

Министерство образования Республики Беларусь
Учреждение образования
«Полоцкий государственный университет»

**УСТОЙЧИВОЕ РАЗВИТИЕ ЭКОНОМИКИ:
МЕЖДУНАРОДНЫЕ И НАЦИОНАЛЬНЫЕ АСПЕКТЫ**

Электронный сборник статей
II Международной научно-практической конференции,
посвященной 50-летию Полоцкого государственного университета

(Новополоцк, 7–8 июня 2018 г.)

Новополоцк
Полоцкий государственный университет
2018

Устойчивое развитие экономики: международные и национальные аспекты
[Электронный ресурс] : электронный сборник статей II международной научно-практической конференции, посвященной 50-летию Полоцкого государственного университета, Новополоцк, 7–8 июня 2018 г. / Полоцкий государственный университет. – Новополоцк, 2018. – 1 электрон. опт. диск (CD-ROM).

Впервые материалы конференции «Устойчивое развитие экономики: международные и национальные аспекты» были изданы в 2012 году (печатное издание).

Рассмотрены демографические и миграционные процессы в контексте устойчивого развития экономики; обозначены теоретические основы, практические аспекты управления человеческими ресурсами; выявлены и систематизированы драйверы инклюзивного экономического роста в Беларуси и за рубежом; раскрыты актуальные финансовые и экономические аспекты развития отраслей; приведены актуальные проблемы и тенденции развития логистики на современном этапе; отражены современные тенденции совершенствования финансово-кредитного механизма; освещены актуальные проблемы учета, анализа, аудита в контексте устойчивого развития национальных и зарубежных экономических систем; представлены новейшие научные исследования различных аспектов функционирования современных коммуникативных технологий.

Для научных работников, докторантов, аспирантов, действующих практиков и студентов учреждений высшего образования, изучающих экономические дисциплины.

Сборник включен в Государственный регистр информационного ресурса. Регистрационное свидетельство № 3061815625 от 23.05.2018.

Компьютерный дизайн М. С. Мухоморовой
Технический редактор А. Э. Цибульская.
Компьютерная верстка Т. А. Дарьяновой.

211440, ул. Блохина, 29, г. Новополоцк, Беларусь
тел. 8 (0214) 53 05 72, e-mail: a.lavrinenko@psu.by

STRATEGIC FORESIGHT: TOWARDS ENHANCING LEADERSHIP CAPABILITIES AND BUSINESS SUSTAINABILITY

*Tatjana Volkova, prof., Ineta Portnova, Baiba Dominiece-Diasa,
BA School of Business and Finance, Riga, Latvia*

In the strategic management studies one of the most crucial question is what makes business successful and sustainable. The literature studies show that strategic foresight has great impact on business results. The scientific research of strategic foresight is rapidly developing; particularly methods, organising and experiences are the dominant topics [1] which are being researched by the scholars. Iden et al., while performing the systematic literature review of strategic foresight, have found out that there are some researchers who have tried to address the top management involvement and decision-making processes related to the strategic foresight. The same reflection is shared by Christensen [2], stating that foresight is a vital for entrepreneurial actions since it is related to the ability to predict the inadequacies and opportunities in the market. Thus, the authors conclude that strategic foresight can be considered as one of the key leadership capabilities.

The concept of leadership is widely studied and there are many evidence for leadership essential role in decision-making and strategy and ability to adapt for changes and uncertainty [3], [4], [5]. To identify leadership strategic foresight capabilities, the dynamic capabilities theory has been applied. Dynamic capabilities are being viewed as primary factors for an organisation to adapt to the rapidly changing business environments [6]. From leadership perspective leaders empower organization's dynamic capabilities. That highlights importance of understanding leadership capabilities for leading in uncertainty and complexity.

The rapidly growing Unmanned Aerial Vehicle or drone industry serves as a great example where leadership capabilities and strategic foresight is particularly important. Innovations that foster drone technology now are used in almost every industry starting from military, agriculture until entertainment [7].

The purpose of the paper is to identify the level of development of strategic foresight capabilities in the drone industry and its application by top management for ensuring business sustainability. The authors look at strategic foresight as a leadership capability to enhance the strategic decision-making process. The research methodology is a case study and semi-structured interviews. This paper is considered as pilot study and findings will be used for future researches.

Unmanned Aerial Vehicle or Drone industry is a new but fast-growing industry. The first military drone was created in 1990s and many years drones were used for specific military targets. Massive changes began when drone technologies came into the commerce sector. Now drone technologies are considered as divers with various attributes and range in size, which varies from large and fast military drones to commercial micro drones [8], [9]. Common attribute is that drone does not have on-board human operator, they are autonomously or remotely operated [9]. However, starting from 2000s industry began to develop dramatically and its application is very wide [7]. PricewaterhouseCoopers LLP forecast reflects that by year 2020 commercial market opportunity for drones will be 127 billion USD [10].

The emergence of a new industry brings along many issues for discussions and researches in society and for scientists. Luppicini and So have done systematic review of commercial drone literature. They have reviewed literature from 2010 to 2015 and identified eight main aspects from the following social perspectives: ethics, safety, law, privacy, air space, human vs machines, informational integrity, and commercial aspects. Findings advocate that "commercial drone use

can improve life-style and increase efficiency, there is a need to invest more attention to possible negative and unknown consequences to facilitate the ethical use of commercial drones” [11]. These results are in line with Rao et al. [9] findings – in drone industry focus is needed on ethics, transparency and legality, safety, security, privacy, effectiveness, and regulation.

For further development of industry Giones and Brem [7] highlights the need to increase reliability of technical part and ability to understand the industry drivers (in short and long run) to be able to identify and apply suitable business models. The environment in which drone technology evolves presents a lot of uncertainty and complexity that demands strategic focus and new combination of strategic foresight capabilities. However, the authors found only few studies about leadership capabilities enhancing the application of strategic foresight in the drone industry organizations.

Strategic foresight is the ability to create and maintain a forward [12], sense the opportunities and improvements [13] and assist decision makers to shape the organisation’s future course of action [14], [15]. Conway even argues that strategic foresight is the core organisational capacity [16].

The dynamic capabilities, on the other hand, represent organisations ability to create competitive advantage for the future. Teece et al. have defined dynamic capabilities as “the firm’s ability to integrate, build, and re-configure internal and external competences to address rapidly changing environments” [17].

According to van der Laan’s literature review about strategic foresight, strategic leadership and strategic thinking the strategy consists of three stages - strategic thinking for strategy formulation (analysing, opportunity noticing, long term-view), strategic planning (re-resources, actions, time frame planning) and strategy implementation - put into operation) [18].

Slaughter, by describing the development of strategic foresight within companies, has identified five levels for foresight development [19]:

- Level 1: Recognition – each individual has the foresight capacity;
- Level 2: Immersion – generation of futures discourse;
- Level 3: Methodologies – development and implementation of key methods;
- Level 4: Niches – foresight focus areas;
- Level 5: Sustainability – Long-term thinking.

In the literature two forms of capabilities can be found - operational and dynamic capabilities. Operational capabilities are considered as effective and efficient resources operation while dynamic capabilities allow an organization to look forward and develop successfully in the changing environment [20]. In this paper the authors are focusing on dynamic capabilities and its application to understand better the strategic foresight dynamic capabilities.

The main characteristics of the dynamic capabilities are sensing, seizing and transforming [17]. In other words, that can be explained as firm’s ability to identify and properly utilise the resources in the changing environment to create value for the business [21]. Since these capabilities origin from Resource-based view [22], the authors create connections between resources and capabilities as both shall always interact. Conway emphasises that companies, during their strategy development activities, tend to miss out one crucial element – a foresight capacity [16]. Conway argues that scenario planning methods are perceived to consider the future, however that does not lead firms to develop and sustain their foresight capacities.

Slaughter has identified five levels of social foresight capacities which, the authors find, have a strong correlation to the organisational capacities [19].

Based on Teece [23], Barney [22], Slaughter [19] and Conway [16], the authors have created Capabilities – Resources matrix which indicates what capabilities and re-sources firms need to exercise for achieving levels of foresight development.

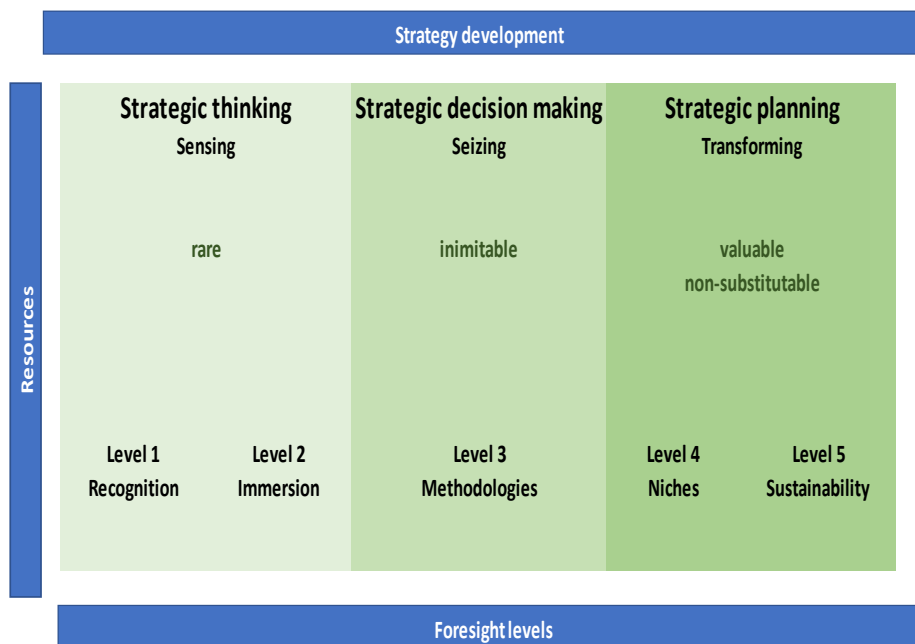


Figure 1. – Capabilities-Resources matrix

Application of strategic foresight in an organisation is a time-consuming process, nevertheless, the leaders should invest enough time to develop this capability [16] to ensure a sustainable business development in the futures’ changing environment. However, “top management’s entrepreneurial and leadership skills around sensing, seizing, and transforming are required to sustain dynamic capabilities” [24]. Therefore in the next section more detailed is analysed leadership capabilities.

To identify strategic foresight dynamic capabilities from leaders’ perspective the authors reviewed literature that studied strategic foresight and leadership capabilities, as well leading in a complex and uncertain environment.

From leadership perspective, dynamic capabilities empower leaders to adapt organization to changing environment [17], [20]. Teece (23) highlight it as leaders' capacity to sense and shape opportunities/threats, and seize them in competitive way, transforming in new way. Hines also advocates that having capabilities for strategic foresight and innovation could be the most important capabilities for organization’s competitive advantage [25]. Foresight as the ability is related with creating and maintaining forward view which is in high-quality. This allows to predict emerging opportunities, trends and risks [12], [26]. Capability results from long- term view, strategic thinking, sensory acuity, broadminded un business eco-system understanding [27]. Leadership capabilities for foresight defined by Cornish is the ability to create and maintain a qualitative forward view thus anticipating emerging opportunities and threats [26].

Opportunity identification in literature is identified as entrepreneurial alertness that is enhanced by information or recognises lack of knowledge and sees how could opportunities be used [28]. Rai and Cardozo argue that any type of opportunity identification or entrepreneurial alertness, is based on alertness that is enhanced by information. Both authors explain the entrepreneurial alertness as paying attention and being sensitive to the information about the objectives,

events and behaviour patterns in the environment [28]. Smith and DiGregorio, however, stresses that entrepreneurial alertness focuses on the ability to recognise pervasive knowledge deficiencies in the market and how could they be used as new business opportunities [29]. Special focus is placed on the attention to the problems of producers and consumers, their currently unsatisfied needs and new combinations of available resources. Rai and Cardozo also suggest that the increasing of entrepreneurial alertness would most likely increase the possibility to identify opportunities. Vagnoni and Khoddami identify strategic foresight as a determinant of entrepreneurial alertness, and the ability to predict discreteness of commercial environments, market place, available threats and opportunities in the market as well as potential destructive movements of rivals [30].

Towards transforming or to enabling organizations to deal effectively with complex changes authors, have found evidence, that scholars recognize it as organizational adaptability; from leadership perspective, enabling the adaptive process through adaptive space [31]. Leadership for organizational adaptability focuses on leaders' ability to lead organizations and the people and to be adaptive in complex challenges. Based on Uhl-Biena and Arenab findings, ability to lead complex changes depends on leaders' capability to a) generate innovation, learning and development, b) transform innovation into new adaptive order to enhance outcomes, c) create adaptive space to ensure the ongoing viability [32].

According to Teece transforming is nonstop renewal or continued change management [24]. From leadership perspective, it means directing the organisation toward change initiatives by transferring activities – dialogue, cooperation and learning [33]. Transforming is combination of sensing, seizing with new capabilities because “many strategic actions and transformations require actions that one may never replicate” [24]. In other words, transformation activities are placed in long term action knowledge, skills and resources obtained through sensing and seizing activities.

The drone industry in Latvia have relatively small number of companies, therefore authors are using case study method. The authors have found the case study method most suitable for this study, since the goal was to gain first insights of the strategic foresight and leadership capabilities in relation to the drone industry. The second target was to identify areas for future, more thorough research topics as well as to test the created interview questionnaire. The authors have acknowledged the scientific discussion, scepticism [34] and limitations [35], [36] on this methodology. Nevertheless, this method could be selected during delivering an exploratory phase of research project [34], therefore the authors find this method useful for gaining insights in the drone industry. The authors are striving to determine the leaders' understanding of strategic foresight, motivation and abilities to apply strategic foresight in their organisation. This also corresponds to the advise of asking the “how” and “why” questions [36], [37] about the current set of events. For this research the authors were following Yin's [36] case study research model as this fits best to the research question and allows focus on current events in the drone industry.

To complement the case study method, the authors also used the semi-structured interview [38]. This interview type was selected since the authors did have a set of topics pre-defined, based on research topic, however, the authors did not want to limit the respondents too much. The authors developed a set of 13 questions, which covered the main aspects of the figure 1 Capabilities- Resources matrix. The authors held on-site interviews with representatives – two C-level managers of the company under research. It was decided not to present the respondents with the contents of figure 1 or use any particular terms (e.g. strategic foresight or dynamic capabilities), which might mislead the course of the interview. The company was established at the end of 2009, in a business incubator, and today is one of the leading developers for specific drone technology. The interview questions aimed to investigate whether the company's top leadership

has established any strategic foresight routines and to what extent they are being used in the company. The authors also steered the questions in a way to identify the leadership strategic foresight capabilities and interest towards sensing the future trends, seizing opportunities and transforming the organization through enhancing, combining, protecting and reconfiguring company's tangible and intangible assets to reach the desired future outcomes.

The semi-structured interviews results show that company has quite developed dynamic capabilities. Strategic thinking is seen as leadership capability and is the responsibility of the management team. Each leader is responsible for seeking novelty in his field on everyday bases. This group of leaders is responsible for the decision-making and implementation processes. There is no separate strategic leader or strategic planner. Drivers for novelty are customers, which are often also competitors, specialized literature and specialized exhibitions. The company has developed good worldwide network. Despite the world-wide coverage the market is small and they now all the players. Technology safety and reliability are mentioned as challenges for further development. Company's transformation is mainly based on customers' needs and satisfaction. Change management and transformation is managed on project bases. One third of the company's employees are involved in the product research and development. They have development plans for a 2 years period. However, involvement in policy-making are not considered as necessary skill as well as no special tools or systems are used for strategic foresight recognition and management.

Interview results reveal the the company under research belong to the Foresight Level 2. This means that the company has well developed strategic thinking capability as well as their resources are rare and thus also hardly imitable. The company is able to sense the opportunities and successfully use them for their competitive advantage. Seizing capability is particularly important for the companies operating in the drone industry taking into consideration the industry's rapid development. There are number of competitors flowing into the market therefore it is crucial for the company to be able to seize their opportunities and use the wisely depending on their operating model. Nevertheless, the company does not focus on development of methods or tools directly related to the strategic foresight currently. By further development of industry when the competition is going to increase and the strategic foresight capability could become a crucial source of maintaining competitiveness in the market.

The company does not perceive the development of the strategic foresight as a core organisational capability. They have established their own market research and evaluation methods which are particularly relevant to their industry and organisational management practices.

The main conclusions of the research paper is that particular player within the drone industry applies unintentionally some strategic foresight capabilities which are not fully recognized and exploited systematically and systemically. The conducted case study highlights low level of awareness of strategic foresight by top management, existing types, tools and methods of strategic foresight. The company analysed does not see the necessity to engage in a more systematic approach towards developing systematic strategic foresight methods and tools which could be explained by the fact that top management doesn't possess the necessary leadership capabilities in strategic foresight . Thus further, more extensive research is required to understand underlying implications of strategic foresight wider applications by top management towards ensuring the business sustainability. This case study indicates further research areas, such as leaders' motivation to understand, develop, integrate and use strategic foresight methods and tools. Another research area could be the comparison of the start-up companies (within the drone industry) which have emerged from business incubators with those having rich heritage. The authors of this research paper will further look at the drivers of identified leadership strategic foresight dynamic capabilities.

The Capabilities-Resources matrix, developed by the authors, shall serve as a guide for the future researches as it can assist in structuring the results and detecting correlation between strategic foresight capabilities and business performance.

The paper has limitation – used case study method that provide opportunity to research limited number of companies. In further researches is necessary to increase the number of investigated objects. This research paper addresses the company based in Latvia.

References

1. Iden J. ; Methlie B. L.; Christensen E.G. (2017), The nature of strategic foresight: A systematic literature review. *Technological Forecasting and Social Change* 116: 87 – 97
2. Christensen, C.M. 1997. *The Innovator's Dilemma: when New Technologies Cause Great Firms to Fail*, Harvard Business School Press, Cambridge, MA.
3. Bryman, A. (2013), *Leadership and Organization*, Routledge.
4. Bass, B. M., & Stogdill, R. M. (1990). *Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications*. Simon and Schuster.
5. Rees, W.D. & Porter, C. (2015), *Skills of Management and Leadership, Managing People in Organizations*, Palgrave, Macmillan Education.
6. Castiaux A. 2012. Developing dynamic capabilities to meet sustainable development challenges. *International Journal of Innovation Management* 16(6):1240013
7. Giones F., Brem A., (2017), From toys to tools: The co-evolution of technological and entrepreneurial developments in the drone industry, *Business Horizons*, Volume 60, Issue 6, November–December 2017, Pages 875 – 88
8. Clarke R., (2014), Understanding the drone epidemic, *Computer Law & Security Review*, Volume 30, Issue 3, June 2014, Pages 230 – 246
9. Rao B., Gopi A.G., Maione R., (2016), The societal impact of commercial drones, *Technology in Society*, Volume 45, May 2016, Pages 83 – 90
10. Moskwa, W. (2016, May 9). World drone market seen nearing \$127 billion in 2020, PwC says. Available at <https://www.moneyweb.co.za/news/tech/world-drone-market-seen-nearing-127bn-2020-pwc-says/>
11. Luppicini R., So A., (2016), A technoethical review of commercial drone use in the context of governance, ethics, and privacy, *Technology in Society*, Volume 46, August 2016, Pages 109 – 119
12. Rohrbeck R.; Battistella C.; Huizingh E. 2015. Corporate foresight: An emerging field with a rich tradition. *Technological Forecasting and Social Change* 101: 1 – 9
13. Saarikko, T.; Jonsson, K.; Burström, T. 2014. Towards an understanding of entrepreneurial alertness in the formation of platform ecosystems. In: 22nd European Conference on Information Systems (ECIS), June 9 – 11, 2014, Tel Aviv, Israel.
14. Vecchiato R. 2012. Strategic Foresight and Environmental Uncertainty: A research Agenda. *Foresight* 14(5): 387 – 400
15. Slaughter R. 1999. *Futures for the Third Millennium: Enabling the Forward View*. Prospect.
16. Conway M. 2005. *Strategic Planning Revisited: A futures perspective in World Futures Society Annual Conference*, Chicago, U.S.A.
17. Teece D. J.; Pisano G. ;Shuen A. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal* 18(7): 509 – 533
18. Van der Laan, L., (2008), The Imperative of Strategic Foresight to Strategic Thinking, *Journal of Futures Studies*, 13 (1). pp. 21 – 42. ISSN 1027-6084
19. Slaughter R., 1996. Future studies: from individual to social capacity. *Futures* 28(8): 751 – 762
20. Dixon S., Meyer K., Day M., (2014), Building dynamic capabilities of adaptation and innovation: A study of micro-foundations in a transition economy, *Long Range Planning*, 47 (4) (2014), pp. 186 – 205
21. Noori J., Tidd J.; Arasti MR. 2012. Dynamic capability and diversification. In *Series on Technology Management: Vol. 19: From Knowledge Management to Strategic Competence -Assessing Technological, Market and Organisational Innovation*, Edited by Joe Tidd

22. Barney J.B. 1991. Firm resources and sustained competitive advantage. *Journal of Management* 17(1):99 – 120.
23. Teece D.J. 2007. Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal* 28(13): 1319 – 1350
24. Teece D.J. 2012. Dynamic Capabilities: Routines versus Entrepreneurial Action, *Journal of Management Studies* 49:8 December 2012: 1395 – 1401
25. Hines, A., (2002), A practitioner's view of the future of futures studies, *Futures*, Volume 34, Issues 3–4, April 2002, Pages 337 – 347
26. Cornish, E. 2004. *Futuring: the exploration of the future*. World Future Society, U.S.A.
27. O'Brien, E.; Robertson, Ph. 2009. Future leadership competencies: from foresight to current practice. *Journal of European Industrial Training* 33(4): 371 – 380
28. Ray, S.; Cardozo, R. 1996. Sensitivity and creativity in entrepreneurial opportunity recognition: a framework for empirical investigation, in the Sixth Global Entrepreneurship Research Conference, Imperial College, London.
29. Smith, K. G.; DiGregorio, D. 2001. The role of entrepreneurial action in the market process. Unpublished manuscript, University of Maryland.
30. Vagnoni, E.; Khoddami, S. 2016. Designing competitiveness activity model through the strategic agility approach in a turbulent environment. *Foresight* 8(6):625 – 648
31. Uhl-Bien M., Arena M., (2018), Leadership for organizational adaptability: A theoretical synthesis and integrative framework, *The Leadership Quarterly*, Volume 29, Issue 1, February 2018, Pages 89 – 104
32. Uhl-Bien M., Arena M., (2017), Complexity leadership: Enabling people and organizations for adaptability, *Organizational Dynamics*, Volume 46, Issue 1, Pages 9-20 (January–March 2017)
33. Salvato, C., Vassolo, R., 2017. The sources of dynamism in dynamic capabilities, *Strategic Management Journal*, 1 – 25
34. Rowley J. 2002. Using case studies in research. *Management Research News* 25 (1): 16 – 27
35. Miles B.M. 1979. Qualitative Data as an Attractive Nuisance: The Problem of Analysis. *Administrative Science Quarterly* 24(4): 590 – 601
36. Yin, R. K. 1984. *Case Study Research: Design and Methods*. Newbury Park, Sage Publications.
37. Schell Ch. 1992. The value of the case study as a research strategy. Manchester business school. Available at: <http://www.finance-mba.com/Case%20Method.pdf>
38. Gill, P.; Stewart K.; Treasure E. 2008. Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal* 204 (6): 291 – 295
39. Meyer B. Ch. 2001. A case in case study methodology. *Field methods* 13 (4): 329 – 352

СТРАТЕГИЧЕСКОЕ ПЛАНИРОВАНИЕ: К УЛУЧШЕНИЮ ВОЗМОЖНОСТЕЙ ЛИДЕРСТВА И УСТОЙЧИВОСТИ БИЗНЕСА

Татьяна Волкова, Инета Портнова, Байба Доминика-Диаса

Организации с хорошо развитыми возможностями стратегического планирования имеют более высокий уровень осведомленности о появляющихся внешних угрозах и возможностях и принимают более эффективные решения для реагирования на эти вызовы. Ученые подчеркивают, что, хотя темы лидерства и лидерских способностей стали все более популярным, по-прежнему мало информации о понятиях и методах «исследований будущего». Цель исследования – изучить уровень развития возможностей стратегического планирования на уровне высшего руководства в индустрии беспилотных летательных аппаратов и их применение для обеспечения долгосрочной устойчивости бизнеса. Основные результаты исследования показывают, что индустрия беспилотных летательных аппаратов применяет некоторые возможности стратегического планирования, которые не полностью признаются или не используются систематически руководством организаций.