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INNOVATIVE BEHAVIOR AND PROSOCIAL MOTIVATION OF RUSSIAN CIVIL SERVANTS

The motivation of civil servants has a considerable impact on their decision-making and thus the performance of a bureaucratic agency. This paper studies how innovative and error-correcting behavior of Russian public civil servants correlates with three types of motivation: public service motivation (PSM), power motivation (PM) and security motivation (SM). Civil servants with a higher level of PSM are expected to correct existing errors in standard operating procedures (SOP) and to introduce "new ways of doing things" (Fernandez and Moldogaziev 2013); and so to improve their organizations' performance and citizens' well-being by enhancing organizational learning. For empirical analysis the paper uses a new unique dataset with some 1,600 responses from a survey questionnaire among local civil servants in the Russian region of Leningrad. The results from regression analyses demonstrate that prosocial motivation (seven item scale, Cronbach's alpha =0.72), power motivation (nine-item scale, Cronbach's alpha=0.78), employee encouragement, empowerment practices, and citizens orientation are positively correlated with innovative and error-correcting. In contrast the level of security motivation and job satisfaction fail to achieve statistical significance throughout all models.[2][3]

JEL Codes: D73, D81, H83.

Keywords: behavioral public administration (BPA), innovative behavior, error-correcting behavior, motivation, civil servants, Russia.

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1. Introduction: On parachuting, Gorky Park, and innovation in Russia

Innovative behavior means to come up with “new ways of doing things” (Fernandez and Moldogaziev 2013). This manuscript starts with three recent real-life examples of innovative behavior in Moscow’s public administration: a mock-up model, low height washing bowls, and orange lightning strips. Recent visitors of Moscow’s famous Gorky Park may have spotted the marble-colored twisted tower next to the park’s main entrance (Figure 1). The tower is a mock-up model of a funfair attraction from the 1930ies when bold ordinary Muscovites did parachute jumping from the platform at the top. The attraction assumed the name Three Parachute Tower and became one of the major attractions in Gorky Park. In 2015 a mock-up model was put in front of Gorky park main entrance as a New Year’s Tree. As people seemingly liked this very special tree, it became a permanent attraction in Gorky Park, again. Muscovites with kids will have also experienced the low-height washing bowls in the park’s facilities. Regular washing bowls are very inconvenient if you are three years old. Installing the washing bowls just a few inches lower makes life easier both for youngsters and their parents. The metro station next to Gorky Park is served by Moscow’s orange metro line. Stations on this line recently saw lighted colored strips installed at their ground level entrances (Figure 1: The Three Parachute Tower in Moscow's Gorky Park

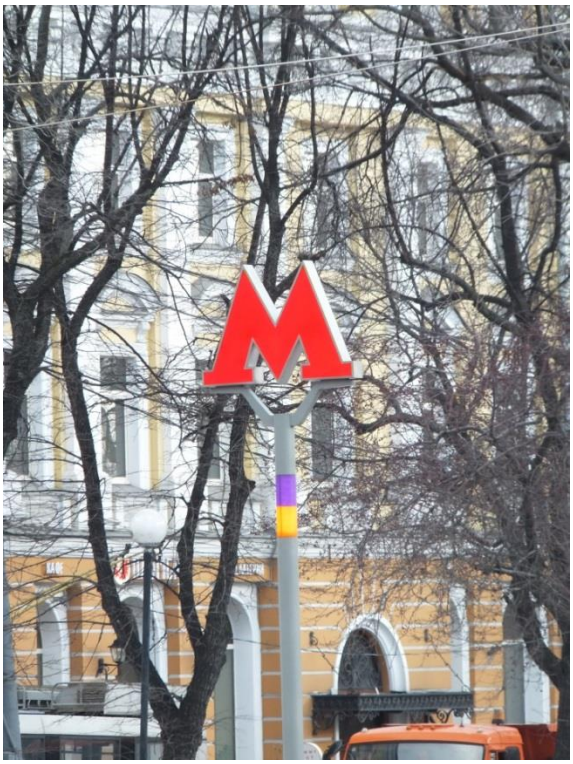
Notes: Picture was taken by the author.

Figure 2). This new practice is very user friendly, since Moscow's metro consists of 14 lines, each with a distinct name and particular color. As passenger you will save time to search for a metro map, look for the current station and the lines departing from there.

Figure 1: The Three Parachute Tower in Moscow's Gorky Park

Notes: Picture was taken by the author.

Figure 2: Colored strips at a Metro entrance



Notes: Picture was taken by the author.

More generally and beyond anecdotal evidence an innovation is an idea, program, or policy which is new to the organization adopting it, regardless of the number of prior adoptions in surrounding peer units (Walker 1969; Walker, Damanpour and Devece 2011). Achieving a baseline level of performance requires any government agency to exhibit some innovative search activities (March and Simon 1993: p. 68-69). Visitors at recreational areas in Moscow and elsewhere continuously demand inspirational events, and attractions for their kids. To keep up with these growing demands requires public administrator to exhibit a creative mindset and some innovation motivation. The motivation of civil servants has a considerable impact on their decision-making and thus the performance of a bureaucratic agency. From a behavioral public administration perspective (BPA) the fundamental question thus is: What is the "switching mechanism by which organization members shift their attention from their more regular concerns to the search for new alternative?" (March and Simon 1993, p. 75) For the first time in Russia this paper investigates how innovative and error-correcting behavior of civil servants correlates with three types of motivation: prosocial motivation, power motivation and security motivation. Civil servants with a higher level of prosocial motivation are expected to correct existing errors in standard operating procedures (SOP) and to introduce "new ways of doing things" (Fernandez and Moldogaziev 2013); and so to improve their organizations' performance and citizens' well-being by enhancing organizational learning. For empirical analysis the paper uses a new unique dataset with some 1,600 responses from a survey questionnaire among local civil servants in the Russian region of Leningrad. The results from regression analyses demonstrate that prosocial motivation (seven item scale, Cronbach's alpha =0.72), power motivation (nine-item scale, Cronbach's alpha=0.78), employee encouragement, empowerment practices, and citizens orientation are positively correlated with innovative and error-correcting. In contrast the level of security motivation and job satisfaction fail to achieve statistical significance throughout all models.

The subsequent manuscript continues with a review of the literature on innovative behavior in public administration (section 2). In section 3 the paper introduces a behavioral model of innovation in public administration. Section 4 describes the Russian administrative context. Section 5 provides details on the survey data which are used to test hypotheses empirically. Estimation results are presented in section 6. The manuscript concludes with a discussion of the findings, limitations and implications of the study (section 7).

2. Literature review

Prior research on innovation adoption identified drivers of innovation both at the individual and the organizational level. At the individual level existing research demonstrates that administrative professionalism and capacity is associated with a higher tendency to innovate (Bhatti et al., 2011; Sapat, 2004; Teodoro, 2009; Walker, 2014). Innovative government agencies feature a significant share of highly-educated professionals that can focus on adopting and implementing new ideas without adversely affecting daily working routines. Furthermore diagonal administrative professionalism and political entrepreneurs (Mintrom, 1997) facilitate innovative behavior (Sapat, 2004; Teodoro, 2009). Innovative public sector organizations externally hire professionals from the international job market, a human resource management approach that positively affects the supply side of innovation. At the organizational level innovation tends to occur more often in large entities, in terms of organizational, staff or population size. Innovative public sector organizations also feature an internal performance management system that allows for internal risk sharing techniques and establishs a risk-taking culture; both items facilitate change-oriented organizational citizenship behavior (CO-OIB) (Campbell, 2014) and mediate the impact of structural constrains on adoption behavior (Shu and Feeney, 2014). Innovative public administration ensures a high level of employee empowerment by offering knowledge and skill training which in turn increases encouragement on innovative behavior (Fernandez and Moldogaziev, 2013). Organizations that seek out new ways of doing things often witnessed performance gaps. In particular poor relative performance has been found to result in innovative search activity among members both of private (Cyert and March, 1963; Rogers, 1962) and public sector organizations (Berry and Berry, 1990; Borins, 2001; Meier, Favero and Zhu, 2015; Salge, 2011). Finally innovative organizations learn from, strategically interact with and mimic innovative peers (Berry and Berry, 1990; Walker, 1969).

3. A behavioral model of innovation

Assumptions

This section introduces a behavioral model of innovative and error-correcting behavior. The model starts from a common sense definition of innovation in public sector organizations: An *innovation* is an idea, program or policy that is new to the organization adopting it (Walker 1969, p. 881; Damanour, Devece 2011, p. 369). New ideas result from various types of

learning. Administrative professionals and the government agencies in which they are working in learn by a variety of ways (March 1992): They use existing knowledge stored in the internal memory of their organization (March 1992) (tacit knowledge). And they explore new knowledge by copying the behavior of successful peers and learning from and complying with professional norms and standards (Teodoro 2011). The balance between using existing knowledge and exploring new opportunities is not a strict strategic trade-off; I believe it is best understood as a repeated decision taken by the individual civil servant. The model continues with the assumption that an innovation requires an individual to "seek out new and better ways of doing things" (Fernandez and Moldogaziev 2013), and to detect and to fix errors in existing policy related programs, which are two types of behavior, *innovative* and *error-correcting behavior*. The model thus posits that civil servants exhibit two types of behavior:

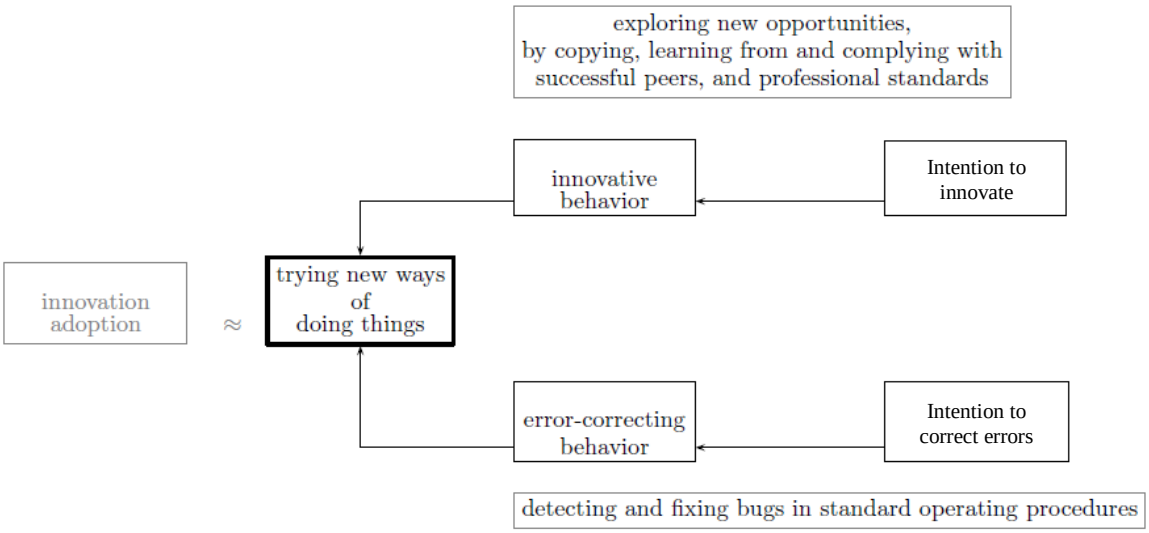
- *Error-correcting behavior:* To a varying degree public servants try to detect and fix small errors in everyday working routines and in existing standard operating procedures (SOP). Fixing bugs in government agencies' day-to-day working routines equals what Donald F. Kettl terms evolutionary transformation, one feature of the transformation from the traditional administrative state to "stateless administration" (Kettl 2015)
- *Innovative behavior:* Innovative behavior is necessary to keep up with the rapid change also associated with the transformation to stateless administration (Kettl 2015). In a world full of ever changing political and environmental constraints (Wilson 1989) innovations (are assumed to) help to improve the performance of an organization and thus citizens' well-being. This aligns with an individual's innovative mindset.

Both error-correcting and innovative behavior may have positive effects for community members, both in terms of service quality and thus well-being.

The model further assumes that innovative and error-correcting behaviors are fueled by *error-correcting* and *innovation intention*. Innovative behavior is driven by *a behavioral intention to innovate.* And error-correcting behavior is driven by an underlying *intention* to fix bugs. This suggests that civil servants exhibit different levels of *innovation and error-correcting intention*, from low to high. Innovation motivation is not a behavior, but a type of behavioral intention; it indicates to what extent a civil servant *intends* to correct existing errors and to improve working routines. In my conceptual framework the intention to perform a behavior is a robust proxy for overt behavior. I acknowledge that behavioral intention and overt behavior

are two distinct phenomena; but intention is a necessary requirement for any action. Just suppose a public servant without any desire to go beyond the baseline expectations of performance; we do not expect her to devote attention and extra time detecting and fixing bugs in working procedures, she will rather just ignore them unless it is not a really huge and threatening problem. The assumption that behavioral intention links to overt behavior refers to Martin Fishbein's and Icek Ajzen's (1975) model of reasoned action, one of the seminal theories in the context of motivation related to work (Kanfer, Frese & Johnson 2017, p. 338). According to their model "the best single predictor of an individual's behavior will be a measure of his intention to perform that behavior" with the magnitude of the relationship being influenced by three major factors: "correspondence in levels of specificity, stability of the intention and the person's volitional control" (Fishbein & Ajzen 1975, p. 369). "A behavioral intention … refers to a person's subjective probability that he will perform some behavior [; ...] it is determined by two factors: his attitude toward the behavior and [her] subjective norm concerning that behavior", that is, an attitudinal and a social or normative factor (Fishbein & Ajzen 1975, p. 289, 301). The subjective norm "deals with the influence of the social environment on behavior; it results from the person's perceived expectation of relevant others whether or not she should perform the behavior, and by the person's intention to comply with these expectations (Fishbein & Ajzen 1975, p. 302). Behavioral intentions have low predictive power for overt behavior in case "the behavior requires certain abilities or resources or if it depends on the cooperation of another person" (Fishbein & Ajzen 1975, p. 369). A "possible breakdown in the intention-behavior relation" may also be due to a person's habit (Fishbein & Ajzen 1975, p. 369), i.e. routines and heuristics commonly used to simplify decision making in standard situations. But behavior under volitional control can be predicted from the person's intention (Fishbein & Ajzen 1975, p. 371). Icek Ajzen (1991) later extended the model by including perceived behavioral control as a third source of intention formation; the model assumed the name theory of planned behavior (Ajzen 1991). Empirical evidence has been providing support for the conceptual link between intention and overt behavior both in the initial and the extended model (Armitage & Conner 2001). Figure 3 depicts the basic assumptions of the model.

Figure 3: A behavioral model of innovation



Note: Own figure.

Hypotheses about causal interference

The model posits that innovative and error-correcting behavior correlates with three types of motivation: prosocial motivation (PSM), power motivation (PM) and security motivation (SM). Personal attitudes make a difference in how civil servants perform their job. Despite the importance of norms and standards for the sake of uniform services administrative professional always enjoy a certain level of flexibility in implementing policy programs. And within this elbow room, leeway or discretion of operators the attitudes, beliefs and motivations of civil servants make a difference in how they perform their job.

Prosocial motivation

Prosocial motivation (PSM) indicates to what extent people want to increase the general public welfare and are keen to serve the well-being of other people. The idea of prosocial motivation used in this paper strongly referrers to the well-established concept of public service motivation (Perry and Wise 1990; Perry 1996; Perry and Vandenabeele 2015), but is more straight-forward and less comprehensive. Essentially prosocial motivation and public service motivation capture the same phenomena: individuals with a high level of prosocial motivation are more willing to serve community members even at their own expense. Public service motivation indicates to what extent an individual feels motivated to maximize the general public interest and to serve the well-being of other people even at her own expense

(Perry 1996). Prosocial motivation draws people to work in public administration (Jaekel and Borshchevskiy 2017, Borshchevskiy and Jaekel 2017); individuals working in the public sector exhibit higher levels of prosocial motivation compared to their private sector counterparts (Bullock, Strich and Rainey 2016). Public service ethos also correlates with performance and with other positive types of behavior: Individuals with high levels of public service motivation have a low turnover intention, perform better (South Korea, Campbell 2015) compared to their peers with a low PSM level, and exhibit change oriented behavior (South Korea, Campbell 2014). There is also the idea that PSM has a "dark side" (Moynihan 2013). Donald Moynihan argued that PSM-civil servants tend to overspend public money for the sake of the public interest. In an experiment he could not provide empirical evidence supporting his budget maximization hypothesis, however (Moynihan 2013).

The concept of PSM was developed by James Perry and different co-authors starting from the early 1990ies (Perry and Wise 1990, Perry 1996, Perry 1997, Perry and Vandenabeele 2015). The measurement scale was developed against the US administrative context and the organizational culture there. Comparative research has demonstrated that the original PSM scale does not fit administrative contexts outside the US-administrative landscape very well (Kim et al. 2013). This holds true especially for the Russian context. In Russia managers try to regulate every aspect of civil servants behavior. But civil servants are flexible despite of SOPs because the interpretation of the rules depends on the person in charge. This makes a strong point for the role of discretion, and thus error-correcting behavior on civil servant decision making. I hypothesize that a high level of PSM is associated with a high level of innovative and error-correcting behavior.

> *Hypothesis 1 (Prosocial motivation)*: Civil servants that exhibit a *high* level of prosocial motivation are likely to show a *high* level of innovative and error-correcting behavior.

Power Motivation

Civil servants with a high level of power motivation see their job as a mean of exercising power. Achievement motivation is associated with bureaucratic ambition and policy entrepreneurs; power-motivated administrators maintain hierarchical structures (Teodoro 2011 p. 161); and emphasize the rule of standard operating procedures (SOP) in administrative actions. Power motivated professionals are attracted by and promoted on the vertical ladder within vertical career structures (Teodoro 2011 p. 161). I argue that power

motivated individuals do not come up with new ways of doing things for two reasons: It is not their personality trait (van Witteloostuijn et al. 2017), and it is also not rewarded by the vertical-promoting organization, they are working in. Personality trait and career-paths align at the expense of innovative behavior (Teodoro 2011). I hypothesize that power motivated civil servants show a low level of innovative behavior:

> *Hypothesis 2 (Power motivation):* Civil servants that exhibit a *high* level of power motivation are likely to show a *low* level of innovative behavior.

Security motivation (loss aversion)

Introducing new ideas and ways of doing things is associated with short-term potential risks and unsecure mid- and long-term benefits for the innovator (if at all) and the organization. Individuals which value status quo and stability over risky changes are expected to avoid innovations. Because real innovations alter the core tasks of operators (Wilson 1989) individuals with a preference for security and stable working environment are likely to avoid them. Developing and implementing new ideas is likely to subtract time away from regular administrative duties. This implies unpaid additional workload which will affect a civil servants internal costs-benefits calculus. In vertical promoting organizations there also is a risk of alienation from elected superiors (Teodoro 2011). I hypothesize that high degree of loss aversion is associated with low level of innovative behavior.

> *Hypothesis 3 (Loss aversion)*: A high degree of loss aversion is associated with low level of innovative behavior.

Fernandez and Moldgaziev (2013) find that selected empowerment practices have a potential to encourage employees to correct errors and to implement new ways of doing things. Vocational training and informing employees about the strategic goals of the organization is positively related to innovative behavior. The model thus states that:

> *Hypothesis 4a* (Strategic goals): Civil servants which receive information about the strategic goals by superiors are likely to show a *high* level of innovative and error-correcting behavior.

> *Hypothesis 4b* (Vocational training)*:* Civil servants that receive vocational training are likely to show a *high* level of innovative and error-correcting behavior.

Empirical research also suggests that job satisfaction positively links to organizational performance; happy civil servants are productive civil servants. I posit that the level of job satisfaction is positively associated with the (self-reported) level of error-correcting and innovative behavior.

> *Hypothesis 5 (Job satisfaction):* Civil servants with a *high* level of work satisfaction will show a *high* level of error-correcting and innovative behavior.

The model also allows for the statement that more experienced civil servants will have a higher level of error-correcting behavior compared to their less-experienced co-workers. Operators with long working experience have supposedly acquired a larger deposit of tacit knowledge. They are more likely to detect errors in SOPs and to fix them.

> *Hypothesis 6 (Tenure):* Working experience has a positive impact on error-correcting behavior. The error-correcting behavior of a civil servant increases with her length of working experience.

4. The Russian administrative context

The paper investigates determinants of innovative and error-correcting behavior of civil servants in Russian local public administration. The Russian administrative context has been influenced both by Soviet bureaucratic legacy and the supersonic transformation from central planning to a market economy in the early 1990ies. Some scholars consider Russian bureaucracy best described by features like extreme hierarchies, prone to corruption, inefficiencies and mismanagement, or in the dramatic words of A. V. Obolonsky, Russian bureaucracy is “extremely archaic and ineffective and morally corrupts even initially honest people, both inside and outside state structures.” (Obolonskii and Barabashev, 2014, p. 78). Accordingly there is a widespread perception of corruption (Rimskii 2014, Public Opinion Foundation. 2014), and a low level of trust in government and civil service. Outside the capital, local public administration in Russia faces a number of challenges, including mediocre (or even worse) quality of public services, and social service infrastructure in rural areas, distrust among citizens and administration. A number of constraints on innovative behavior and public sector reform in Russia have been identified by previous research:

- Insignificant public personnel management techniques (Obolonskii and Barabashev 2014).

- A widespread and stable level of bribery which draws from norms and values deep rooted in Russian society (Rimskii 2014), though the severity of and behavior in corruption prone situations significantly varies over sector of the economy, over regions, and social status of potential bribe givers (Public Opinion Foundation. 2014).
- A centralized approach to resource allocation, and a weak self-governance capacity of local jurisdictions (Shulga, Sukhova, et al. 2014); a combination that inhibits deviation from centralized policy-concepts.
- A low level of trust in government and civil service. This distrust is rooted in historical experiences. Throughout the last century each generation at least once lost benefit entitlements, and/or private savings. The end of the Soviet Union destroyed pension savings for significant parts of the working population. In a market economy setting the 1998 ruble crisis devalued private savings.

These judgements contrast with continuous civil service reform both at federal and regional level since the 2000ies. The reforms were largely driven by the central government and intended to "make public servants independent from political influence, to reduce the number of government functions and the size of the workforce in public offices, and to establish a competitive recruitment and pay-for-performance system" (Nezhina and Barabashev 2017, p. 5). The municipal organizational context in Russia features formal local autonomy, but strongly centralized policy-making, and limited fiscal autonomy. Similar to e.g. South Korea there is a high degree of formalism, and strong hierarchical authority (see Campbell et al. 2015).

5. Data and measurement

This manuscripts' primary analysis is a regression of error-correcting and innovative behavior on three types of motivation, and empowerment practices, adjusted for a set of covariates including job satisfaction, tenure, gender, and employment position.

Survey questionnaire among local civil servants in Leningrad region

The data set used for hypothesis testing was developed by the author as part of his research at the School of Public Administration at the National Research University Higher School of Economics. There are two big types of surveys, statistical surveys (Groves et al. 2004) and qualitative surveys (Jansen 2010). Statistical "surveys use a sample of members to measure

population characteristics" (Jansen 2010, [2]) The general population of our study constitutes all approximately 4,900 local civil servants in Leningrad oblast, Russian Federation.

Leningrad oblast is a highly industrialized administrative region in the Northwest of Russia with some 1.7 million inhabitants. Among the 85 regions of Russia Leningrad oblast was chosen for reasons of data availability. Leningrad oblast divides into one single tier city district, and 17 upper tier municipal districts which are further divided into some 200 town districts and rural districts. The city of St. Petersburg, formerly Leningrad, is not part of Leningrad region.

A survey was conducted over the course of a two-week period in spring 2016 when an electronic-based questionnaire was administered to gather the data on all variables of interest. To obtain data all local civil servants in Leningrad oblast were directly approached via corporate email asking them to participate in a scientific survey; a particular sampling strategy was not applied. The request briefly informed public officials about the general purpose of the research, namely to learn about motivations of civil servants. Details on underlying assumptions and hypotheses were not provided. Respondents which agreed to partake in the study (by clicking on a button reading "Yes") were redirected to a webpage of a commercial company that hosted the survey interface. Voluntary participation and anonymity of responses was assured at any stage of the data gathering processes. The survey and the surrounding data gathering process were completely conducted in Russian.

We received 1,703 completed questionnaires; the response rate was 35 per cent, and the non-response rate was 65 per cent. Statistical representativeness of the sample is a main issue in the case of quantitative sample surveys. (Jansen 2010, [5]) The average respondent was a 42 year old female mid-level public official with 7 to 15 years of working experience. The demographic characteristics of the sample population (distribution by sex, and age, and tenure) represent the general population well. The mean age in the sample population is 41.6; and the median age is 41. The mean age group for the general population (for which only age aggregated data are available) is 40 to 49 years. The proportion of females in the sample is approximately 83 percent; in the general population the proportion of females is 82 percent.

Dependent variable: Innovative and error-correcting motivation

This study measures error-correcting and innovation motivation with two items:

> I try to implement new processes (innovations) into my official activities to improve the efficiency of our organization. (From 1 = strongly disagree to 5 = strongly agree.)
>
> I am trying to simplify / remove / fix unnecessary and incorrect processes. (From 1 = strongly disagree to 5 = strongly agree.)

The first measurement item is inspired by the ordinal survey item "I feel encouraged to come up with new and better ways of doing things" used by Fernandez and Moldogaziev (2013). In the Russian context however, a literal translation would have imposed the risk of receiving non-meaningful answers. The item was thus adapted to the Russian context by asking straight-forward questions. Both Cronbach's alpha and Spearman-Brown coefficient for the two-item scale equal 0.67. The paper acknowledges the potential problem of reflexive behavior when measuring innovative and error-correcting behavior. Self-reported behavior of respondents may differ from actual behavior; risk-aversion and uncertainty about follow up use of the survey findings might cause reflexive behavior and over-reporting. However, desired social response (DSR) is a well-known general problem in surveys also in the US and not a particular problem of the Russian context.

Independent variables

Encouragement to innovate

Encouragement by superiors to innovate is measured with a single item:

> Our management encourages employees to introduce innovations to improve performance management processes (five-choice outcome, from 1=strongly disagree to 5=strongly agree)

Empowerment practices

The empowerment practice of informing employees about strategical goals of the organization is measured with single item:

> Our management always informs us about the goals and objectives of our organization / state / municipal body (five-choice outcome, from 1=strongly disagree to 5=strongly agree)

Skill development is another empowerment practice that respondents were asked about.

Our management supports employees in professional development in an effort to improve their skills (five-choice outcome, from 1=strongly disagree to 5=strongly agree)

Both variables measuring empowerment practices, the development of employees' skills and informing about goals, have a mean value of 4.1, each, which is above the scale midpoint.

Customer orientation

The administration should respond to the needs and demands of the residents / citizens (five-choice outcome, from 1=strongly disagree to 5=strongly agree)

Prosocial motivation (PSM)

This study measures *prosocial motivation* (PSM) with six items. Cronbach's alpha for the six item scale is an acceptable 0.724.

Which factors were most important to you when choosing a profession of public / municipal employee?

(PSM item 1) Service to society and the state (five-choice outcome, from 1=completely insignificant to 5 highly significant)

(PSM Item 2) The desire to work in the public sector (five-choice outcome, from 1=completely insignificant to 5 highly significant)

What does it mean to you, and your co-workers, to work in the public sector?

(PSM item 3) To benefit people (five-choice outcome, from 1=completely insignificant to 5 highly significant)

What is the main purpose of civil servants according to your view?

(PSM item 4) The opportunity to work for the good of the country (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Which are the most attractive incentives for you to continue to work in the state / municipal authorities?

(PSM item 5) Recognition of the importance of activities carried out by the agency (five choice outcome, from 1=strongly disagree to 5=strongly agree)

What role, in your opinion, is associated with the position taken by the state / municipal officials?

(PSM item 6) Executive in charge (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Power motivation

This study measures p*ower motivation* with eight items; Cronbach's alpha for the eight item scale is a highly acceptable 0.77.

Which factors were most important to you when choosing a profession of public / municipal employee?

(PM item 1) Social status (five choice outcome, from 1=very unimportant to 5=very important)

What does it mean to you to work in the public sector?

(PM item 2) Occupy a position of leadership (five choice outcome, from 1=strongly disagree to 5=strongly agree)

What is the main purpose of civil servants according to your view?

(PM item 3) The opportunity to make a career (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Which are the most attractive incentives for you to continue to work in the state / municipal authorities?

(PM item 4) Promotion (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Which of the following is for you as a state / municipal employee, a particular risk?

(PM item 5) Decrease in administrative responsibilities (workload) (five choice outcome, from 1=strongly disagree to 5=strongly agree)

What role, in your opinion, is associated with the position taken by the state / municipal officials?

(PM item 6) Manager (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Do you think that motivates the current generation to choose a job in the state / municipal authorities?

(PM item 7) Social recognition (five choice outcome, from 1=strongly disagree to 5=strongly agree)

(PM item 8) Belonging to the elite category of society (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Security motivation

Security motivation (loss aversion, SM/LA) is measured with eight items; Cronbach's alpha for the eight item scale is 0.77.

Which factors were most important to you when choosing a profession of public / municipal employee?

(SM/LA item 1) Pay (five choice outcome, from 1=very unimportant to 5=very important)

What does it mean to you to work in the public sector?

(SM/LA item 2) Receive state guarantees (five choice outcome, from 1=strongly disagree to 5=strongly agree)

What is the main purpose of civil servants according to your view?

(SM/LA item 3) The opportunity to receive social benefits (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Which of the following is for you as a state / municipal employee, a particular risk?

(SM/LA item 4) Less financial bonus (five choice outcome, from 1=strongly disagree to 5=strongly agree)

(SM/LA item 5) Disciplinary punishment (five choice outcome, from 1=strongly disagree to 5=strongly agree)

(SM/LA item 6) Written warning (five choice outcome, from 1=strongly disagree to 5=strongly agree)

What do you personally think motivates the current generation to choose a job in the state / municipal authorities?

(SM/LA item 7) Salaries (five choice outcome, from 1=strongly disagree to 5=strongly agree)

(SM/LA item 8) Stability and job security (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Employee empowerment practices

Empowerment practices of informing employees about strategical goals of the organization and developing their professional skills is measured with a two item scale:

(Empowerment item 1) Our management supports employees in professional development in an effort to improve their skills (five choice outcome, from 1=strongly disagree to 5=strongly agree)

(Empowerment item 2) Our management always informs us about the goals and objectives of our organization / state / municipal body (five choice outcome, from 1=strongly disagree to 5=strongly agree)

Cronbach's alpha for the two-item empowerment scale is 0.78, Spearman-Brown coefficient equals 0.752.

Additionally the dataset contains information about public officials' self-reported level of job satisfaction, age, gender, working experience, administrative position, and educational status.

Survey non-response, missing values and multiple imputations

Survey non-response causes a significant number of missing values for some covariates of interest. The variable measuring prosocial motivation has only 1,285 observations, the variable indicating power motivation has only 933 observations, and the variable for security motivation has only 1,035 observations; while the other variables in the dataset have between 1,631 and 1,706 observations. To address the issue of missing values multiple imputation (MI), a simulation based statistical missing data technique (StataCorp LP 2013, p. 3) is used. A specified number *M* of completed datasets (imputations) are generated, the estimation are performed with each simulated completed dataset; the results from *M* estimations are finally pooled into a single result.

The variables measuring prosocial, power, and security motivation have a nonmonotone missing-data pattern. Nonmonotone pattern means that for instance the missing values in prosocial motivation are not themselves nested in the missing values of power motivation and security motivation. A common imputation approach in such a case is multivariate imputation using chained equations (MICE, StataCorp 2013 p. 142; Azur et al. 2011). "The general idea behind MICE is to impute multiple variables iteratively via a sequence of univariate imputation models", in practical terms that means that "all variables except the one being imputed are included in a prediction equation" (StataCorp 2013 p. 142). Prosocial motivation, power motivation and security motivation are continuous variables with a restricted range; values may range from zero to 5. Missing values for the three variables are imputed by using truncated regression as prediction equation, for all; the outcome variable and all other covariates are used as predictors.

To check whether or not the imputed values are reasonable the distributions of the imputed the observed and the complete values are compared. Kolmogorov-Smirnov tests for equality of distribution functions are performed to compare the distributions formally (Eddings and Marchenko 2012, p. 7). While the summaries for the imputed variables look reasonable Kolmogorov-Smirnov tests for equality of distribution functions indicate significant differences in the distribution of all three imputed variables for the two groups observed and imputed. This is a limitation of the subsequent analysis.

Figure 4: Density plots variable prosocial motivation

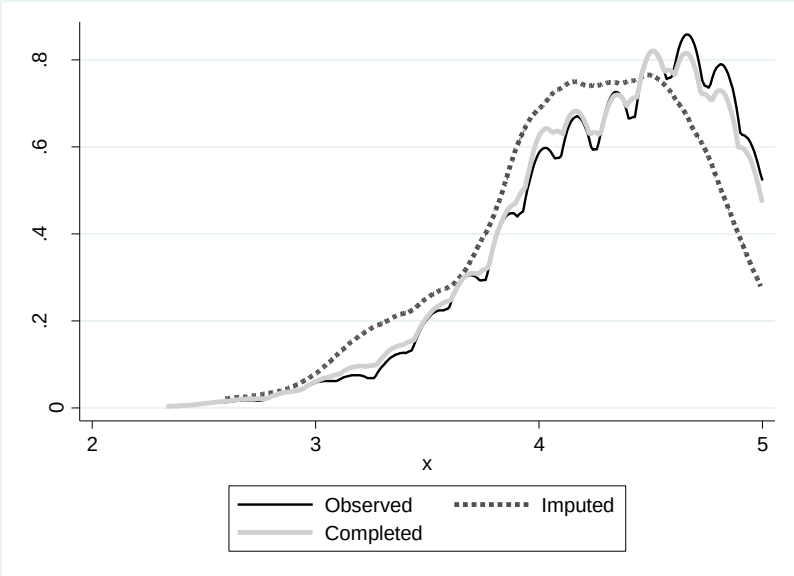


Figure 5: Density plots variable power motivation

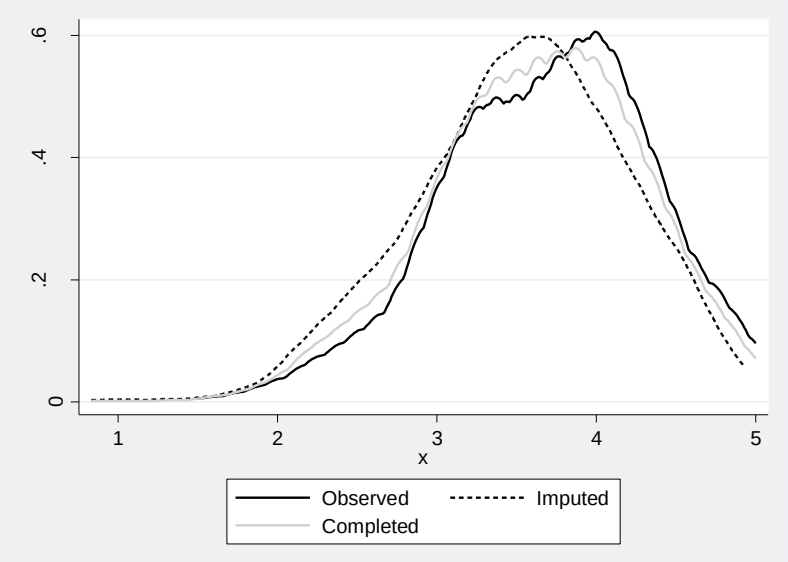
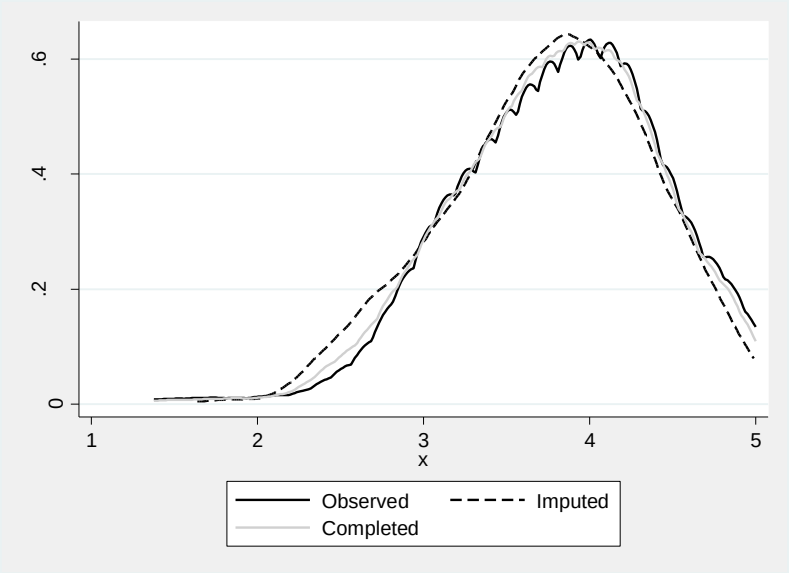


Figure 6: Density plots variable security motivation



Descriptive statistics and zero-order correlations

Figure 7: Summary statistics

id	Dependent variable		N	M	SD	Minimum	Maximum
1	Motivation to innovate and correct errors (two item scale, Spearman-Brown=0.76)		1,679	4.1	0.6	1	5
	Three types of motivation						
2	Prosocial motivation, seven item scale (Cronbach's alpha=0.72)						
	Observed		1,285	4.3	0.5	2.3	5.0
	Imputed	(first imputation, m=1)	352	4.2	0.5	2.6	5.0
		(second imputation, m=2)	352	4.2	0.5	2.9	5.0
	Completed	(first imputation, m=2)	1,637	4.3	0.5	2.3	5.0
		(second imputation, m=2)	1,637	4.3	0.5	2.3	5.0
3	Power motivation, eight-item scale (Cronbach's alpha=0.77)						
	Observed		933	3.7	0.6	1.5	5
	Imputed	(first imputation, m=1)	673	3.5	0.7	0.8	4.9
		(second imputation, m=2)	673	3.6	0.6	1.4	5.0
	Completed	(first imputation, m=2)	1,606	3.6	0.7	0.8	5.0
		(second imputation, m=2)	1,606	3.6	0.6	1.4	5.0
4	Security motivation, eight-item scale (Cronbach's alpha=0.77)						
	Observed		1,035	3.8	0.6	1.4	5
	Imputed	(first imputation, m=1)	586	3.7	0.6	1.6	5.0
		(second imputation, m=2)	586	3.8	0.6	2.0	5.0
	Completed	(first imputation, m=2)	1,621	3.8	0.6	1.4	5.0
		(second imputation, m=2)	1,621	3.8	0.6	1.4	5.0
	Further Covariates of interest						
5	Employee empowerment: Information about goals, skill development (two item scale, Spearman-Brown=0.752)		1,668	4.1	0.7	1	5
6	Encouragement to innovate by management (five-choice outcome)		1,679	3.8	0.8	1	5
7	Satisfaction with quality of organization (five choice outcome)		1,679	4.0	0.7	1	5
8	Job satisfaction (five-choice outcome)		1,631	4.1	0.6	1	5
9	Citizens' perspective: 'The administration should respond to the needs of the		1,680	4.4	0.6	1	5
10	Age, in years		1,670	41.6	10.6	20	77
11	Sex (female=1)		1,703	0.8	0.3	0	1
12	**Working experience**		1,695				
	<1yr		139 (8.2%)				
	1-3yrs		333 (19.7%)				
	4-6yrs		207 (12.2%)				
	7-15yrs		473 (27.9%)				
	>15yrs		543 (32%)				
13	**Job Position**		1681				
	director, head, or senior manager		440 (26.1%)				
	front level operator		71 (4.2%)				
	Laborer		6 (0.4%)				
	Mid-level professional		1164 (69.2%)				
14	**Education**		1698				
	academic degree		14 (0.8%)				
	higher (vyssheye)		1328 (78.2%)				
	person has more than one higher education diploma (neskol'ko vysshikh)		180 (10.6%)				
	Sredneye		12 (0.7%)				
	sredneye professional'noye		164 (9.7%)				

Note: Own data and figure.

Figure 7 displays descriptive statistics for the sample. The dependent variable *innovative and error-correcting behavior* has a mean value of 4.1, which is above the scale midpoint. Russian civil servants in Leningrad region also self-report a high level of public service motivation. The variable measuring prosocial motivation has a mean value of 4.3 which is above the midpoint of the scale. The level of power motivation and security motivation respectively is lower compared to PSM, but still remarkable. The variable measuring power motivation has a mean value of 3.7 which is much lower compared to the mean value of the variable measuring public service motivation. The variable measuring security motivation (loss aversion) has a mean value of 3.8, above the scale midpoint and similar to power motivation mean value. The variable measuring the encouragement to innovate by superiors has a mean value 3.8 which is above the midpoint of the scale. 88 per cent of respondents feel encouraged or strongly encouraged to innovate by their superiors (encouragement to innovate). 1.3 per cent of respondents answered "strongly disagree", 0.7 per cent answered "disagree", 10 per cent neither disagree nor agree, 60.6 per cent "agree", and 27.4 per cent "strongly agree". The level is considerably higher compared to a study from Sergio Fernandez and Tima Moldogaziev (2013) which reports that approximately 62 per cent of respondents among US federal civil servants felt encouraged to innovate. The variable measuring individual employees' satisfaction with the quality of the organization has a mean value of 4 which is above the scale's midpoint. The variable measuring the customer orientation in delivering public services has a mean value of 4.4 which is close to the maximum value of the scale.

Figure 8 displays zero-order correlations for observed values of all covariates. All covariates except age and sex are positively correlated with the dependent variable, that is, innovative and error-correction behavior of public servants. Prosocial motivation is moderately correlated both with power motivation (0.41) and security motivation (0.35). There is a strong correlation (0.66) between power motivation and security motivation. Satisfaction with the quality of one's own organization shows a strong correlation with employee empowerment practices (0.52), and overall job satisfaction (0.52), suggesting that employees are more satisfied if they receive information about strategic goals, and in-house training.

Figure 8: Zero-order correlations

Dependent variable	**id**	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*14*	*11*	*13*	*12*
Motivation to innovate and correct errors	*1*	1													
Three types of motivation															
Prosocial motivation, seven item scale (Cronbach's alpha=0.72)	*2*	**0.26*** ≤0.01	1												
Power motivation, eight-item scale (Cronbach's alpha=0.77)	*3*	**0.19*** ≤0.01	**0.41*** ≤0.01	1											
Security motivation, eight-item scale (Cronbach's alpha=0.77)	*4*	**0.11*** ≤0.01	**0.35*** ≤0.01	**0.66*** ≤0.01	1										
Further Covariates of interest															
Employee empowerment: Information about goals, skill development (two ite	*5*	**0.30*** ≤0.01	**0.25*** ≤0.01	**0.17*** ≤0.01	**0.18*** ≤0.01	1									
Encouragement to innovate by management (five-choice outcome)	*6*	**0.35*** ≤0.01	**0.26*** ≤0.01	**0.21*** ≤0.01	**0.19*** ≤0.01	**0.59*** ≤0.01	1								
Satisfaction with quality of organization (five choice outcome)	*7*	**0.27*** ≤0.01	**0.25*** ≤0.01	**0.22*** ≤0.01	**0.17*** ≤0.01	**0.63*** ≤0.01	**0.53*** ≤0.01	1							
Job satisfaction (five-choice outcome)	*8*	**0.21*** ≤0.01	**0.24*** ≤0.01	**0.15*** ≤0.01	**0.18*** ≤0.01	**0.52*** ≤0.01	**0.44*** ≤0.01	**0.52*** ≤0.01	1						
Citizens' perspective: 'The administration should respond to the needs of the	*9*	**0.31*** ≤0.01	**0.21*** ≤0.01	0.02 0.59	0.01 0.82	**0.37*** ≤0.01	**0.24*** ≤0.01	**0.19*** ≤0.01	**0.23*** ≤0.01	1					
Age, in years	*10*	0.05 0.06	0.02 0.54	**–0.21*** ≤0.01	-0.07 0.03	0.04 0.13	0.06 0.01	0.05 0.06	0.04 0.12	0.04 0.09	1				
Education	*14*	**0.12*** ≤0.01	**0.13*** ≤0.01	**0.12*** ≤0.01	0.02 0.61	0.01 0.77	0.02 0.53	-0.02 0.35	0.01 0.82	0.05 0.07	**–0.09*** ≤0.01	1			
Sex (female=1)	*11*	**–0.08*** ≤0.01	-0.06 0.04	-0.02 0.54	0.08 0.01	0.04 0.12	-0.01 0.64	0.05 0.06	0.05 0.03	-0.01 0.81	-0.01 0.75	–0.13* ≤0.01	1		
Job Position	*13*	**0.1*** ≤0.01	0.05 0.10	0.00 0.97	-0.10 0.00	**0.08*** ≤0.01	**0.1*** ≤0.01	0.00 0.95	0.01 0.57	0.05 0.06	**0.15*** ≤0.01	**0.18*** ≤0.01	-0.08 0.00	1	
Working experience	*12*	**0.08*** ≤0.01	0.04 0.14	-0.08 0.01	-0.04 0.25	-0.02 0.36	0.00 0.98	0.01 0.81	-0.02 0.44	0.04 0.12	**0.59*** ≤0.01	0.04 0.12	0.04 0.10	**0.22*** ≤0.01	1

Note: A bold number accompanied by an asterix (*) indicates a correlation coefficient significant at the 1% level or less.

6. Estimation results

The first set of models are linear regression models for error-correcting and innovative behavior on different combinations of the covariates prosocial motivation, power motivation, and security motivation, encouragement for innovative behavior by management, job satisfaction, customer orientation, gender, age, working experience (tenure), and two indicator variables for agency heads and front-line operators (since almost 70% of respondents are mid-level professionals).

Estimation results from the first model show that innovative and error-correcting behavior is more distinct for public officials with strong prosocial motivation (β=0.12, p=0.002), a higher level of power motivation (β =0.066, p=0.033), more working experience (tenure, β =0.0377, p=0.004), and which experience encouragement for innovative behavior by their superiors (β=0.15, p=0.000). This suggests that experienced male public officials with a high level of prosocial motivation and power motivation and which experience encouragement exhibit a higher level of error-correcting and innovative behavior compared to less experienced public officials that do not perceive or experience encouragement. Job satisfaction, age, and being a front-line official show no significant impact on the response variable. Results from the second model show that security motivation has no significant impact on innovative and error-correcting behavior. Holding a senior position has a positive impact on innovative behavior, as well as the level of satisfaction with the quality of the own organization. The third model is the most parsimonious model. All covariates show a significant impact on the level of innovative and error-correcting behavior. Prosocial motivation, power motivation, empowerment practices, customer orientation, and tenure have a significant positive impact on the level of innovative and error-correcting behavior (Figure 9).

Figure 9: Linear regression results

OLS, imputed variables are marked with a dagger (†)	**Dependent variable: Motivation to innovate and correct errors** (two item scale, Spearman-Brown=0.76)		
	(1)	(2)	(3)
Three types of motivation	b, a coefficient t, a t-statistic	b, a coefficient t, a t-statistic	b, a coefficient t, a t-statistic
Prosocial motivation, seven item scale (Cronbach's alpha=0.72)†	0.12 ** (3.23)	0.17 *** (4.71)	0.14 *** (3.95)
Power motivation, eight-item scale (Cronbach's alpha=0.77)†	0.07 * (2.19)		0.08 ** (2.94)
Security motivation, eight-item scale (Cronbach's alpha=0.77)†		0.03 (1.17)	
Further covariates of interest			
Employee empowerment, two item scale (Spearman-Brown=0.752)	0.09 ** (3.14)		0.18 *** (7.80)
Encouragement to innovate by management (five-choice outcome)	0.15 *** (7.17)		
Satisfaction with quality of organization (five choice outcome)		0.17 *** (8.60)	
Job satisfaction (five-choice outcome)	0.00 (0.02)		
Customer orientation: "The administration should respond to the needs of the citizens" (five-choice outcome)	0.18 *** (7.49)	0.22 *** (9.61)	0.19 *** (7.89)
Age, in years	0.00 (–0.79)	0.00 (–1.11)	
Sex (female=1)	–0.13 *** (-3.49)	-0.12 *** (-3.3)	-0.15 *** (–3.97)
Job Position			
Head (=1)	0.07 * (2.12)	0.12 *** (3.50)	
Front-line (=1)	0.10 (1.37)	0.09 (1.32)	
Working experience (tenure)	0.04 ** (2.92)	0.03 * (2.34)	0.04 *** (3.86)
Constant	1.60 *** (8.76)	1.59 *** (8.81)	1.55 *** (9.15)
Number of observations	1550	1585	1590
Number of imputations		10	

* p<0.05, ** p<0.01, ***p<0.001

p is a significance level

b is a coefficient

t is a t-statistic

Figure 10: Ordered logistic regression results

Ordered logistic regressions, imputed variables are marked with a dagger (†)

	Dependent variable: Motivation to innovate (five choice outcome)						Dependent variable: Motivation to correct errors (five choice outcome)					
	(A1)		(A2)		(A3)		(B1)		(B2)		(B3)	
Three types of motivation	b, a coefficient	t, a t-statistic	b, a coefficient	t, a t-statistic	b, a coefficient	t, a t-statistic	b, a coefficient	t, a t-stati	b, a coefficient	t, a t-stati	b, a coefficient	t, a t-statistic
Prosocial motivation, seven item scale (Cronbach's alpha=0.72)†	0.596 ***	(4.15)	0.734 ***	(5.17)	0.706 ***	(5.08)	0.332 *	(2.44)	0.571 ***	(4.36)	0.425 **	(3.17)
Power motivation, eight-item scale (Cronbach's alpha=0.77)†	0.054	(0.46)			0.118	(1.07)	0.305 **	(2.72)			0.376 ***	(3.52)
Security motivation, eight-item scale (Cronbach's alpha=0.77)†			0.049	(0.47)					0.127	(1.23)		
Further covariates of interest												
Employee empowerment, two item scale (Spearman-Brown=0.752)	0.402 ***	(3.41)			0.815 ***	(8.47)	0.218	(1.84)			0.532 ***	(5.57)
Encouragement to innovate by management (five-choice outcome)	0.583 ***	(6.80)					0.512 ***	(6.05)				
Satisfaction with quality of organization (five choice outcome)			0.767 ***	(9.35)					0.433 ***	(5.46)		
Job satisfaction (five-choice outcome)	0.260 *	(2.38)					-0.002	(–0.01)				
Customer orientation: "The administration should respond to the needs of the citizens" (five-choice outcome)	0.595 ***	(5.99)	0.783 ***	(8.33)	0.627 ***	(6.50)	0.654 ***	(6.75)	0.760 ***	(8.46)	0.671 ***	(7.10)
Age, in years	-0.003	(–0.52)	-0.005	(–0.82)			-0.012	(–1.83)	-0.012 *	(–2.03)		
Sex (female=1)	-0.378 **	(–2.57)	-0.324 *	(–2.26)	-0.392 **	(–2.80)	-0.639 ***	(–4.38)	-0.605 ***	(–4.25)	-0.695 ***	(–4.97)
Job Position												
Head (=1)	0.200	(1.53)	0.342 **	(2.68)			0.413 ***	(3.20)	0.546 ***	(4.33)		
Front-line (=1)	0.291	(1.00)	0.304	(1.10)			0.255	(0.91)	0.273	(1.01)		
Working experience (tenure)	0.150 **	(2.95)	0.126 **	(2.56)	0.151 ***	(3.79)	0.126 *	(2.50)	0.090	(1.83)	0.112 **	(2.81)
cut1	5.525	(7.18)	5.086 ***	(7.08)	4.975 ***	(7.20)	2.314	(3.08)	2.057 ***	(2.81)	2.750 ***	(3.91)
cut2	5.900	(7.75)	5.563 ***	(7.08)	5.418 ***	(7.96)	3.462	(4.87)	3.254 ***	(4.73)	3.910 ***	(5.93)
cut3	8.040	(10.66)	7.606 ***	(10.86)	7.478 ***	(11.11)	5.767	(8.24)	5.498 ***	(8.10)	6.176 ***	(9.53)
cut4	11.674	(14.70)	11.124 ***	(15.03)	10.972 ***	(15.37)	9.264	(12.64)	8.915 ***	(12.55)	9.591 ***	(14.01)
Number of observations	1552		1588		1590		1551		1586		1591	
Number of imputations	10						10					

* p<0.05, ** p<0.01, ***p<0.001

p is a significance level

b is a coefficient

t is a t-statistic

Post-estimation commands within the mi framework vary from standard regression analysis. "Within the MI framework […] there are multiple [M] datasets in which values of imputed predictors vary from one dataset to another." (StataCorp 2013, p. 278) Given the lack of post-estimation commands within the mi framework ordered logistic regressions are provided as robustness checks. The dependent variable in the linear regression model was the motivation to correct errors and to innovate, measured with a two item scale; as robustness check each of the two items is regressed on the sets of covariates described above. The distribution of both dependent variables is skewed to the right; e.g. 88 percent of respondents agree or strongly agree with the statement that they try to come up with new ways of doing things; and 85 per cent of respondents agree or strongly agree with the statement that the try to fix errors in daily working routines. The results are somewhat similar to the results from linear regressions, with one major exemption: power motivation predicts error-correcting behavior, but not innovative behavior. The level of prosocial motivation positively links to the probability of both innovative and error-correcting behavior throughout all models (Figure 10). Standardized formal test of the parallel regression assumption (PRA), including the common brant test are not available within the mi-framework. For this reasons multinomial logistic regressions of the same two dependent variables (motivation to correct errors, a five-choice outcome; and motivation to innovate, a five-choice outcome) on the identical set of covariates are provided as additional robustness checks.

Figure 11 and Figure 12 display the results from multinomial regression analysis. The most frequent value of the dependent variable serves as the base outcome and category of comparison. For both dependent variables the most frequent outcome is four on a five-choice ordinal scale, that is, the average respondent self-reports a rather high level of error-correcting and innovative behavior. Multinomial regression analysis indicates which covariates correlate with very high levels and very low levels of innovative and error-corecting behavior (one, two, and five on the five-choice scale) and neutral responses, respectively. Prosocial motivation has the expected effects; it significantly increases the chance for a very high level of innovative behavior and significantly reduces the likelihood of receiving a neutral response, the effect is highly significant. But prosocial motivation has no significant impact on the degree of error-correcting intention. The results for the effect of perceived encouragement to innovate are also in line with theoretical expectations: perceived encouragement to innovate reduces the likelihood for low levels of innovative behavior and neutral responses; but it increases the chance of strong search for new ways of doing things. The results for customer orientation point to a similar direction. Customer orinetation reduces

the likelihood for resistance to innovative behavior, and increases the likelihood both for receiving a neutral response (N|A) and for very active innovative search acitivities. Employee empowerment significantly increases the chance for very innovative behavior. The results for the variable indicating department heads are mixed. Being a department head simultaneoulsy increases the probability for resistance to innovative search and very innovative activities. Tenure has a significant positive impact on innovative behavior. Power motivation, job satisfaction, age, and gender have no significant impact on the level of innovative behavior. Results for error-correcting behavior differ: prosocial motivation, power motivation and empowerment practices do not have a significant impact on self-reported error-correcting motivation. Encouragement to innovate and customer orientation increase the likelihood for very strong error-correcting behavior (SA|A). Age has a negative impact on detecting and fixing bugs. One potential explanation is that experienced civil servants tend to cope with problems by bypassing rather than fixing them.

Figure 11: Results from multinomial logistic regression: innovative behavior

Dependent variable: 'I try to implement new processes (innovations) into my official activities to improve the efficiency of our organization.' (five-choice outcome)

Multinomial logistic regression, imputed variables are marked with a dagger	Strongly disagree (SD)		Disagree (D)		Neutral		Agree (A)		Strongly agree (SA)	
Variable Description	$ß_{SD\|A}$	t	$ß_{D\|A}$	t	$ß_{N\|A}$	t	$ß_{A\|A}$	t	$ß_{SA\|A}$	t
Prosocial motivation, seven item scale (Cronbach's alpha=0.72)†	-0.059	(-0.11)	0.650	(0.73)	-0.665 ***	(–3.21)			0.566 **	(2.85)
Power motivation, nine-item scale (Cronbach's alpha=0.78)†	-0.232	(-0.46)	-0.479	(-0.79)	0.132	(0.61)			0.109	(0.76)
Employee empowerment, two item scale (Spearman-Brown=0.752)	-0.514	(-1.35)	-0.589	(-1.09)	-0.051	(–0.30)			0.402 **	(2.65)
Encouragement to innovate by management (five-choice outcome)	-0.219	(-0.70)	-1.028 *	(–2.33)	-0.538 ***	(–4.19)			0.411 ***	(3.83)
Job satisfaction (five-choice outcome)	0.257	(0.67)	1.151	(1.84)	-0.200	(–1.19)			0.192	(1.42)
Customer orientation: "The administration should respond to the needs of the citizens" (five-choice outcome)	-0.564 *	(–2.14)	0.397	(0.77)	0.309 *	(2.00)	*category of comparison*		1.166 ***	(8.12)
Age, in years	-0.037	(–0.71)	-0.020	(–0.46)	-0.014	(–1.25)			-0.014	(–1.81)
Sex (female=1)	–0.197	(1.24)	0.773	(–0.90)	0.623	(2.01)			-0.292	(–1.69)
Head of department (yes=1)	1.308 *	(2.48)	-0.661	(–0.60)	-0.270	(-1.06)			0.303 *	(1.99)
Front-line official (yes=1)	-12.118	(-0.02)	-12.738	(–0.01)	0.319	(0.73)			0.620	(1.90)
Working experience (tenure)	-0.122	(–0.54)	-0.013	(–0.04)	-0.088	(-1.04)			0.160 *	(2.51)
Constant	3.084	(0.98)	-4.946	(–1.07)	2.351	(1.90)			-12.985 ***	(–12.63)
Number of observations	1552									

* p<0.05, ** p<0.01, *** p<0.001

p is a significance level

b is a coefficient

t is a t-statistic

Figure 12: Results from multinomial logistic regression: error-correcting behavior

Dependent variable: I am trying to simplify / remove / fix unnecessary and incorrect processes. (From 1 = strongly disagree to 5 = strongly agree.)										
Multinomial logistic regression, imputed variables are marked with a dagger	Strongly disagree (SD)		Disagree (D)		Neutral		Agree (A)		Strongly agree (SA)	
Variable Description	$ß_{SD\|A}$	t	$ß_{D\|A}$	t	$ß_{N\|A}$	t	$ß_{A\|A}$	t	$ß_{SA\|A}$	t
Prosocial motivation, seven item scale (Cronbach's alpha=0.72)†	0.137	(0.14)	0.258	(0.43)	-0.288	(–1.58)			0.320	(1.57)
Power motivation, nine-item scale (Cronbach's alpha=0.78)†	-1.382	(–1.48)	-0.520	(–1.07)	-0.262	(–1.70)			0.215	(1.40)
Employee empowerment, two item scale (Spearman-Brown=0.752)	-1.367 **	(–3.16)	1.215 *	(2.33)	-0.197	(–1.20)			0.082	(0.52)
Encouragement to innovate by management (five-choice outcome)	-0.156	(–0.34)	-1.539 ***	(–5.26)	0.018	(–0.15)			0.599 ***	(5.09)
Job satisfaction (five-choice outcome)	0.242	(0.45)	0.910 *	(1.99)	0.114	(0.71)			0.106	(0.75)
Customer orientation: "The administration should respond to the needs of the citizens" (five-choice outcome)	0.055	(0.16)	-0.660	(–1.88)	0.094	(0.68)	*category of comparison*		1.429 ***	(8.90)
Age, in years	0.008	(0.17)	-0.007	(–0.21)	0.000	(0.04)			-0.018 *	(–2.14)
Sex (female=1)	14.486	(0.01)	-0.505	(–0.74)	0.679	(2.42)			-0.541 **	(–3.06)
Head of department (yes=1)	1.156	(1.50)	-1.057	(–1.31)	-0.551 *	(–2.39)			0.351 *	(2.20)
Front-line official (yes=1)	-13.724	(–0.01)	-15.632	(–0.00)	0.157	(0.40)			0.445	(1.33)
Working experience (tenure)	-0.347	(–1.08)	0.111	(0.44)	-0.139	(–1.89)			0.092	(1.36)
Constant	-10.062	(–0.01)	-3.518	(–1.09)	0.361	(0.35)			-12.238 ***	(–11.57)
Number of observations	1551									

* p<0.05, ** p<0.01, *** p<0.001

p is a significance level

b is a coefficient

t is a t-statistic

7. Discussion

Public administration plays an essential role in everyday life of community members in US and Russia alike. This manuscript started from three real-life examples of innovative practices that carry a potential to improve the well-being of citizens. The objective of this paper was to investigate how innovative and error-correcting behavior of civil servants correlates with different types of motivations and work attitudes, as well as organizational level empowerment practices. To this end paper introduced a behavioral model of innovation in public administration (section 3) from which a set of hypotheses was derived. Empirical results robustly confirm the statement that prosocial motivation, which closely relates to the concept of public service motivation, positively correlates with innovation intention. Hypothesis 1 states that the level of *public service motivation* is positively related to the *innovative and error-correcting behavior.* This hypothesis is robustly confirmed by regression analyses. Hypothesis 2 posits that civil servants exhibiting a *high* level of power motivation are likely to show a *low* level of innovative behavior. Estimation results suggest an opposite effect on error-correcting behavior, but the effect is not robust to a multinomial model specification. Hypothesis 3 claims that a high degree of loss aversion is associated with a low level of innovative behavior. Estimation results indicate innovative and error-correcting behavior does not link to security motivation. In its core essence the findings suggest that particular beliefs and attitudes of civil servants do play a role for their behavioral intentions which are likely to affect their administrative actions (Fishbein & Ajzen 1975). This makes a strong point for a behavioral public administration (BPA). The findings also imply that encouragement has a potential to enhance innovative behavior. Employees receiving signals that change is appreciated (signaling) self-report a higher intention of actually doing so. Innovative activities require ethical civil servants with a notable level of prosocial motivation and customer orientation. While the promotion of ethical values is a rather complex process (e.g. Neshkova and Rosenbaum 2015), contact with beneficiaries is a potential mean to improve the level of customer orientation successfully (Bellé 2015).

Generalizability of the findings is subject to some limitations. The Russian Federation consists of multiform administrative divisions: republics, krays, oblasts, and cities of federal significance, an autonomous oblast and autonomous okrugs; these 85 constituent entities at the regional level heavily vary by size, and socio-economic structure. This limits the

transferability of the empirical results to regions with similar characteristics such as Leningrad oblast.

Survey nonresponse poses a second limitation. Two main issues arise from survey nonresponse. In this paper multiple imputation (MI) technique is used to address the technical dimension of survey nonresponse. MI diagnostics indicate violations of the least square assumptions. Kolmogorov-Smirnov tests for equality of distribution functions indicate significant differences in the distribution of the imputed variables for the two groups observed and imputed. This is a limitation of the subsequent empirical analysis. The author also acknowledges the potential problem of reflexive behavior when measuring innovative and error-correcting behavior, and self-reported levels of various types of motivation. However, desired social response (DSR) is a well-known general problem in surveys also in the US and not a particular problem of the Russian context. Despite these limitations the study contributes to an understanding of an important behavioral aspect of organizational performance.

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