Development of the theory of complex analysis of the activity of the enterprises of small businesses in the context of new industrialization

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Abstract— **Emergent information systems and technologies have toughened modern competition. Managers have to cope with new challenges continuously to keep their businesses sustainable. This article proposes a universal method for analyzing activities of small businesses, which is based on the specifics of the segment and considering the problematic areas in the context of new industrialization. This is one of the first mixed methods to explore the relationship between SME innovation and investments. The developed economic report is a universal base for analyzing small enterprises at any level.**

Keywords—small business, analysis, economic report, innovation, industrialization

I. INTRODUCTION

The future of technology lies at the intersection of the digital and physical worlds. This trend is affecting all new sectors: medicine, pharmaceuticals, energy, food production and mass consumption, and heavy industry.

The first signs of new industrialization appeared in to global markets in the late nineties. Most of the value added was not produced in factories or assembly shops, but in the system integrator monitors. The foreground is the ability to build a network structure, to establish links between the participants of the production process and to operate with these links efficiently. Networked economy is a new emerging trend, which helps to establish attractive market opportunities for new generation of entrepreneurs.

The new industrialization and new market models are leading to an increasing role of small businesses. The focus is shifting from global manufacturers to entrepreneurs. The development and cheapening of new technologies are enabling small businesses to equip their production facilities no worse than large industrial enterprises. The industry will switch to the model on the basis of which retail trade is currently operating: large shopping centers are located on the outskirts of the city, which are essentially integrators of small outlets, and small convenience stores are scattered throughout the city.

The form of financial services will be changed due to the raising role of small business. In the current market, those, who can anticipate the needs of new entrepreneur will benefit.

II. BUSINESS REPORT

We are witnessing the need for a quick and professional reaction from organizations on speed of change in business models. This is often associated with the emergence of new information systems and technologies (IS/IT). The main challenge is to align the information systems' portfolio management with the business goals. This can be a flexible approach to manage the potential adherence to new systems such as mobile, cloud, bigdata or Internet of Things (IoT) which tend to proliferate.

The transition from the industrial society to the information society gave rise to new issues such as information and knowledge management. The increasing demand to manage large volumes of data in big databases, using advanced tools for analyzing data, can respond to more diverse requirements. Some of these involve reconsidering products/services presentations and seeking different dissemination channels.

Connectivity, mobility, pervasiveness and real-time accomplishment are some of the keywords used in the context of business competitiveness. The sustainability of competitive advantage is found in the company's ability to generate the business intelligence which enables it to constantly adapt its goals and models to suit its market needs. Given the actual pace of change and instability, companies must deal well with opportunities. This requires organizations and their personnel to adopt new ways of managing business responses to numerous emerging challenges.

The overwhelming potential of the internet has led to new process architectures in companies. The network of smart devices can be used to enhance working methods and create new services. Captured on a continual mobile basis, dynamic information and resources can bring positive transformative

changes (Hassanalieragh et al., 2015; Tyagi et al., 2016; Niewolny, 2013). All these challenges and potentials have been considered and explored by the so-called innovation accelerators or 'boot camps', either for launching new businesses (mainly start-up generation) or supporting their IS/IT platforms.

The information base for conducting a comprehensive assessment of small enterprises should have a clear and generalized structure. That base should easily compare the required data and calculates a system of control and analytical coefficients, reflecting the performance of small enterprises for rational distribution of forms of state support and the distribution of invested capital. This necessitates the development of a special form of economic report for small business in the form of a structured presentation of data. Such a report will make it easier for both entrepreneurs and potential investors.

Currently, the most important condition for the progressive development of economic structures is to increase the sustainability of their activities. It can be achieved by the introduction of methods of integrated assessment of the effectiveness of activities, allowing them to identify the prospects of the business processes. The assessment should be carried out not only in cases of economic difficulties or in case of the probability of bankruptcy, but also in order to foresee and overcome a significant recession and liquidation of the enterprise.

In the current business environment, special attention is required to the financial and economic activities of small businesses that are an important sector of the economy, contributing to the innovative development of the regions and the country as a whole. Based on the study of the author's approaches to the methodological support for the assessment, analysis and control of small businesses, it is revealed that at present there is no universal control and analytical tools to carry out a comprehensive assessment of the performance of small businesses. The development of a methodology for the integrated assessment of the performance of small businesses using control and analytical tools is not only of theoretical relevance, but also of high practical significance.

The objective need for monitoring and analyzing the activities of small businesses is also emphasized by the fact that the resulting amount of information and specific conclusions will allow to evaluate the effectiveness of the policy applied to support small businesses and identify the most promising areas of development of this sector of the economy.

The owners and management using existing methods for assessing the effectiveness of business activities face the following analysis problems:

1)   Only selected areas of activity are analyzed. Most of the techniques are reduced to the analysis of individual areas of economic activity, which does not allow for a comprehensive assessment of the business.

2)   The imperfection of the indicators used and their sets proposed by the existing methods: duplication of indicators in their economic essence, non-informational content and incorrect calculation.

3)   The assessment of not the actual business, but its individual structural units. The absence in the existing methods of determining the actual boundaries of a business, which does not allow for the analysis of a group of enterprises carrying out one type of business activity, but only a separate legal entity - a member of the group. The results of such an analysis do not provide a reliable picture of the functioning of the business and do not allow making right management decisions. None of the existing methodologies provides for the assessment of a single economic activity carried out by several economic entities - individual legal entities.

The main goal of the proposed methodology is to build a practical flexible system for comprehensive assessment of the commercial efficiency of an enterprise, suitable for use by both internal and external stakeholders. The methodology for the comprehensive assessment of the effectiveness of business activity is based on the following principles: flexibility, subjectivity (taking into account the analyst's opinion), preliminary data preparation, visibility of results, simplicity of calculations, complexity and practicality.

The submission of a business report by small enterprises will ensure the achievement of informational transparency of financial and economic activities and provide users with access to a vast array of data reflecting the state of the research subject in a detailed form. The economic report of a small business enterprise, which is formed in the form of a structured document, is the most important tool for ensuring the information permeability of enterprises, which contributes to the effectiveness of managing the real sector of the economy. [1]

The economic report of small businesses should contain the following information:

1)   General characteristics of the enterprise (address details, classifiers, general economic information, etc.).

2)   Data on the state of the property and the sources of its formation in a small business.

3)   Characteristics of the financial condition and credit history of the enterprise, as well as information about debtors and creditors.

4)   Additional   information   (statistical information).

III. FIRST SECTION "GENERAL CHARACTERISTICS OF A SMALL BUSINESS ENTERPRISE"

The complex of data contained in the first section "General characteristics of a small business enterprise" is information for general economic, legal, and organizational purposes (Table 1).

The process of filling the economic report is presented on the example of the small business enterprise LLC "XXX".

TABLE I. SECTION 1 "GENERAL CHARACTERISTICS OF THE ACTIVITIES OF A SMALL ENTERPRISE"

1. Full name	XXX		
2. Legal form	Limited liability company		
3. Information about state registration:			
TIN/RRC	8602000000/860201001		
PSRN	11186020000000		
4. Address: - Legal address - Actual address - Phone / fax - E-mail - Web site	- 628401, Russia, KhMAO-Ugra… - 628401, Russia, KhMAO-Ugra… - 8(3462)12-34-56 - surgut@mqqqqqqqqqqqqqqqqqqqqqqqqqqqail.ru -		
5.Information about officials	Full name	Position	Work experience in the position
1) Head of the organization 2)Chief Accountant	1) Petrov A. A. 2) the same	Director	6 years
6.Total revenues, thousand rubs	Reporting year	Last year	Changes	
			abs, +,-	Growth rate, %
	30 950	38 790	-7840	79,79
7. The volume of high-tech products, innovative products, works and services, *thousand rubs*	18 020	14 080	3 940	127.98

The information provided on the small business enterprise reflects the various activities of the business entity, as well as all the main economic indicators. The presented form of the first section "General characteristics of a small business activity" can be used to identify a small business and determine its features, as well as to evaluate the innovation activity.

IV. SECOND SECTION OF THE ECONOMIC REPORT

The second section of the economic report - "Data on the state of property and liabilities of a small enterprise" (table 2) is intended to reflect information about the property of a small business enterprise and the sources of its formation.

TABLE II. SECTION 2 "DATA ON THE STATE OF PROPERTY AND LIABILITIES OF A SMALL ENTERPRISE"

I. Property		
	Reporting year, 31.12.2017	*Last year, 31.12.2016*
1	2	3
1. Noncurrent assets:	31	-
- intangible asset; - fixed assets; - R & D costs; - Other noncurrent asset.	- 31 - -	- - - -
2. Current assets:	14 242	13 173
- stocks;	12 925	11 438
- VAT;	-	-

- receivables; - cash; - other current assets	787 530 -	1 076 659 -
3. Assets, total:	14 273	13 173
II. Sources of property formation		
1. Own funds:	3 964	3 519
- authorized capital; - reserve and additional capital; - undestributed profits.	10 - 3 954	10 - 3 509
2. Financial liabilities:	10 309	8 386
- Short-term liabilities; - long-term liabilities;	9 925 384	8 386 -
3. Liabilities, total:	14 273	13 173

The indicators presented in the second section correspond to the data which are currently reflected in the balance sheet of small businesses, but they have a more aggregated appearance in the proposed form, thereby ensuring the visibility of the reporting form for public authorities supporting small businesses and investors .

V. THIRD SECTION OF THE ECONOMIC REPORT

It is small business enterprises that promptly react to changes in the market conditions and contribute to increasing the flexibility of the market economy mechanism. This feature of small business acquires particular importance in modern conditions due to the rapid individualization and differentiation of consumer demand, accelerating scientific and technological progress, as well as expanding the range of goods and services produced. Therefore, the importance of assessing financial performance is indisputable.

Section three of the economic report - "Financial results of operations and information on debtors and creditors" - is focused on the reflection of data on the financial condition of a small business, as well as data on major debtors and creditors and the credit history of a small business. The form is presented in table 3.

TABLE III. SECTION 3 "FINANCIAL RESULTS AND INFORMATION ON DEBTORS AND CREDITORS"

I. Data on the financial performance of a small enterprise.			
Name of the indicator	Value and change		
	Reporting year, 2017, thousand rubs	*Last year, 2016, thousand rubs*	*Absolute change (+,-)*	*Growth rate, %*
1	2	3	4	5
1.Income from the main activity	30 950	38 790	-7 840	79,79
2.Other income	-	-	-	-
3.Operating expenses	28 745	36 002	-7 257	79,84
4. Other expenses	159	216	-57	73,61
5. Profit (loss) before tax	556	878	-322	63,33
6. Income tax	111	176	-65	63,07
7. Net profit	445	702	-257	63,39
II. Data on major debtors and creditors			
Name of company	*Term debt*	*Amount of debt, thousand*	*% of total debt*

		rubs	
1. Debtors:			
LLC "A"	20.12.2017	315	40,03
LLC "B"	25.12.2017	194	24,65
LLC "C"	04.12.2017	229	29,10
2. Creditors:			
LLC "D"	15.11.2017	3 978	42,51
LLC "E"	19.12.2017	1 106	11,14
LLC "F"	10.10.2017	2 752	29,41
LLC "G"	03.12.2017	1 225	12,34

III. Credit history of the company over the past 5 years

Credit institution	date of receiving	maturity date	The size, thousand rubs	Rate, %	Remainder
OJSC «Sberbank of Russia»	25.02.2016	25.01.2019	5 000	18,9	3 840

The characteristics of the financial status of a small business and its presentation in the economic report will enable public authorities and investors to evaluate the economic and social attractiveness, performance, profitability, innovation, investment activity and financial independence of the enterprise, as well as reveal the main problem points which arise in enterprises in settlements with major debtors and creditors, which is of particular relevance in modern conditions of economic crisis.

In addition, credit history is the most significant information which is used by bank employees to determine the level of a company's creditworthiness and serves as the basis for the decision-making process regarding the possibility of granting credit funds.

VI. THE LAST SECTION OF THE ECONOMIC REPORT

The fourth section of the economic report, "Additional Information (Statistical Information)," is intended to reflect other information necessary to clarify or interpret the data presented. The section may contain the following information (table 4).

TABLE IV.   SECTION 4 "ADDITIONAL INFORMATION (STATISTICAL INFORMATION)"

Additional information		
Indicator	*Reporting year*	*Last year*
1. Average number of employees	32	35
2. Average monthly salary at the enterprise, rub.	19 423,5	18 119,7
Other information		
1. Social programs implemented in the enterprise.		
2. Information about previously allocated forms of state support.		
3. The number of innovative / investment projects in the enterprise, pcs. Including at the stage: - ideas / implementation.		
4. Information about the project requiring state support.		
5. The form of the requested state support (financial support)		

It should be noted that the process of collecting information to fill out the proposed form requires automation, as this will reduce the complexity of its filling and presentation. In our opinion, the proposed form may be implemented as an additional module to programs that automate the process of accounting and reporting at small businesses (for example: 1C: Accounting, etc.).

VII. CONCLUSION

We can draw the following conclusions:

1) Even though the process of formation and reporting of small enterprises is now clearly enshrined in the legislative framework, there are a number of problems, which impede the development of an effective assessment system based on the accounting data of small enterprises.

2) In the conditions of the modern economy, when the need to improve the activities of small enterprises in order to further stabilize the economic situation in the country is proved, there is an objective need to improve the analytical support for the activities of these enterprises for the purpose of the comprehensive assessment. The new format of economic reports of small enterprises will enable government agencies involved in supporting small businesses and investors to analyze the economic and social condition, productivity, profitability, innovation and financial independence of an enterprise more quickly and more informatively - the main directions of integrated assessment of small business activity.

3) Currently, the most extensive and significant source of information disclosing the results of a small business is a set of accounting (financial), statistical and tax reporting forms. The use of heterogeneous reporting involves a complex process of collecting and processing submitted data, and also leads to a loss of time. To eliminate these shortcomings, it is necessary to integrate internal and external information about the enterprise being studied in the form of a new economic report in accordance with the principle of visual presentation.

The defining trend for both the global and national economic development is the increasing role of innovation processes which form the basis of new industrialization and central core of the strategic economic policies in most countries of the developed world. Today's world is characterized by continuously increasing the flow of innovation that leads to dramatic changes in all areas of activity. There is a growing general intellectualization of manufacturing intended to make it more environment-friendly, personalized, and able to provide the consumers with desired products of preferred quality. The comprehensive innovation scientific and technological problems are resolved with increasing role of interdisciplinary research, the interpenetration of the results obtained in fundamental and applied sciences, and with the focus of strategic management shifting towards proactive responses to difficult situations.

References

[1] Pellinen, K. (2014). The interplay of entrepreneurial and network activities in the entrepreneurial process: A relational analysis, *International Journal of Entrepreneurship and Innovation,* vol. 15, No. 1, pp. 17-28, 2014. doi: 10.5367/ijei.2014.0137.

[2] Fernandes S., Cesário M., Castela G. (2018). Modern innovation challenges to firms and cities: The case of Portugal, *Journal of Technology Management & Innovation*, vol. 13, No 2, pp 33-43, 2018.

DOI: http://dx.doi.org/10.4067/S0718-27242018000200033

[3] Saunders N.K., Gray D.E., Goregaokar H. (2014). SME innovation and learning: the role of networks and crisis events, *European Journal of Training and Development*, vol. 38, Issue: 1/2, pp.136-149 https://doi.org/10.1108/EJTD-07-2013-0073

[4] Additive Manufacturing and 3D Printing Stage of the Industry. (2013). *Annual Worldwide Progress Report. Wohlers Report 2013.* Fort Collins: Wohlers Associates—P. 122–125.

[5] Harrington D., Walsh M., Owens E., Joyner D. J., McDonald M., (2016). Capitalizing on SME Green Innovation Capabilities: Lessons from Irish-Welsh Collaborative Innovation Learning Networkz, in *Patrick Blessinger , Innovations in Higher Education Teaching and Learning*, vol. 8, Emerald Group Publishing Limited, pp.93 – 121.

[6] Markowska M., Grichnik D., Brinckmann J. (2018). Strategic orientations of nascent entrepreneurs: antecedents of prediction and risk orientation, Small Business Economy. https://doi.org/10.1007/s11187-018-0107-4

[7] Fiet J. O., Clouse V. G. H., Norton Jr. W. I., (2004). Systematic search by repeat entrepreneurs, Opportunity identification and entrepreneurial behavior, Greenwich: Information Age Publishing, pp. 1–28.

[8] Brinckmann J., Salomo S., Gemuenden H. G. (2011). Financial management competence of founding teams and growth of new technology-based firms. *Entrepreneurship Theory and Practice*, vol. 2, No. 35, pp. 217–243. https://doi.org/10.1111/j.1540-6520.2009.00362.x.

[9] Trubnikova L. S., Medvedev S. A. (2013). Innovative positioning of small businesses in the context of the modernization of the economy, *Economic Studies*, № 4, pp 51-60.

[10] Volkova-Goncharova T.A. (2016). Modern assessment of the economic and tax potential of small business: a regional aspect, *Modern economic review*, No. 2, pp. 311 – 317.

[11] Zubareva L.V. (2014). On the issue of business management of trade and production organizations, *IV International Scientific and Practical Conference "Modern problems, trends and prospects of socio-economic development",* Surgut state University of Khanty-Mansiysk Autonomous Okrug-Ugra, pp. 46-49.