). Tsyfrova platformizatsiia protsesu stratehuvannia rozvytku natsionalnoi ekonomiky [Digital platformization of the process of strategizing the development of the national economy]. Kyiv, IIE of NAS of Ukraine. 449 p. Retrieved from: <https://iie.org.ua/monografiyi/cifrovaplatformizacija-procesu-strateguvannja-rozvitku-nacionalnoi-ekonomiki/> [in Ukrainian].
10. Vyshnevskiy, O. S. (2021). Tsyfrova platformizatsiia stratehichnoho upravlinnia ekonomikoju Ukrainy [Digital platformization of strategic management of Ukrainian economy]. *Econ. promisl.*, 3, pp. 5-24. DOI: <http://doi.org/10.15407/econindustry.2021.03.005> [in Ukrainian].
11. Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, Vol. 87, Issue 3, pp. 355–374. DOI: <https://doi.org/10.2307/1882010>.
12. Akerlof, G. A. (1970). The market for “lemons”: Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 84, pp.488–500. DOI: <https://doi.org/10.2307/1879431>.

Вишневський О. С. Платформна стратегіархія як інструмент зменшення інформаційної асиметрії з урахуванням масштабу, потужності та порядку стратегії

Метою дослідження є обґрунтування концептуальних основ зменшення інформаційної асиметрії за допомогою платформної стратегіархії з урахуванням масштабу, потужності та порядку стратегії.

Наукова новизна дослідження полягає в описі нових понять: стратегіархія, платформна стратегіархія, загальні характеристики стратегії (масштаб, потужність і порядок стратегії). Використання цих понять дозволяє сформулювати теоретичну основу для подальшої інституціоналізації стратегування, яке створює умови для зменшення інформаційної асиметрії у умовах розвитку цифрової економіки.

У широкому сенсі стратегіархія – це модель соціального устрою, спрямована на підвищення суб'єктності в суспільстві та мінімізацію інформаційної асиметрії через інституціоналізацію стратегування.

Основні характеристики стратегіархії: (1) кожна дієздатна фізична та юридична особа має публічну стратегію; (2) кожна дієздатна фізична та юридична особа має здатність і можливість оцінити будь-яку стратегію (іншої дієздатної фізичної або юридичної особа).

У вузькому розумінні стратегіархії – це система координації стратегій на різних рівнях управління. Одночасно, стратегіархії являє собою результат сходження від абстрактного (загальна теорія стратегування) до конкретного (цифрова платформа для консолідації стратегій).

Імплементація стратегіархії на цифровій блокчейн платформі називається платформною стратегіархією. Введення понять масштаб, потужність та порядок стратегії дозволяє упорядкувати та співставляти стратегії в тому числі на відповідній цифровій платформі.

Масштаб стратегії дорівнює добутку впливу та ресурсу суб'єкту реалізації стратегії. Кількісна оцінка «ресурсу» визначається через чисельність працівників організації. Кількісна оцінка «впливу» визначається через кількість клієнтів або зацікавлених сторін. *Потужність стратегії* визначається як квадратний корінь масштабу стратегії. *Порядок потужності стратегії* визначається порядком числа, що характеризує потужність стратегії тобто десятковий логарифм потужності. На конкретних прикладах (ООН, США, Facebook, місто Київ, Ілон Маск, Фелікс Арвід Ульф Чельберг, Робінзон Крузо) продемонстровано розрахунок цих характеристик.

У підсумку розміщення стратегій на цифрових платформах дозволяє знизити асиметрію інформації при різних комунікації між компаніями, урядом та індивідами.

Ключові слова: стратегіархія, платформна стратегіархія, інформаційна асиметрія, масштаб стратегії, потужність стратегії, порядок потужності стратегії, цифрова платформа, цифрова економіка.

Vyshnevskiy O. Platform Strategiararchy as a Tool for Reducing Information Asymmetry, Taking into Account the Scale, Cardinality and Order of the Strategy

The purpose of study is to substantiate the conceptual foundations of reducing information asymmetry using platform strategiararchy taking into account scale, cardinality and order of the strategy.

The *scientific novelty* obtained as a result of the research lies in the description of new scientific concepts: strategiararchy, platform strategiararchy, information asymmetry, scale of strategy, cardinality of strategy, order of strategy scale. The introduction of which allows us to form a scientific and theoretical basis for the further institutionalization of strategizing, which creates conditions for reducing information asymmetry in the process of developing the digital economy.

In a broad sense, strategiararchy is a model of social structure aimed at increasing subjectivity in society and minimizing information asymmetry through the institutionalization of strategizing.

Key characteristics of strategiararchy:

1. Every capable individual and legal entity has a public strategy.
2. Every capable individual and legal entity has the ability and opportunity to evaluate any strategy (of the other capable individual and legal entity).

In a narrow sense, strategiararchy is a system for coordinating strategies at various levels of governance and management. In other words, strategiararchy is the result of ascent from the abstract (general theory of strategizing) to the concrete (digital platform for strategy consolidation).

The implementation of strategiararchy using a digital platform is called platform strategiararchy. The introduction of the concepts "scale of strategy", "cardinality of strategy", "order of strategy scale" allows you to organize and compare strategies, including on the appropriate digital platform.

The scale of strategy is equal to the product of influence and resource of the subject of strategy implementation. The quantitative assessment of the "resource" is determined by the number of employees of the organization. "Impact" is quantified through the number of customers or stakeholders. The cardinality of a strategy is defined as the square root of the scale of the strategy. The order of strategy cardinality is determined by the order of the number characterizing the cardinality of the strategy, i.e. the decimal logarithm of the power. The calculation of these characteristics is demonstrated on specific examples (United Nations, USA, Facebook, Kiev, Ilon Musk, Felix Arvid Ulf Kjellberg, Robinson Crusoe).

As a result, placing strategies on digital platforms allows to reduce information asymmetry in various communications between companies, government and individuals.

Keywords: strategiararchy, platform strategiararchy, information asymmetry, scale of strategy, cardinality of strategy, order of strategy scale, digital platform, digital economy.

