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# How Does CEO's Human Capital Influence Innovation Strategy of Russian Banks?

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## Abstract

The paper evaluates influence of human capital of top management on innovation strategy on the basis of study of innovation activity of Russian commercial banks in the period of 2017–2019. We have compiled a rating of commercial banks for retail segment innovations, selected the four least innovative banks. We have studied the key indicators of human capital of top management in eight chosen banks. The paper has revealed the interrelation between different elements of human capital of top management and innovation strategies of Russian commercial banks. We have defined personal traits which portray a manager who exerts influence on innovations in a company.

The paper is intended for investors in emerging markets which try to understand the evaluation mechanisms of impact of the financial companies' current management on their future development path, for analysts engaged in forecasting trends related to optimization and automation in retail banking and assessment of corporate innovative capacity.

**Keywords:** bank, human capital, innovation strategy, top management, innovation rating, human capital rating

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## Introduction

Innovation was always the formula for business success. Nowadays financial institutions are leaders in innovation implementation which is directly related to change of the traditional business model in the banking sector. The paper topic is of relevance because of accelerating changes in the sphere of financial institutions which align with the strategy of making high-demand high-tech products in the retail banking segment. It is no secret that top management determines the corporate innovation strategy and exerts the fundamental impact on search for advanced solutions and their implementation. Does human capital of top management influence generation of innovation?

The academic community suffers from shortage of papers on defining the main determinants of human capital capable of making an influence on innovation strategy. The existing studies are mainly focused on non-financial sectors such as automobile industry [1], information technology [2; 3].

The object of our research is Russian commercial banks from top 50 in terms of total assets as at the end of 2019 which have been assessed from the point of view of innovation implemented for the retail segment in 2017–2019 when development towards issue of digital banking technology was at its peak. We have selected eight banks: four the most innovative ones (Tinkoff Bank, Raiffeisen, Sovcombank and SberBank) and four the least innovative banks (Zenit bank, Russian National Commercial Bank (RNCB), MTS bank and Ural Bank of Reconstruction and Development (UBRR)).

## On the basis of the research results we:

- have developed the author's rating of commercial banks in innovations of retail banking;
- have collected typical profiles of top management of the four most innovative banks and the four least innovative commercial banks on the basis of characteristics of human capital, revealed differences between them;
- have compiled an author's rating of human capital of top management for the chosen banks;
- have revealed the interrelation between different elements of human capital of top management and innovation strategies of retail Russian banks.

## The Ways to Study and Measure Innovation and Human Capital

Innovation may be divided into two types [4]:

- *Sustainable* or maintaining one (improvement of the product range by implementation of the functions which offer to the customers what they really need and which increase productivity of existing products).

- *Breakthrough* innovations (brand new products which differ fundamentally from customer preferences which allow to expand the customer base, compete or even start a new business line. Old products lose out competition because the industry landscape changes).

In order to make the most of innovations the banks have to implement them integrally and on a systematic basis. The distinctive features of the leading companies are innovation encouragement, development of the culture which facilitates innovation and implementation of the processes contemplating innovation. Definitely, banks pay considerable attention to applying of reliable financial indicators for evaluation of innovation projects: 60% of polled bank executives say that they use *ROI* for this purpose [5].

In order to measure the extent of innovation the authors apply different approaches. So, S. Kaplan [6] asserts that among Fortune 1000 the following indicators are the most common ones: the annual R&D budget as a percentage of annual sales; number of patents applied for in the previous year; total amount or R&D budget in percentage of sales; number of active projects; number of ideas offered by employees; percentage of sales of the products offered in recent years. At the same time G. Aase et al. [7] think that many companies lack thoroughness in study of return on innovation and offer to choose the efficiency indicator which turns the money spent on research and development into sales of new products.

Increasingly frequently quality of human capital is considered as the main competitive advantage. Human capital of top management is a separate unit and the most important driver of economic growth. Human capital is knowledge, skills, competence and other paraphernalia represented by particular persons or their groups, acquired during their life and used in market environment.

Creative abilities, intellect, resourcefulness, ability to find nonstandard solutions to complex problems are of great importance in the innovation process. Otherwise speaking human capabilities are the basic capital of the company. The managerial theory divides human capital into basis capital and specific capital [8].

At the macroeconomic level human capital is recognized as the most important determinant factor of innovation [9]. Specific human capital of a company is considered to be crucial for innovation encouragement and productivity improvement, however, specific capital is almost of no value for the Russian emerging market.

According to the upper echelons theory organizations are the mirror of their top managers and the top management team faces the problem of shaping and implementing the strategy of innovation [10].

Human capital of top management accumulates throughout the lifetime and can influence the company's efficiency. An aggregate of individual human capitals is unquestionably an organization's asset. Human capital is a multiplier which produces a synergetic effect, a value generation factor. At the same time human capital components may

equal zero when taken separately. The organizations which disregard the social part of personal skills and resources and fail to create a synergy between human and social capital are hardly able to fulfill their employees' potential in order to enhance innovation opportunities.

Results of analysis of publications dedicated to influence of human capital of top management on innovation [1–3, 11–19] show that it has a direct positive impact on company's operations and its financial performance. Consequently, human capital is the key resource of a firm and a source of its value enhancement which does not just generate value by means of interaction with innovation strategy but also defines the strategy trajectory.

However, human capital components influence innovation to a different extent:

- 1) **Education level** of CEO and management team exerts a positive and significant impact on the scope of innovation activity of companies. Managers with higher education are prone to innovation risk while those with lower education prefer conservative risk.
- 2) **A short career horizon<sup>1</sup>** makes CEO avoid risks and, thus, stay off investment into risky breakthrough innovation which is partially due to the amount of R&D expenses.
- 3) **Powerful managers** are more likely to use research innovation (introducing to the market of the products non-existent before). CEOs who are company founders with a high level of knowledge implement innovation of higher quality.
- 4) **Relations in education, common social networks and partnerships** exercise influence on implementation of innovation. Innovation is also generated by means of access to resources and opportunities which belong to external companies and organizations with which a company is related through alliances and cooperation agreements.

## Evaluation of Influence of Human Capital of Top Management on Innovation Strategy

Digital transformation changes requirements to human capital which facilitates achievement of breakthrough results. Financial institutions strive for hiring talented leaders who can initiate changes and allow their knowledge and experience influence the process. The traditional profile of leaders is replaced with a brand new one.

Before the research the author generated several hypotheses which allow to assess influence of human capital of top management on innovation strategy.

*Hypothesis 1.* Commercial banks with the highest quality of human capital of top management are the leaders in innovation in the retail segment.

*Hypothesis 2.* Banks from top 10 in terms of total assets are the most innovative ones in the retail segment.

*Hypothesis 3.* Stable social relations and reputation influence directly the innovation strategy.

*Hypothesis 4.* Power is a mediator which strengthens influence of human capital of top management on innovation.

*Hypothesis 5.* Field-specific experience in the career of a top manager enhances the ability to generate and maintain innovation.

The research consisted of three stages.

**Stage 1.** Development of the innovation rating of commercial banks in innovation of the retail segment.

The formula for compiling the innovation rating is as follows:

$$\text{Innovation rating} = \sum_{i=1}^8 IRI_i \quad (1)$$

where  $IRI_i$  is a score of the  $i$ -th component of the bank's innovativeness in the retail sector.

**Stage 2.** Compiling of a rating of human capital of top management in the most and the least innovative companies.

On the basis of analysis of literature about influence of human capital of top management on innovation we chose four key variables: education, career variety, power and networks. Also on the basis of an expert opinion we decided to add social integration and reputation. Thus, the formula for compiling the rating is as follows:

$$\text{Human capital rating} = \sum_{i=1}^6 HCR_i \quad (2)$$

where  $HCR_i$  is a score of the  $i$ -th component of human capital of top management of the bank.

**Stage 3.** Study of interrelation between indicators of human capital of top management of chosen banks and distinctive features of their innovation strategy. Analysis of results.

## Compiling of the Innovation Rating

In order to compile the innovation rating we selected 50 largest Russian banks in terms of their total assets as at the end of 2019. The limits of values range from RUB 29,958,900 mln owned by Sberbank to RUB 69,121 mln possessed by Roscosmosbank. Thus, the maximum assets exceed the minimal ones a little more than 400 times. Despite such significant spread in values each bank has been studied by the key variables which allowed to define its level of digital development.

The first variable is **innovative products in the retail sector** (biometric identification; voice identification combined with interactive voice response (IVR); chat bots which answer customers' questions automatically; integration with social networks; digital wallet including the

<sup>1</sup> COE's career horizons (average age of 55) are time left to pension age. A manager who's retirement is close has a shorter career horizon.

Faster Payments System (FPS); trading platforms – instruments for deals in the stock market made by a trader or investor as well as for online orders; near field communication (NFC) – non-cash payments which optimize payment processing and allow to conduct daily transactions in a safe way; protection from cyberthreats; finance management including online bank, convenient ATM services, services of purchase of the ecosystem products, advanced payment solutions etc.; credit provision; artificial intelligence).

For each implemented technology a bank was assigned one point. The obtained points were totaled up and leaders in implementation of innovation technology were defined (Table 1).

**Table 1.** Top 5 of banks leading in implementation of innovative products in the retail sector

Bank	Points (innovations)	Score
Sberbank of Russia	61	10
VTB	40	10
Tinkoff Bank	40	10
Alfa Bank	38	10
Pochta Bank	37	10

Source: The data for the rating was obtained from annual reports of banks for 2017–2019 and from news feed of official websites of the banks.

The second variable is **internet banking rank of the consulting agency Marks Web**. Internet banks are evaluated here on the basis of two categories: the best ones for daily use and for a digital office. The research methodology consists in comparative analysis from the point of view of functionality and customer friendliness. At the same time technical characteristics of services are not taken into consideration. The *Daily Banking* rating comprises the banks which provide the simplest and clearest way to perform daily operations and furnish information on products. The leaders in the *Digital Office* category are the banks where the number of customers' contacts with the bank office or the hot line is minimal and the majority of key operations may be performed online.

In order to compile the rating of five innovation banks in the *Daily Banking* and *Digital Office* categories we added together the points assigned by *Marks Web* for 3 years (Table 2).

**Table 2.** Top 5 banks according to *Marks Web* rating for 2017–2019

Bank	Points assigned by Marks Web	Score
Tinkoff Bank	403.4	10
Raiffeisenbank	298.7	10

Bank	Points assigned by Marks Web	Score
Alfa Bank	294.1	10
Sberbank of Russia	293.2	9
Pochta Bank	292	9

In order to assess the third variable – **customer satisfaction with mobile applications** – we used the rating for *iPhone* in *App Store* and *Android* in *Play Market* for 2019.

In *App Store* the rating is calculated as weighted average of customers' evaluations in Russia. In *Play Market* it is made on the basis of particular algorithms where the last evaluations are of greater importance. For our calculation we obtained the mean value of two ratings (Table 3).

**Table 3.** Top 5 banks according to the rating in *App Store* and *Play Market*

Bank	Mean value according to ratings in App Store and Play Market	Score
Alfa Bank	4,85	10
Sberbank of Russia	4,8	10
Raiffeisenbank	4,8	10
Home Credit Bank	4,75	10
Surgutneftegazbank	4,7	9

The fourth variable – **employees' rating on Banki.ru** – allows to make an opinion on working environment in a bank. See the leaders as at the end of 2019 in Table 4.

**Table 4.** Top 5 banks according to employees' rating at Banki.ru

Bank	Banki.ru rating	Score
UniCredit Bank	45.6	10
Tinkoff Bank	44.8	10
Absolut Bank	42.1	10
Avangard	36	10
Russian Standard Bank	34.7	10

Source: URL: <https://www.banki.ru/services/official/methodology/>

Also when we compiling the rating we took into consideration as the fifth variable the **professional award Bank of the Year** at the web of Banki.ru which comprises 19 nominations in various spheres: consumer loan; deposit, mortgage loan; advertising campaign; online loan application, people's rating; special offer etc. (Table 5).

**Table 5.** Top 5 banks which got the Bank of the Year award at Banki.ru

Bank	Score
Sberbank of Russia	3
Alfa Bank	3
Tinkoff Bank	3
Pochta Bank	3
Gazprombank	2

We used evaluation on the basis of total assets as one of **control variables** for compiling the rating (Table 6)

**Table 6.** Top 5 banks according to total assets as at the end of 2019

Bank	Assets, mln RUB	Score
Sberbank of Russia	29,958,900	10
VTB	15,516,100	10
Gazprombank	6,582,198	10
Alfa Bank	3,749,640	10
Otkrytie FC Bank	3,263,633	10

The next **control variable** is return on equity (ROE). Investors consider return on equity around the mean value of S&P 500 which equals 14% to be an acceptable correlation and less than 10% – an unacceptable one (Table 7).

**Table 7.** Top 5 of Russian commercial banks according to return on equity

Bank	ROE, %	Score
Tinkoff Bank	35.4	10
Express Volga	28.7	10
Vozrozhdenie	24.5	10
Roscosmosbank	23.5	10
Novcombank	23.3	10

Another **control variable** – return on assets (ROA) – is indicative of profitability of bank's operations. A high value of this indicator means that assets are used efficiently (Table 8).

**Table 8.** Top 5 Russian commercial banks according to return on assets

Bank	ROA, %	Score
Absolut Bank	12.9	10
Tinkoff Bank	5.4	10

Bank	ROA, %	Score
Home Credit Bank	4.8	10
Express Volga	3.9	10
Roscosmosbank	3.6	9

The innovation components considered above were evaluated for each bank, transferred into points and added together. The maximum value of 60 points was assigned to Tinkoff Bank, the minimum value of 6 points – to Investtorgbank. On the basis of obtained values top 50 commercial banks according to total assets were ranged from 1 to 50.

Tinkoff Bank with 60 points, Raiffeisen with 57 points, Sberbank Russia with 49 points were the leaders. As long as Raiffeisen Bank is a subsidiary bank of Austrian *Raiffeisen Bank International* we will assume that this may influence the business model and management in a specific way, so we will add another comparable Russian bank – Sovcombank with 45 points. In total we have chosen four commercial banks according to innovation technology in the retail segment (Table 9).

In order to choose the least innovative banks we excluded from the rating eight banks according to the following criteria:

- they are bankrupts (Transcapitalbank, National Bank Trust, Moscow Industrial Bank, Moscow Regional Bank, Rusfinance Bank, Investtorgbank);
- the bank's management is represented by foreigners only (ING Bank – a subsidiary of ING Group);
- the bank is a government agent (Roseximbank).
- Totally we chose four banks: UBRR with 17 points; RNCB with 15 points; MTS Bank and Bank Zenit with 14 points each (see table 9).

**Table 9.** Rating of innovativeness of commercial banks in the retail segment

Rating	Bank	Total score
1	Tinkoff Bank	60
2	Raiffesbank	57
3	Sberbank of Russia	49
4	Sovcombank	45
5	Home Credit Bank	42
6	Russian Standard	42
7	Pochta Bank	41
8	Alfa Bank	41
9	Bank Saint Petersburg	38



Rating	Bank	Total score
10	Citybank	36
11	UniCredit Bank	36
12	Novcombank	36
13	AK Bars Bank	35
14	Bank Uralsib	35
15	Vostochny Bank	35
16	VTB	33
17	Express Volga	33
18	Moscow Credit Bank	33
19	Vozrozhdenie	33
20	Otkrytie FC Bank	32
21	Rosbank	31
22	Renaissance Credit	30
23	Gazprombank	28
24	Vserossisky Bank Razvitiya Regionov	28
25	Absolut Bank	26
26	SMP Bank	26
27	Rosselkhozbank	25
28	Surgutneftegazbank	25
29	Bank Russia	24
30	Bank DOM.RF	24
31	BM-Bank	24
32	Bank Avangard	23
33	Cetelem Bank	21
34	Credit Europe Bank	20
35	Roscosmosbank	20
36	OTP Bank	19
37	Bank Peresvet	19

Rating	Bank	Total score
38	Zapsibcombank	18
39	UBRR	17
40	Roseximbank	16
41	Transcappitalbank	15
42	RNCB	15
43	ING Bank	15
44	MTS Bank	14
45	Bank Zenit	14
46	National Bank Trust	12
47	Moscow Industrial Bank	11
48	Moscow Regional Bank	8
49	Rusfinance Bank	8
50	Inverstorgbank	6

## Compiling the Rating of Human Capital of Top Management in the Most and the Least Innovative Companies

We chose four banks – leaders in implementation of innovation in the retail sector and four outsiders. Further we will study the key variables of human capital of top management which are also assigned points further added together and ranged<sup>2</sup>.

As mentioned above, we consider a three-year period since 2017 to 2019, hence, the major figures could have been replaced. If during this period several managers occupied a certain position performing the same function the weight of the obtained coefficient will be calculated proportionate to the period of office.

### Education

**Tinkoff Bank** (top 4). 3 of 5 key top managers have master's degree: CEO – Oliver Hughes; CIO – Vyacheslav Tsyganov; CSO – Stanislav Bliznyuk. The distinctive feature is the top management team which is stable and unchanged since 2010 which is indicative of the management's great involvement and loyalty to the company.

2 Data on human capital of top management has been obtained from <https://finparty.ru>, from annual reports of the company for 2017–2019 and from the system of mass media content analysis <https://new.scan-interfax.ru/app/summary>

Chief financial officer Ilya Pisemsky has a field-specific education. He is the only one with MBA degree granted by F.W. Olin Graduate School of Business in 2002.

**Raiffeisenbank** (top 4). There are two top managers from Austria in the board with master's degree: the head of risk management Wass Roland and the chief financial officer Gert Hebenstreit. CEO, CIO and one of the directors of the retail block have a field-specific education. It is remarkable that similar to Tinkoff Bank the board remained almost unchanged for 3 years (except for the managers of the retail block).

The bank is focused on development of technology and therefore in 2018 it appointed N. Shvetsov as CIO which was a newly introduced position.

**Sovcombank** (top 4). The structure of the board of Sovcombank is similar to the one of the two previously considered banks and has been stable for several years. The position of the chief technology officer was created rather recently – in 2019 and it was occupied by Boris Albert, graduate of Lomonosov Moscow State University majoring in Applied Mathematics and Informatics.

The education rating of Sovcombank top managers is a little lower than the one of the two previous banks: CEO Dmitry Gusev is the only person with a Ph.D. in economics. But almost all managers have field-specific education which is indicative of serious professional skills in the units they are in charge of.

**Sberbank** (top 4). In the considered period the board of Sberbank changed more often: CTO was replaced thrice and the director of the retail block was replaced once. This may be indicative of the necessary changes in technology applied by a bank with an advanced ecosystem.

The bank sets a high bar in terms of education: CSO Yulia Chupina has an MBA granted by the Higher School of Company Administration and Management in Barcelona (Spain) and the company CEO German Gref is a Ph.D in economics. Another distinctive feature is that all management has field-specific education.

**Bank Zenit** (antitop 4). In the three recent years the board chairman was replaced once, now CEO is Alexander Tishchenko who has an MBA of London Business School. Also CSO Konstantin Rybakov has an MBA diploma of London Business School. There is no position of the chief information officer in the top management of the bank Zenit. Unlike previous banks from top 4 the chief accountant, not CFO, is in charge of the financial block.

**RNCB** (antitop 4). The management team of the bank looks incomplete: there are no CIO/CTO and CSO/CRO – chief strategy officer/chief risk officer. Chief accountant manages the financial block. Head of the retail block Nikolay Bilan is the only person with master's degree. However, all managers including CEO have field-specific education which is a business achievement factor.

**MTS bank** (antitop 4). Board chairman Ilya Filatov is an MBA holder of the Higher School of Economics of International Business of the Academy of National Economy of

the Russian Federation Government. It is the only MBA diploma received in Russia among all top managers of the banks considered in this research. CRO of MTS bank Nikolay Shekhovtsov has an MBA of the University of Virginia. Chief accountant Alexey Eltyshov performs the functions of the chief financial officer.

**UBRR** (antitop 4). The key top managers of UBRR are CEO, IT director (the position was created in 2019), chief accountant and head of the retail block. Head of the retail block Vadim Belopolsky has a degree of Candidate of Sciences in Automated Management Systems.

## Career Variety

**Tinkoff Bank** (top 4). It is no secret that Tinkoff Bank is a technology-oriented bank and it is due to experience of the majority of its top managers in information technology. CEO Oliver Hughes who manages Tinkoff since 2007 has a field-specific experience in foreign companies as well as the chief financial officer Ilya Pisemsky.

**Raiffeisenbank** (top 4). 4 out of 6 bank top managers joined it as far back as mid 1990s – early 2000s which is indicative of a high loyalty. CFO and CRO have previous experience in the Austrian group of Raiffeisenbank. All managers of the Russian commercial subsidiary bank have field-specific education.

**Sovcombank** (top 4). Head of the retail block Andrey Spivakov is the most experienced one among managers. CEO and CTO have a field-specific experience in a foreign company.

**Sberbank** (top 4). Employment history shows that CTO David Rafalovsky and CSO Yulia Chupina worked in foreign companies in the field of “technology” and “strategy” respectively. As mentioned above, several chief technology officers succeeded one another in Sberbank recently. David Rafalovsky who joined the team in 2018 and a year before left the office of the deputy head of the technology block in *Citigroup* in the USA and moved to Russia has, probably, the most unusual top manager profile.

**Bank Zenit** (antitop 4). All top managers of Bank Zenit have worked in the financial sector throughout their career. CSO Konstantin Rybakov and head of the retail block Dmitry Yurin started their career in Sberbank in mid 1990s.

**RNCB** (antitop 4). The board of RNCB is experienced only in the financial sector. No information about work in foreign companies was found.

**MTS Bank** (antitop 4). The profile of top managers of MTS Bank is unlike the profile of top managers from other banks from antitop 4. Many managers started their career in large banks.

**UBRR** (antitop 4). We found information that three out of four top managers worked only in UBRR. It is common knowledge that head of the retail block Vadim Belopolsky worked in the international company *VISA International*.

## Networks

**Sovcombank** (top 4). Board chairman Dmitry Gusev is a friend of the bank cofounder Mikhail Klyukin (member of the supervisory council). Dmitry and Mikhail are graduates of Financial Academy under the Government of the Russian Federation majoring in Finance and Credit of 1998 and 1999 respectively.

**Sberbank** (top 4). German Gref's scientific tutor in the postgraduate study in St. Petersburg State University was a famous politician Anatoly Sobchak. Later the board chairman worked in the Center for Strategic Research where he prepared a successful economic program for Vladimir Putin for his 1<sup>st</sup> presidential term.

## Power

Power is a mediator and it will be calculated on the basis of two components:

the share of outstanding stock which belongs to the top manager;

quoted speech index *Interfax Scan* which compares the number of publications on the basis of one direct speech fragment of a manager.

**Tinkoff Bank** (top 4). CFO Ilya Pisemsky with 90% turned out to be the most "listened to", it means that he has the largest number of publications on the basis of direct speech. CEO, CIO, CFO and CSO have shares in the authorized capital of the bank (Table 10).

**Table 10.** Power indicators in Tinkoff Bank

Position	Top manager	Quoted speech index, %, 2019	Shares in ownership
CEO	Oliver Hughes	66	+
CIO	Vyacheslav Tsyganov	15	+
CFO	Ilya Pisemsky	90	+
CSO	Stanislav Bliznyuk	5	–

**Raiffeisenbank** (top 4). Board chairman Sergey Monin has the quoted speech index of 84%.

**Sovcombank** (top 4). CEO Dmitry Gusev has the citation index of 67% and 5.92 % votes in the total amount of voting shares.

**Sberbank** (top 4). Vice-chairman of the board Svetlana Kirsanova is the most "heard" person with 77%. German Gref has a share in the authorized capital of 0.0045% and CFO Alexander Morozov – 0.0025% (Table 11).

**Table 11.** Power indicator in Sberbank

Position	Top manager	Quoted speech index, %, 2019	Shares in ownership
CEO	German Gref	71	+

Position	Top manager	Quoted speech index, %, 2019	Shares in ownership
CTO	Vadim Kulik (2017)	50	–
CFO	Alexander Morozov	76	+
CSO	Yulia Chupina	39	–
Retail block	Svetlana Kirsanova	77	–

**Bank Zenit** (antitop 4). Board chairman of Bank Zenit Alexander Tishchenko has 5.8% shares of this financial institution.

## Social Integration

Social integration is understood as an active and independent use of social networks. As it turned out, just several top managers of the considered banks operate their pages in social networks by themselves.

## Reputation

Reputation will be determined on the basis of *Interfax Scan* index which evaluates correlation between positive/negative/neutral sentiment in public speeches.

**Tinkoff Bank** (top 4). CSO has an obviously positive sentiment which amount to 9% (Table 12).

**Table 12.** Sentiment of top managers in Tinkoff Bank

Position	Full name	Sentiment
CEO	Oliver Hughes	
CIO	Vyacheslav Tsyganov	
CFO	Ilya Pisemsky	
CSO	Stanislav Bliznyuk	

**Raiffeisenbank** (top 4). CEO of Raiffeisenbank has neutral sentiment, neither negative, nor positive utterances prevail.

**Sovcombank** (top 4). CEO Dmitry Gusev has an insignificantly prevailing positive sentiment equaling 1%.

**Sberbank** (top 4). Vadim Kulik showed the most interesting results: 11% of positive and 9% of negative sentiment (Table 13). As an experiment we decided to interpret the content of the negative aspect, conducted semantic analysis and defined the key words with a "negative message" in news for 2017. As a result, we defined the following word combinations: "typical lawsuits", "job for fired persons" and "provide cut down". It turned out that "typical lawsuits" meant automation of typical lawyers' operations which resulted in cutting down of three thousand jobs due to implementation of robot lawyer. "Job for fired persons" meant cooperation of the Russian Post with Sberbank in order to



provide jobs for fired bank employees. We may make the conclusion that a negative sentiment is not grounds for underestimation of utterances.

**Table 13.** Sentiment of top managers in Sberbank

Position	Full name	Sentiment
CEO	German Gref	
CTO (2017)	Vadim Kulik	
CFO	Alexander Morozov	
CSO	Yulia Chupina	
Retail block	Svetlana Kirsanova	

## Results of Compiling the Rating of Human Capital of Top Management

The obtained results on each key indicator of human capital of top management were translated into points and the final values were added together. If within the considered period a top manager occupied the position for a certain time he/she was assigned weight (proportionate to the term in office) and multiplied by the final value calculated for this person (Table 14).

**Table 14.** Human capital rating in the considered companies for 2017–2019

Rating	Bank	Total points	Category according to the innovation rating
1	Sberbank of Russia	41	Top 4
2	Tinkoff Bank	32	Top 4
3	Raiffeisenbank	21	Top 4
4	Sovcombank	21	Top 4
5	MTS Bank	17	Antitop 4
6	UBRR	13	Antitop 4
7	Bank Zenit	13	Antitop 4
8	RNCB	12	Antitop 4

## Research Results

Let us consider the hypotheses generated at the beginning of the research.

**Hypothesis 1** that *commercial banks with the highest quality of human capital of top management are the leaders in innovation in the retail segment* **was confirmed**. Commercial banks with the highest quality of human capital – Sberbank of Russia, Tinkoff Bank, Raiffeisenbank and Sovcom-

bank – according to the performed research are the most innovative ones in the retail segment in 2017–2019.

**Hypothesis 2** that *banks from top 10 in terms of total assets are the most innovative ones in the retail segment* **was not confirmed**. Just three banks from top 10 in terms of total assets were included in the innovation rating: Raiffeisenbank, Sberbank and Alfa Bank. It means that corporate resources have no decisive influence on the innovation strategy, on the contrary, human, knowledge and social capital exercise this influence (Table 15).

**Table 15.** Comparison of top 10 bank rating according to total assets to innovation rating

Bank	According to total assets	Innovation rating
Sberbank of Russia	1	3
VTB	2	16
Gazprombank	3	23
Alfa Bank	4	8
Otkrytie FC Bank	5	20
Rosselkhozbank	6	27
Moscow Credit Bank	7	18
Raiffeisenbank	8	2
UniCredit Bank	9	11
Rosbank	10	21

**Hypothesis 3** that *stable social relations and reputation influence directly the innovation strategy* **was confirmed**. It turned out that social relations have a direct impact on quality of human capital, and consequently, on innovation strategy. Examples of CEOs from Sberbank and Sovcombank substantiate it, board chairmen of these companies have stable relations. Reputation also exerts a direct influence on efficiency of human capital.

**Hypothesis 4** that *power is a mediator which strengthens influence of human capital of top management on innovation* **was confirmed**. Managers in possession of a large share of stock are quoted more often, they strive to protect private interests from bankruptcy risk and are more motivated to determine the growth vector of innovation strategy.

**Hypothesis 5** that *field-specific experience in the career of a top manager enhances the ability to generate and maintain innovation* **was not confirmed**. This conclusion disagreed with results of research [14] which asserted that the career advancement level and field-specific professional experience guaranteed strategic changes and implementation of innovation.

## Conclusion

We compiled the following author's ratings on the basis of findings of the research dedicated to defining influence of

human capital of top management on innovation strategy in Russian banks:

Rating of innovation commercial banks in the retail segment which evaluates the number of highly technological products for the period of 2017 to 2019, ratings of online banks, mobile applications, feedback on working conditions in banks and nominations for product innovations.

Rating of human capital of top management for the four most and least innovative banks comprising such parameters as education, career variety, social relations, social integration, power and reputation.

Consequently, the following interrelations were revealed:

Commercial banks with the strongest and most significant in terms of rating human capital of top management are leaders in innovation of the retail segment. Results of foreign studies [13, 16] on influence of key elements of human capital on innovation strategy confirm it.

Top 10 banks in terms of total assets are not the most innovative ones in the retail segment. Banks' resources have no significant impact on the innovation strategy and human capital accumulated throughout life does have such impact. So, VTB is the 2<sup>nd</sup> in terms of total assets while in the innovation rating it is the 16<sup>th</sup>, Gazprombank is the 3<sup>rd</sup> and the 23<sup>rd</sup> respectively. However, for example, Alfa Bank follows Gazprombank in terms of assets while in the innovation field it improves constantly and occupies the rightful 8<sup>th</sup> place.

Managers with stable social relations show a greater strategic dynamism. Reputation also turns out to be a forceful factor which influences the ability to create and maintain innovation. Top managers who have acquired strong and long-term social bonds throughout their lives have a competitive advantage: they influence significantly the innovation potential of banks.

Power increases influence of human capital of top management on innovation. The public managers most frequently quoted by print media have a competitive advantage, have more authority for taking major decisions and define the growth vector of the banks of a lower technological level.

Field-specific experience in career does not have a significant impact on the ability to introduce corporate strategic changes concerning innovation. This conclusion disagreed with conclusions offered in paper by C. Crossland et al. [14] who assert that relevant field-specific professional experience guarantees generation of new technology.

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