Analysis of Competitive Behavior Strategies in the Russian Banking Industry

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Abstract. This article is devoted to the analysis of the behavioral strategies of Russian banks which provide services to legal entities. A comparative analysis of tariff plans for the 2018 fiscal year was integrated into the study. Based on the author's methodology of the three-phase component diagram, banks were segmented according to their various development strategies to obtain the desired exploratory results. The general situation in the market of banking services in the corporate segment is described.

Keywords: Three-Phase Component Diagram, Competitive Behavioral Strategies, Russian Banks, Digital Economy, Cluster Matrix, Customer Segmentation, Data Mining, Financial Education, Cluster Analysis.

1 Introduction

Over the past years, there has been a tendency that if a bank does not provide individual offers to a specific group of customers, then customers have no interest in opening an account with the bank. Hence, banks have to segment their customers to remain competitive [1, 2].

There are two opposing customer groups, freelance sole proprietorship and a large wholesale company. Freelance sole proprietors have an individualistic behavioral model; they are influenced by the brand and they are not ready to pay a lot for standard Settlement and cash services. The main value for them is additional services inside the bank to make life easier, for example, online accounting. Vice versa, the high cost of tariff plans do not matter for the wholesale company. Trust in the banking sector, reliability of the bank, an individual approach to service and certain services offered, loans or tenders are important to clients (both potential and existing) [3].

Today, banks create individual rates for each of their segments. In this article our goal is to compare different conditions and their profitability for each line of business. Numerous studies have explored the overall Russian economy and as well as bankruptcy [4–6], but our study narrows down on the banking sector since it is a major driver of economic progress in the nation.

The research examined the competitive environment among banks in Russia which offer various conditions for business. To obtain a general overview of the general situation on the market, the cost of the first year of banking services is calculated quarterly

using the example of five companies in the small business segment. A rating is formed on this basis.

The companies for study differ in the legal form: Sole proprietor and LLC, the number of employees and the list of banking services that are required for business:

Freelance Entrepreneurs opens an account simultaneously with the opening of the PE;

- Point of entrepreneur sale;
- Company providing services to legal entities B2B (Business-to-Business);
- Company providing services to individuals B2C (Business-to-Consumer);
- Wholesale company purchasing goods abroad.

In 2018, pricing trends emerged; followed by a decrease in the cost of cash settlement services. Banks began to massively offer customers tariffs with free opening, maintaining an account and servicing Internet banking. In the third quarter, a similar trend is observed in half of the banks that were considered in the study.

Distribution of tariffs "at 1%". A new tariff "at 1%" has appeared. The point is that the basic operations are free, and all income to the account has a commission of 1%.

The number of banks that began to offer special acquiring conditions for each of their segments is growing rapidly.

This research examined 24 banks that were selected from the TOP requests for opening an account in the Yandex search engine. All data was collected from open sources: tariff calculators, information on the website and call centers of banks. For some data it was required personally, under the guise of entrepreneurs, to contact banks to receive offers on a salary project and acquiring. The total cost of service for the year in each is calculated for all suitable tariffs. For the rating, a tariff with a minimum service was chosen. What the total amount is made up of (figure 1).

WHAT IS INCLUDED IN THE TOTAL AMOUNT?

The total cost of annual services in each bank is made up of the cost of services required by a particular type of business.

The table shows the monthly scope of operations for which the entrepreneur pays a commission to the bank.

	IP - freelancer	Retail	B2B	B2C	Wholesale company
Opening and maintenance of a current account	✓	✓	✓	✓	✓
Connection and maintenance of Internet banking	✓	✓	✓	✓	✓
Opening and maintenance of corporate cards, SMS informing		✓	✓	✓	✓
Transfers to an account of an individual on a card in the same bank	1 500,00 $	2 500,00 $			
Online Payments to Legal Entities		12 payments	30 payments	40 payments	60 payments
Cash refill		3 000,00 $		14 000,00 $	
Payroll for a salary project			31 000,00 $	8 000,00 $	9 500,00 $
Acquiring		5 000,00 $		16 000,00 $	
Foreign trade					62 000,00 $

Fig. 1. Calculation of the total amount [7]

The first considering segment is the freelance entrepreneur. He/She renders services to legal entities and receives a payment to a current account, from which he transfers 100 thousand rubles to a separate card opened in the same bank (see figure 2).

HOW MUCH FREELANCE PAYS TO THE BANK?

Place	Bank	Amount	Place	Bank	Amount
1-6	Vesta Bank Startup	0	11	Tochka Bank Golden mean	5 400
	Promsvyazbank Business start	0	12	Rosbank White	8 730
	Sberbank Easy start	0	13	Raiffeisenbank Start	9 416
	Sovcombank My choice	0	14	UniCredit Bank Starting online Comfort	9 480 23 880
	UBRD Everything is simple!	0	15	Bank Vozrozhdenie Business start	9 950
	Uralsib Bank Start from scratch! Business start	0 14 400	16	Bank Vanguard Standard	11 200
7	Bank OTKRITIE First step	894	17	VTB Business start	16 390
8	Tinkoff Bank Plain Plain	2 940 4 900	18	AK Bars Bank Light	20 088
9	Alfa Bank On your marks	4 410	19	OTP Bank Standard	20 279
10	Modulebank Optimal	5 160	20	Russian Agricultural Bank Standard	21 320

Fig. 2. Comparative analysis of prices for cash and settlement tariffs for freelance

The next segment delves into sole proprietorship sales. This is a small store, whose monthly revenue is approximately 200 thousand rubles in cash and 300 thousand in acquiring. Of this amount, 150 entrepreneurial transfers to an individual's card, makes 10 payments for the purchase of goods, rent, and other expenses (see figure 3).

HOW MUCH RETAIL PAYS TO THE BANK?

Place	Bank	Amount	Place	Bank	Amount
1	Tinkoff Bank Simple	86 030	11	Alfa Bank On your marks	95 706
2	Modulebank Optimal	86 376	12	Promsvyazbank Business light	99 790
3	Bank OTKRITIE Fast growth	86 556	13	Bank Vozrozhdenie Optimal	102 430
4	Tochka Bank All the best at once	89 880	14	Sberbank Easy start	104 110
5	UBRD Comfort	90 347	15	OTP Bank Basic	105 660
6	VTB Business start	90 742	16	UniCredit Bank Bank Comfort	109 930
7	Sovcombank My choice	92 061	17	AK Bars Bank Light	110 197
8	Bank Vanguard Standard	94 720	18	Vesta Bank Basic	110 756
9	Rosbank Red	95 628	19	Raiffeisenbank Basic	112 613
10	Uralsib Bank Standart	95 692	20	Gazprombank Standart	119 208

Fig. 3. Comparative analysis of prices for cash and settlement tariffs for the outlet

B2B Companies provide legal services to individuals and accept payment only via bank transfer. Two (2) million rubles for the payment of salaries to employees, million for rent and supplies (see figure 4).

HOW MUCH B2B PAYS TO THE BANK?

Place	Bank	Amount	Place	Bank	Amount
1	Vesta Bank Basic	12 576	11	Bank Vozrozhdenie Optimal	29 150
2	Bank OTKRITIE Own business	15 714	12	OTP Bank Standart	30 819
3	UBRD Business-class	17 409	13	UniCredit Bank Comfort	33 130
4	Alfa Bank Business choice	19 608	14	VTB Business cashbox	33 598
5	Tochka Bank Golden mean	20 880	15	Promsvyazbank Business 24x7	37 990
6	Modulebank Optimal	21 744	16	Uralsib Bank Standart	39 500
7	Tinkoff Bank Simple	21 766	17	Russian Agricultural Bank Standard	58 120
8	Raiffeisenbank Start	21 776	18	Sberbank Good Revenue	60 770
9	Rosbank Black	22 440	19	Gazprombank Standart	76 920
10	Bank Vanguard Standard	26 200	20	AK Bars Bank Billing	115 009

Fig. 4. Comparative analysis of prices for tariffs for cash settlement services for B2B

B2C firms provide services to individuals, and the monthly revenue of 900 thousand rubles in cash and million acquiring. Of this amount, 500 thousand is spent on salaries to employees and million on rents and supplies (see figure 5).

HOW MUCH B2C PAYS TO THE BANK?

Place	Bank	Amount	Place	Bank	Amount
1	UBRD Business-class	239 097	11	Bank Vozrozhdenie Optimal	278 650
2	Tinkoff Bank Professional	251 530	12	UniCredit Bank Retail	282 250
3	Tochka Bank All the best at once	253 080	13	Rosbank Black	282 816
4	VTB Business cashbox	255 298	14	OTP Bank Trading	283 740
5	Uralsib Bank Billing	258 660	15	Raiffeisenbank Start	289 156
6	Alfa Bank On your marks	258 906	16	Bank OTKRITIE Own business	298 806
7	AK Bars Bank Trading	263 929	17	Vesta Bank Basic	308 776
8	Modulebank Optimal, retail	265 344	18	Gazprombank Standart	317 760
9	Promsvyazbank Business 24x7	267 790	19	Sberbank Good Revenue	322 010
10	Bank Vanguard Standard	271 000	20	Russian Agricultural Bank Standard	334 120

Fig. 5. Comparative analysis of prices for cash and settlement tariffs for B2C

Wholesale company with a monthly revenue of 8.5-9 million rubles by bank transfer. 6 million for the payment of goods (4 million abroad), 600 for the payment of salaries to employees, 500 for rent and supplies (figure 6) [7].

HOW MUCH WHOLESALE COMPANY PAYS TO THE BANK?

Place	Bank	Amount	Place	Bank	Amount
1	Vesta Bank Basic	140 676	11	Bank Vozrozhdenie Without borders	226 118
2	UBRD Business-class	152 689	12	Bank Vanguard Standard	226 832
3	Tochka Bank All the best at once	161 112	13	OTP Bank FT	230 092
4	Modulebank Optimal	165 624	14	Rosbank Black	246 780
5	Raiffeisenbank Currency	194 528	15	AK Bars Bank Trading +100	249 131
6	Bank OTKRITIE Whole world	208 226	16	Sovcombank 50 payments	261 824
7	Alfa Bank Business choice	214 856	17	VTB FT	269 456
8	Tinkoff Bank Advanced	215 818	18	Sberbank Good Revenue	287 610
9	UniCredit Bank Comfort	218 520	19	Russian Agricultural Bank Standard	301 566
10	Uralsib Bank Whole world	223 798	20	Gazprombank Standart	303 382

Fig. 6. Comparative analysis of prices for tariffs for cash settlement services for a wholesale company

There are three types of optimal behavioral strategies:

- Competitors (C).
- Stress tolerance (S).
- Ruderal (R).

Agents with a competitive strategy ("violent tapes") have effective mechanisms for capturing resources and intensifying production. It is they who discover new ways of producing a unit of production with the consumption of the least amount of materials and labor.

Agents with a stress-tolerant strategy ("patents") create their own unique niche that is inaccessible to others, and also have the ability to exist in conditions of a significant lack of resources.

Agents with a ruderal strategy ("exporters") are, to a certain extent, monopolists due to the considerable advancing of competitors in the development of new products, as well as their introduction to the market. Therefore, ruderals have the opportunity to set high prices for goods that are in high demand due to the lack of competitors.

In practice, in its pure form, one of the three systems does not occur, but mixed (secondary) strategies are present [8].

2 Methodology and Analysis

The methodology for identifying strategies for the competitive behavior of economic agents involves the use of a three-component phase diagram [9], which is displayed on a plane. Applying such models give robustness to research [10–12]. Secondary data for

the analysis was gathered from total cost of services in each bank, and tariffs for cash settlement for B2B, B2C, wholesale companies, freelance and outlets (as illustrated in figures 1-6). Two major limiting factors are plotted along the chart axes, and all the agents under investigation are located in a triangle, at the vertices of which competition, stress and violation reach their maximum values. The total amount of all these conditions is taken as 100% and is written as follows:

$$I\_s + I\_R + I\_C = 100\% \qquad (1)$$

Where I is the intensity of efforts to implement the corresponding (S, R, C) agent behavior strategies.

In order to assess the ratio of bank strategies in each segment at a fixed point in time, it is necessary to study the statistical and dynamic diagrams in Figures 1-5. The general dynamic diagram allows you to observe a change in bank behavior strategies (figure 7-11) [13].
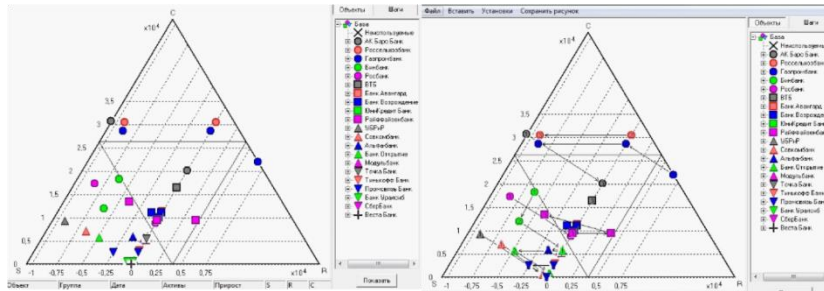
Fig. 7. Statistical and dynamic diagrams for the freelance sole entrepreneur segment [7]

From the figure 7, one can clearly see that most banks are in a pursuit for success through introducing their own unique services and products.

Many stick to a mixed strategy, and only a few banks that are not aimed at this segment are mixed towards a service intensification strategy – a clear fact that at the moment no one is ahead of their competitors. This is one of the trends of 2018, copying. What appears in one bank, in 2017, appeared in others after 9-12 months. Today, in the first quarter of 2019, the copy cycle has decreased to 2 months.
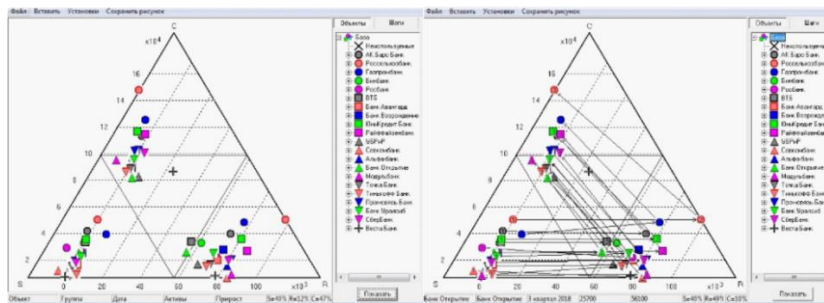

Fig. 8. Statistical and dynamic diagrams for a point of sale segment [4]

From figure 8, we observe an interesting occurrence in the retail segment. Banks are practically following the strategies one by one. And today they are clearly entrenched in a mixed-competitive strategy. It is understandable, for retail it is very difficult to come up with something fundamentally new, only a tariff race and more profitable target offers remains.
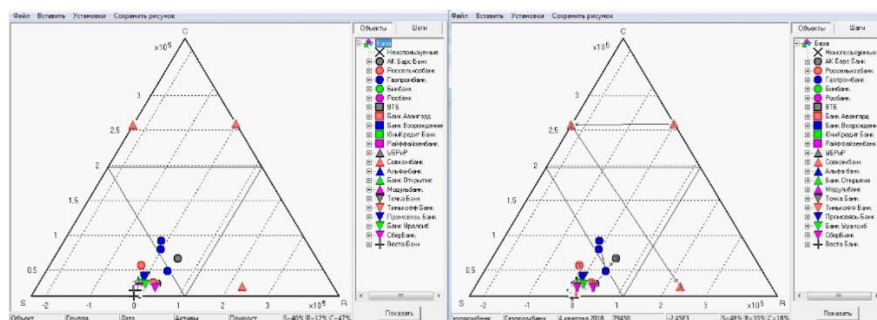

Fig. 9. Statistical and dynamic diagrams for the B2B segment [7]

In the B2B segment, a fierce competition is taking place between banks – as illustrated in figure 9. All are concentrated at one point and confidently everyone is promoting their "chips". Only Sovcombank cannot decide, in general, the bank management is not very interested in this segment.
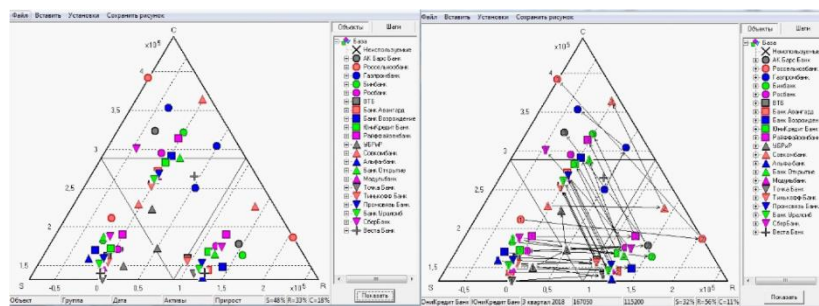

Fig. 10. Statistical and dynamic diagrams for the B2C segment [7]

As seen in figure 10, the B2C segment looks very much like a retail outlet unless the scale of the business is different. This is what can be seen in diagrams 2 and 4. They are similar; the banks are moving one after another. The only difference is that B2C needs more attention to service details and more specific products than it is for the outlet. As a result of this, all are clustered in the center of the triangle.
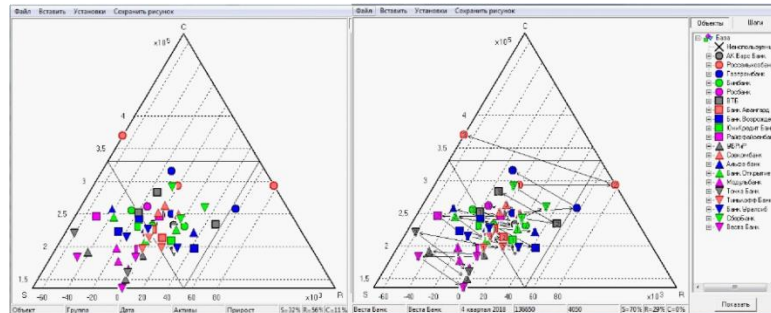
Fig. 11. Static and dynamic diagram for the wholesale segment [7]

From figure 11, almost every bank is stuck between S and C strategies. Throughout 2017-2019, no side movements are observed. Each of them keep close to each other, thus portraying very tough competition. Evidently, wholesale trade is a fastidious segment which deals with external procurement.

3   Results

As a result of the research, it is clear that competition is very intense among banks. Each organization is very similar to the other; each one mimics ideas of the other. Also, tariffs of each bank which focus on a particular segment are very similar.

This research served as a starting point for developing new approaches to segmenting the customer base. One of these approaches is clustering the database based on compiling user behavior patterns. It is necessary to single out the most significant behavioral factors, that is, criteria that are distinctive, from the vast mass of data on bank customers. For example, a client spends over 80% of the money received to withdraw cash from an ATM.

A set of all such criteria allows you to create a behavioral matrix for each client. Based on it, the database is clustered as illustrated in figure 12.
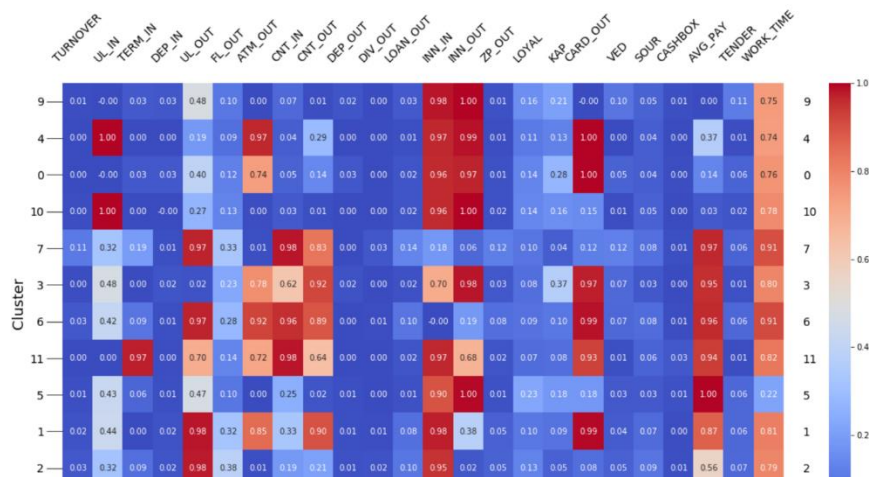
Fig. 12. Cluster of the customer base, 12 groups [14]

Twelve (12) groups and 108 clusters were obtained. They are sorted in descending order by the number of customers. For customers whose turnover (TURNOVER) is less than 2 million: half of them spend all their income on transfers to other legal entities (UL_OUT). They have regular counterparties with whom clients do business (INN_IN, INN_OUT), who rarely use corporate cards. It is extremely rare to carry out currency transactions and participate in tenders (VED, TENDER), 2/3 of the clients have been working for quite some time (WORK_TIME).

The next step after clustering will be a detailed analysis of each segment. What clients do, with what counterparties they work, where they are located, etc.? These actions helped to understand how the cluster behaves and how it looks physically. This will make it possible to draw up a full-fledged portrait of a segment for which new banking products and targeted tariff offers will be developed in the future.

This clustering was compiled on the basis of a binary behavior matrix, to increase the accuracy of clustering in the second iteration, a matrix with absolute and relative indicators for each client will be used.

Ultimately, this method will create a fundamentally new approach to the analysis of the customer base in the banking sector, which in the future will lead to improved work with each individual segment and will attract new customers to the bank. Due to the increased availability of data in the modern socio-economic sphere, big data analytics in the business sphere, especially banking is essential and more dynamic in undertaking customer segmentation [15, 16]. Hence, our study's implications for both literature and practicality is the contribution to the methodological approaches in optimal behavioral strategies as well as trust-based customer segmentation where customer-centricity is at the heart of the banking experience. Finally, the study contributes to the literature on financial education which is beneficial for academic purposes and our methodology is recommended for higher educational purposes which is in line with the need for adoption of digital testing and learning analytics in the higher educational sphere [17].

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