



Supplementary Notebook (RTEP - Brazilian academic journal, ISSN 2316-1493)

SEGMENTATION OF CONSUMERS AND FACTORING AS INSTRUMENTS OF CREDIT POLICY OF THE COMPANY

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Abstract: Working capital management is one of the most important factors in ensuring the efficiency of the production process, solvency, growth of economic and financial results of the enterprise. At the present level of development of the conceptual and methodological foundations of planning, accounting and control over the use of each item of current assets of the company underlying the created management information systems, a significant aspect of management becomes the enterprise track of the fact of occurrence of problems and search of reserves of improvement of the management system elements of working capital and use of software products. The overview analysis of the balance sheet of Gazprom transgaz Kazan LLC reflects the situation typical for most domestic enterprises with a high share of accounts receivable and stocks of commodity-material values in the structure of working capital of the enterprise. The solution to these problems may consist in a system of measures to optimize stocks of inventory values and improve the credit policy of the enterprise in terms of segmentation of regular consumers of products by credit rating to differentiate the conditions for sales of products. In this regard, the article is aimed at analyzing the system and evaluating the effectiveness of working capital management of Gazprom transgaz Kazan LLC, the results of which will form the basis for developing recommendations for its improvement.

Keywords: working capital, current assets, accounts receivable, financial management, credit policy, efficiency of working capital using.

INTRODUCTION

A competent working capital management system aimed at maintaining the optimal structure and volume of working capital is able to ensure their rational use (Financial intelligence: a manager's guide to knowing what the numbers really mean). At a low level of working capital, the production activity of the enterprise is suspended, which leads to loss of time, downtime of equipment, hence – loss of funds and reduction of financial results, possible loss of liquidity. On the contrary, with a high level of working capital, the company will have surplus stocks, which will lead to an increase in the cost of storing them, money will be "frozen", all this may lead to a decrease in profits (The Economics of Business Enterprise: An Introduction to Economic Organisation and the Theory of the Firm). Despite the large number of publications on the issues of working capital management of the enterprise study on this issue has not lost its relevance and is connected with the fact that, firstly, there is no unified approach to determining the optimal structure of current assets of the enterprise; secondly, there is a causal relationship between efficiency of working capital and financial results of the company; thirdly, there is no universal methodology for effective management of working capital of the company (5). , role and place in the economy is the subject of environmental economics.

METHODOLOGY

The method of dialectical research of reality, a systematic approach to the study of economic phenomena became the methodological basis for writing a scientific article. Depending on the nature of the tasks to be solved at different stages of the work, methods of comparative economic analysis, analysis of primary documentation and statistical reporting, modeling of enterprise asset management processes that ensure the increase in the effectiveness of these activities were used. Theoretical and methodological basis of research were the works of leading domestic and foreign experts on analysis and assessment of enterprise assets, including O. V. Volkov, V. Ya Gorfinkel, V. K. Sklyarenko, V. M. Prudnikov, V. V., Kovalev V. V., Savitskaya G. V., Kolchin N. In. Sheremet A. D., Gilyarovskaya L. T., Selezneva N. N., Blank I. A., Barenholts S. B. and other authors, whose works detailed the economic substance of current assets, current methods of managing, given the method of their analysis recommended the efficient and effective use.

RESULTS

Gazprom transgaz Kazan LLC is a subsidiary of PJSC Gazprom, the main activity of the company is the transportation of natural gas in the Republic of Tatarstan, the company is a monopolist in its industry in the region (<https://www.gazprom.ru/>). The company transports and supplies hydrocarbons, namely natural gas, to consumers in the Republic of Tatarstan, the North-West of Orenburg Region, parts of the Samara, Ulyanovsk, Kirov regions, the Chuvash Republic, the Republic of Mari-El, in other words, to the subjects of the Volga Federal district, and to consumers from countries near and far abroad. The company carries out the following activities: operation of main gas pipelines and facilities on them; operation of low-pressure gas networks; design of gas supply systems; capital and restoration repairs of existing gas pipelines and gas facilities; transportation and delivery of hydrocarbon raw materials to consumers of the Russian Federation (<https://kazan-tr.gazprom.ru/>). We will analyze the working capital

of Gazprom transgaz Kazan LLC. At the first stage, we will analyze the dynamics of the composition and structure of the company's working capital (see table 1).

Table 1. Dynamics of the composition and structure of working capital Gazprom transgaz Kazan LLC for 2017-2019, thousand rubles (The Accounting statements of Gazprom transgaz Kazan LLC for 2019 year)

Indicator, thousand rubles	31.12. 2017	The share, %	31.12. 2018	The share, %	31.12. 2019	The share, %	Variation (+/-), thousand rubles	
							2018/ 2017	2019/ 2018
Stocks	591 399	5,46	641 754	6,4	609 981	5,81	50 355	-31773
VAT on purchased valuables	1 018	0,01	15	0,00	136 908	1,3	-1 003	136893
Receivables	10 125 516	93,53	9 287 842	92,59	9 694 364	92,38	-837 674	406522
Cash and cash equivalents	97 113	0,9	93 173	0,93	48 446	0,46	-3 940	-44 727
Other current assets	10 655	0,1	8 725	0,09	4 255	0,04	-1 930	-4 470
Total working capital	10 825 701	100	10 031 509	100	10 493 954	100	-794 192	462 445

According to table 1 the following conclusions are made: 1) in 2019, the company's stocks decreased by 31,773 thousand rubles, and in the structure of working capital, the company's reserves account for 5.81%; 2) VAT on purchased valuables for 2019 increased by 136,893 thousand rubles, the share was 1.3% in the structure of working capital; 3) Accounts receivable in 2019 increased by 406,522 thousand rubles, the share in the structure of working capital amounted to 92.38%; 4) Cash and cash equivalents during the period under review decreased from 97,113 thousand rubles in 2017 to 48,446 thousand rubles in 2019. In 2019, the share of cash and cash equivalents in the total working capital structure was 0.46%. The next step is to evaluate the turnover of certain types of current assets and their total amount (see table 2).

Table 2. Working capital turnover indicators "Gazprom transgaz Kazan" for the 2017-2019 years (The Accounting statements of Gazprom transgaz Kazan LLC for 2019 year)

Indicator	2017	2018	2019	Variation (+/-)	
				2018/ 2017 rr.	2019/ 2018 rr.
Turnover ratio, turnover					
Current assets	2,66	2,96	3,13	0,30	0,17
Stocks	33,38	34,00	34,82	0,61	0,82
VAT on purchased valuables	370,40	59786,99	468,96	59416,59	-59318,03
Receivables	2,87	3,18	3,38	0,32	0,20
Cash and cash equivalents	359,99	324,56	453,41	-35,43	128,84
Other current assets	2331,08	3186,79	4946,93	855,71	1760,14
Duration of one turn, days					
Current assets	135,37	121,58	115,08	-13,79	-6,50
Stocks	10,78	10,59	10,34	-0,19	-0,25
VAT on purchased valuables	0,97	0,01	0,77	-0,97	0,76

Receivables	125,60	113,16	106,42	-12,44	-6,74
Cash and cash equivalents	1,00	1,11	0,79	0,11	-0,32
Other current assets	0,15	0,11	0,07	-0,04	-0,04

Based on the table data, we can conclude that in General, during the period under review, there was an increase in the turnover ratio of working capital from 2.66 to 3.13, associated with an increase in the turnover of its components: the turnover ratio of stocks for 2017-2019 increased from 33.38 to 34.82, receivables – from 2.87 to 3.38 turnover, other current assets – from 2331.08 to 4946.93 turnover. The turnover ratio of cash and cash equivalents in 2018 decreased from 359.99 to 324.56 turns, and in 2019 increased to 453.41 turns. Against the background of an increase in the turnover ratio, there was a reduction in the duration of turnover of working capital, which indicates an improvement in the use of working capital. Next, we will consider the profitability of working capital of Gazprom transgaz Kazan LLC (see table 3).

Table 3. Profitability of working capital of Gazprom transgaz Kazan LLC for 2017-2019 (The Accounting statements of Gazprom transgaz Kazan LLC for 2019 year)

Indicator	2017	2018	2019	Variation (+/-) 2019 r. /2018 r.
1. Revenue, thousand rubles	28 246 886	30 879 980	32 105 553	1 225 573
2. Profit from sales, thousand rubles.	2 897 186	4 338 111	4 329 527	- 8 584
3. Average value of working capital, thousand rubles.	10 621 347	10 428 605	10 262 732	- 165 874
4. Return on sales, % (ROS)	10,26	14,05	13,49	- 0,56
5. Turnover ratio of working capital, turnover (KT)	2,66	2,96	3,13	0,17
6. Return on working capital, % ROA = ROS * KT	27,28	41,60	42,19	0,59

The return on working capital in 2019 compared to 2018 increased from 41.6 to 42.19%. This was due to changes in the profitability of sales (ROS) and the turnover of working capital (KT). Thus, the positive dynamics of values of indicators of efficiency and profitability of the current assets of the company, representing a performance indicator of management of Society says the effectiveness of financial and economic service, but a significant proportion of the receivables (92,38%) in the structure of current assets indicates the need for improving the credit policy of the company. One of the solutions to improve the credit policy of Gazprom transgaz Kazan LLC may be a project to segment consumers of products that own 20% of the company's accounts receivable (80% of the accounts receivable is the debt of Gazprom PJSC). Segmentation allows you to rank contractors by their credit rating, which consists of a rating by sales volume and a rating by payment discipline, i.e., by the average payment delay in days (see table 4).

Table 4. Segmentation of Gazprom transgaz Kazan LLC customers by credit rating (<https://zakupki.gov.ru>)

Contractor	The amount of the contract	Rating	The amount of debt	Rating	Credit rating	The share, %
JSC "APTS"	859 706,91	C	83 851	c	Cc	26,19
Department of education of the Executive Committee of the Sarmanovsky municipal district	9 433 025,00	A	96 250	a	Aa	30,06
The Executive Committee Almenderovo rural settlement, Apastovsky municipal district	288 729,70	C	28 155	c	Cc	8,79
Nizhnekamsk Polytechnic College named after E.N. Korolev	200 000	C	24 882	b	Cb	7,77
Abdrakhmanovo rural Executive Committee	182 789,95	C	23 989	c	Cc	7,49
Kazan national research technological University	1 257 097,12	B	63 025	b	Bb	19,69
Total			320 152			100,00

Customer segmentation performed using ABC analysis is used when developing rules for working with each category of customers (see table 5).

Table 5. Segmentation of buyers and credit conditions

Category of clients	Level of solvency	The maximum possible delay of payment (days)	Provide loans
Aa, Ba	High	Up to 45	Unlimited
AB, BB, Ca	Good	Up to 30	Unlimited
Ac, Bc,	Average	Up to 15	Limited
Cb, Cc	Low	No delay	No credit

Table 6. Differentiation of credit conditions of contractors Gazprom transgaz Kazan, LLC»

Contractor	Category of clients	Level of solvency	The maximum possible delay of payment (days)	Provide loans
JSC "APTS"	Cc	Low	No delay	No credit
Department of education of the Executive Committee of the Sarmanovsky municipal district	Aa	High	Up to 45	Unlimited
The Executive Committee Almenderovo rural settlement, Apastovsky municipal district	Cc	Low	No delay	No credit
Nizhnekamsk Polytechnic College named	Cb	Low	No delay	No credit

after E.N. Korolev				
Abdrakhmanovo rural Executive Committee	Cc	Low	No delay	No credit
Kazan national research technological University	Bb	Good	Up to 30	Unlimited

Due to its monopoly position, Gazprom transgaz Kazan LLC does not have the right to refuse credit to consumers, but it is possible to transfer all contractors of the CA, CB, and CC categories to prepayment. An effective credit policy should contain: rules for customer segmentation and a description of credit conditions for working with each customer segment (7). This ranking is necessary in everyday activities for making operational decisions. Knowing which category the client belongs to allows you to quickly decide on what terms cooperation is possible. In addition, to speed up the turnover of working capital, it is proposed to use the factoring mechanism. In Gazprom transgaz Kazan LLC, the number of short-term receivables in 2019 amounted to 1,836,595. 2 thousand rubles (this amount belongs to the population and organizations that serve the population). According to the calculation results, the released amount of accounts receivable using factoring will amount to 1,101,957,12 thousand rubles. Then the level of accounts receivable will be 8,592,406. 88 thousand rubles. To optimize inventory, it is proposed to sell part of it using a sales incentive mechanism – a discount of 5%. If we sell 15% of the amount of inventory-auxiliary materials: spare parts, tools and equipment (this percentage is the reserve Fund of reserves of Gazprom transgaz Kazan LLC and was selected in connection with maintaining the inventory balance at the level necessary for contingencies), which at the end of 2019 amounted to 609,981 thousand rubles. with a 5% discount, Gazprom transgaz Kazan LLC will receive additional revenue in the amount of: $609\,981 \times 0.85 = 518\,483,85$ thousand rbl. – the amount of reserves after the reduction; $518\,483.85 \times (1-0,05) = 492\,559.66$ thousand rbl - the amount received. We will allocate the cash from the sale of the share of reserves to the development of our core business.

SUMMARY

Thus, the implementation of the presented measures will affect the structure of the company's working capital, the values of working capital turnover indicators (an increase of 0.25 turnover), and the reduction of the duration of one turnover (by 8.59 days). Reducing the duration of turnover will release about 798,389. 49 thousand rubles from turnover. The released funds are proposed to be used to develop the organization's core business and reduce short-term accounts payable (table 7).

Table 7. Evaluating the effectiveness of working capital use Gazprom transgaz Kazan, LLC

Indicator	2019 year	Forecast 2020 year	Variation (+/-)	Growth rate, %
Turnover ratio, turnover				
Current assets	3,13	3,38	0,25	108,07
Stocks	34,82	40,69	5,87	116,86
VAT on purchased valuables	468,95	244,40	- 224,56	52,11
Receivables	3,38	3,66	0,28	108,18
Cash and cash equivalent	453,40	690,66	237,26	152,33

Other current assets	4 946,93	7919,49	2 972,57	160,09
Duration of one turn, days				
Current assets	115,08	106,49	- 8,59	92,54
Stocks	10,34	8,85	- 1,49	85,58
VAT on purchased valuables	0,77	1,47	0,71	191,88
Receivables	106,42	98,38	- 8,05	92,44
Cash and cash equivalents	0,79	0,52	- 0,27	65,65
Other current assets	0,07	0,05	- 0,02	62,47

Changes in the company's working capital efficiency indicators will affect its financial results. Table 8 uses the linear trend equation $y(t) = a + b \times t$ to present the forecast of Gazprom transgaz Kazan's financial results for 2020.

Table 8. The predicted values of the financial resultsGazprom transgaz Kazan, LLC

Показатель	2019	2020	Variation
Revenue from sales of products/services, thousand rubles	32 105 553	33 459 860	1 354 307
Cost of sales, thousand rubles	21 792 897	22 958 492,14	1 165 595,14
Gross profit, thousand rubles	10 312 656	10 501 368	188 712
Profit from sales of products/services, thousand rubles	4 329 527	4 444 379	114 852
Profit before tax, thousand rubles	3 458 493	3 698 106	239 613
Net profit	1 762 114	1 791 135	29 021

For the success of an enterprise's economic activity, an accurate forecast and plan for the volume of working capital required is important, since investments in current assets are advanced. One of the methods of forecasting and developing economic and mathematical models for planning the organization's working capital needs is the method of correlation and regression analysis. To build a forecast model for the dynamics of accounts receivable of Gazprom PJSC and other consumers, the potential of polynomial trend lines, can be realized, shown in figure 1.

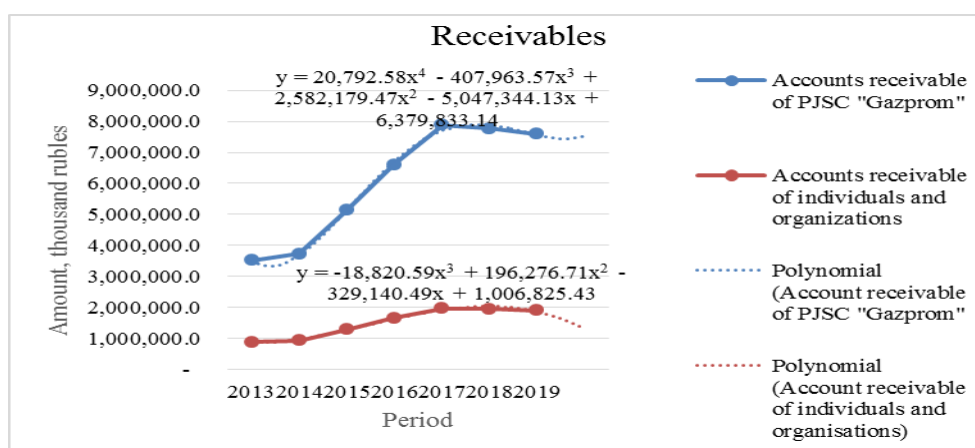


Figure 1. Polynomial trend line of accounts receivable of Gazprom transgaz Kazan LLC

The General model for determining the need for working capital of Gazprom transgaz Kazan LLC can be presented as follows: $y = 19\ 823,75x^4 - 379\ 633,49x^3 + 2\ 306$

$709,03x^2 - 4\,054\,331,51x + 8\,117\,735,999$. The model allows to forecast the volume of working capital consumption for 2020 (table 9).

Table 9. Calculation of projected working capital volumes Gazprom transgaz Kazan LLC for 2020 year

Y _{STOCKS}	$-968,83x^4 + 11\,992x^3 - 32\,737x^2 - 34\,139x + 678\,379 = 481\,675,32$ thousand rubles
Y _{RECEIVABLE OF GAZPROM}	$20\,792,58x^4 - 407\,963,57x^3 + 2\,582\,179,47x^2 - 5\,047\,344,13x + 6\,379\,833,14$ $= 7\,549\,626,02$ thousand rubles
Y _{RECEIVABLE OF INDIVIDUALS AND ORGANISATIONS}	$-18\,820,59x^3 + 196\,276,71x^2 - 329\,140,49x + 1\,006\,825,43 = 1\,299\,268,87$ thousand rubles
Y _{CASH}	$35\,158,66667x^3 - 439\,010,1488x^2 + 1\,356\,292,113x + 52\,698,42857 =$ $807\,623,14$ thousand rubles
Y _{CURRENT ASSETS}	$19\,823,75x^4 - 379\,633,49x^3 + 2\,306\,709,03x^2 - 4\,054\,331,51x +$ $8\,117\,735,999 = 10\,138\,193,35$ thousand rubles

According to the constructed economic and mathematical model, the total amount of working capital required for the operation of Gazprom transgaz Kazan LLC in 2020 will be 10 138 193,35 thousand rubles.

CONCLUSION

Thus, to improve the system of working capital management, in particular, accounts receivable, it is necessary to segment consumers by sales volume and payment discipline, which will be the basis for differentiating the terms of lending to consumers of the Company. Since the company provides gas transportation and delivery services, it is obvious that a certain group of consumers will avoid paying their obligations, which requires the introduction of a prepayment tool. It is also proposed to reduce excess inventory by 15% or by 91,497 thousand rubles, due to their implementation, and apply a factoring mechanism that will release cash in the amount of 1,101,957.12 thousand rubles, the released funds should be used to reduce short-term accounts payable. The proposed changes will lead to an acceleration of the turnover ratio of working capital from 3.13 to 3.38, and this in turn will lead to a reduction in the duration of one turnover from 115.08 days to 106.49, which will significantly increase the efficiency of using working capital. Reducing the duration of one turnover of working capital will free up cash in the amount of 798,389. 48 thousand rubles. The proposed measures will allow Gazprom transgaz Kazan LLC to improve the efficiency of using working capital, as well as the functioning of the enterprise.

ACKNOWLEDGEMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University

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