INFLUENCE OF LEADERSHIP STYLE ON EMPLOYEES' INNOVATIVE ACTIVITY

Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z. [*]

Abstract: The aim of this research is to identify leadership styles that stimulate innovation at universities in China and Russia. The interviews were conducted with 116 respondents (managers and teachers), whose answers were ranked based on the Saaty scale. Then, answers were presented in the form of rating tables of leadership actions that promote and impede innovation. The results were analyzed in terms of Likert theory and Hofstede theory, which allowed the authors to identify the most effective leadership style for the managers of Chinese and Russian universities. Results show that the correction of the leader's actions can stimulate innovation, as well as meet the expectations and needs of employees if managers and subordinates assess differently the importance of the work process aspects. An authoritative leadership style will help maintain trust within the team and prevent a significant removal of the leader from the immediate daily work process, which provokes a deepening of the difference in assessments of further innovative management and development.

Key words: leadership styles, innovative activity, innovation, university

Introduction

In the modern world, organizations, enterprises and institutions, operating in the conditions of a global postindustrial economy, deep IT and technological changes and high competition (Kot-Radojewska and Timenko, 2018), pay special attention to innovations, since the level of their competitiveness; efficiency and current activities' effectiveness directly depend on their innovative activity (Lii and Kuo, 2016). The educational system as well actively expands its capabilities by reforming and renovating its structural components, developing and implementing innovative technologies and fundamentally new educational and research methods (Ryabov and Melnikov, 2011; Kesting et al., 2019; Dacko-Pikiewicz, Walancik, 2016; Szczepańska-Woszczyna and Dacko-Pikiewicz, 2007). An organization can operate efficiently with a correctly chosen personnel management style (Chang et al., 2015; Dacko-Pikiewicz, 2019). A manager often chooses personally such a style, while encountering many trials and errors, which provokes a lack

---
[*] **Mariia Zabolotniaia,** Master of pedagogics, PhD student; **Zhichao Cheng,** PhD in management, Professor, university lecturer, Beihang University, Beijing, China; **Zdzisława Dacko-Pikiewicz,** PhD, Professor in management, WSB University, Dąbrowa Górnicza, Poland

✉ corresponding author: cheng97815@vip.163.com

✉ Madya06@mail.ru; zdacko@wsb.edu.pl

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

of understanding on the part of employees, failure to achieve the goals set by the university and the opposite effect of the implemented management tools (Tabor, 2011; Soloukdar et al., 2012; Ślusarczyk, 2017). Universities' activities are closely intertwined with creativity. Thus, there is an increasing need for methodologically determined redirection of creativity for the emergence and development of innovative processes. Leaders can implement the latter. Consequently, the level of innovation activity of the university employees depends directly on the competence of its leaders, their ability to manage the innovation processes of the institution and to stimulate the activation of innovation activities in the team. High-quality innovation management is highly valuable for countries with rapidly developing markets, which makes this area relevant to research. The purpose of the study is to identify leadership styles at universities in Russia and China that contribute to university innovation.

Literature Review

Activities aimed at organizing and implementing the innovation process is called innovative activities. Innovations arise in conditions that are a combination of processes resulting from the internal and external dynamics of an organization (Szczepańska-Woszczyna, 2018). Internal factors include the broadly defined qualities of managers, their management style, organizational culture, company profile, strategy, organizational structure, human resources (HR) (Zdunczyk and Blenkinsopp, 2007; Crossan and Apaydin, 2010; Vaccaro et al., 2012; Koval'ová, 2016) and others.

Thus, the essence of innovation is to use the results of completed scientific research, development of scientific and technological achievements in a particular field to create a new, more advanced product, process or service used in practical activities (Agbim, 2013). In the context of this research, it is necessary to emphasize that innovation activity in a university has specific features and in practice turns out to be closely related to other types of educational activities. The leader or a manager plays the leading role in organizing educational institution's innovation activity. Khan et al. (2012) in their research focused on leadership styles and considered them as predictors of innovation activity. Abwalla (2014) described the principal's leadership styles and teachers' performance in general secondary schools (Khan et al., 2012; Abwalla, 2014). The innovative activity of university professors can be different both in its orientation and in the degree of productivity. In most cases, it has a research orientation, which can vary from partially searching to exploratory research activities. The employees of almost every higher educational institution are involved in innovative activity to some extent, but the level of employees' innovative activity in various educational institutions is not the same (CSTP & WPSTI, 2018).

There are the following competencies of a manager, who comprehensively implements innovative management in his/her laboratory or department (evenly covering all employees and units):

1. Setting goals and objectives of innovation activities to its performers. The correct procedure for setting goals requires the following: defining general and special goals; ensuring understanding of tasks by performers; achieving the willingness of performers to fulfill their tasks; identifying elements that need to be monitored and coordinated; identifying special goals so that the result is as close as possible in terms of its usefulness.

2. Organization of professors' work groups, taking into account their characteristics and scientific activities directions. It is also important that the manager is able to take into account the performers' characteristics in the task's distribution. In this case, it is possible to avoid the situation of setting impossible tasks to the performers.

3. Coordination and maintenance of employees' innovation activities. The need for coordination is significant when the work is clearly divided both horizontally and vertically, especially when working on complex (modular and systemic) innovations.

4. Control of innovative activities. There are the following requirements for control: constancy, objectivity, efficiency and openness. Methods of control may be different depending on the implemented leadership style, but they must meet the criterion of effectiveness.

5. Stimulation of innovation. The system of rewards and punishments that the leader uses to control the group members' activities is especially important. The leader should take into account all circumstances when choosing incentives for staff. Insofar as when using methods of stimulation (whether ineffective or effective), which are not suitable for this team, one should not expect a high level of motivation. On the contrary, this level will constantly decrease, which would cause the decrease in the level of innovation activity.

6. The professors' innovative competence development. One of the most important tasks of a manager is to train personnel and increase their innovative competence. The program of personnel training should be developed basing on the educational technology features analysis and the allocation of a methodological tasks list that professors need to solve independently. Thus, the innovative activity of university professors are closely related to the leader's behavior and managerial activity (Timofeev, 2009).

Methods

Quantitative data were processed using MPRIORITY 1.0 software by the method of the hierarchical analytical process of T. Saaty (2008). Namely, the hierarchy analysis method was used, which includes statistical assessment methods, grouping, construction of ranking matrices, calculation of the Relative Importance Index and comparative analysis. Using MPRIORITY 1.0 for data processing reduces the risk of subjectivity in the formation of rating tables and improves the accuracy of calculations. The empirical base of the research was the data of socioeconomic surveys involving 120 respondents. The respondents were 60

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

professors and 60 managers from the North Caucasus Federal University in Russia and Beihang University in China. The survey was conducted in 2017-2018. For the purposes of the survey, questionnaires were developed. The first questionnaire contained the lists of 20 features of the leader's activities, which promote innovation among subordinates. The second questionnaire included 20 features, which, on the contrary, impede innovation. The lists of features were formed based on Likert's theory and research (Jiang et al., 2019; Kremer et al., 2019; Cook et al., 2019) so that, after ranking the features based on the preferences of the respondents, it was possible to correlate the results with leadership styles according to Likert. Then, based on the latter, to determine a style conducive to innovation. Analyzing the opinions of both managers and subordinates makes it possible to compare how uniform the views on the development of innovative activity are in university teams.

Respondents were asked to rate the list of features using four criteria: not important, somewhat important, important and very important. Based on which matrices were built to compare leadership features, facilitating and inhibiting the innovative activity, within each of the groups of such features. Using the Saaty scale and MPRIORITY 1.0, based on comparative response matrices, indexes of relative importance were calculated within the groups of the said leadership features. The resulting rating table represents a hierarchy of leadership features importance for respondents in terms of innovation. Out of 120 questionnaires distributed among employees, only 116 were fulfilled. Four more questionnaires were disregarded due to improper filling-in. Thus, the sample of the survey comprised 116 university employees, 70 of whom were men (~59%) and 46 were women (~41%). The average age of the employees was 39. The job positions were systematized by two criteria: professors and managers (heads of departments and units of universities). Thus, the sample of the survey contained 59 managers (39 - from Russia, 20 - from China) and 57 academic teachers (33 - Russia, 24 - China), who voluntarily agreed to take part in the study, which also indicates a high level of loyalty and involvement of respondents as university employees.

The functional responsibilities of employees and managers in the educational field are strictly regulated, including by law. That is the labor standards of respondents in the same category are the same regardless of gender and age. Thus, there is no need to identify additional factors of motivation due to gender. The authors assumed that there would be difference in answers due to the level of qualification of respondents within the group. However, the authors could only check the availability of certificates and diplomas, but they did not have the opportunity to assess qualitatively and quantitatively the level of de facto qualification of respondents. Therefore, this intragroup factor was not taken into account. The methodology used is based on data processing using software and mathematical comparison matrices. Thus, the authors believe that this approach helped to get the most valid and reliable data about the leadership styles and behavior patterns of the leaders. This approach also made it possible to trace (as objectively and accurately

2019
Vol.20 No.1

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

as possible) the gaps and differences between the leaders' self-representations about their own leadership styles and employees' perception of such styles.

Results

Survey in the North Caucasus Federal University in Russia

A survey of professors was conducted about the features of a leader's activity that contribute to university innovation. The results of a survey represent a rating from higher to lower by the criterion of the relative importance index (RII) based on the responses (Table 1).

Table 1: Leader's actions that facilitate university innovation, according to professors from Russia

Leader's actions	RII	Rank
Systematic financial remuneration for employee success	0.94	1
General tasks are solved exclusively at the top, private - at the bottom	0.91	2
A leader must have authority similar to that of the father in a patriarchal family	0.90	3
Use of vertical information flows	0.89	4
Conflict avoidance, emphasis on good personal relationships between employees	0.86	5
Creating a favorable psychological climate in the workplace	0.84	6
Formation of working groups for achieving specific goals	0.83	7
Tasks come down ready-made from top to bottom	0.80	8
The leader is clearly distinguished by special knowledge, skills and human qualities	0.78	9
Autonomy of employees in their creative process	0.71	10
Making adjustments during the implementation of the plan	0.67	11
The leader does a lot of work personally and subordinates are expected to do the same	0.65	12
Maintaining organizational flexibility	0.64	13
Introducing advanced technology into everyday work	0.60	14
Providing opportunities for self-realization of employees	0.58	15
Generation of horizontal information flows	0.57	16
Promoting public recognition of the university	0.56	17
Support for self-planning	0.55	18
Permanent moral encouragement of employees	0.54	19
Prioritization of people's interests over tasks	0.53	20

As can be seen from Table 1, Russian professors believe that the leader's actions that will contribute to innovation at the university include a systematic financial remuneration, delegating only private issues down. Another leader's action (that will contribute to innovation) is the "fatherly" position of the leader, who generates information flows exclusively vertically (head-subordinate). At the same time, according to Russian professors, the least influence on innovation is provided by moral encouragement, self-planning, and prioritization of people's interests over

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

tasks. Table 2 is a rating (based on an index of relative importance) of leader's actions conducive to innovation, according to university managers.

Table 2: Leader's actions that facilitate university innovation, according to Russian university managers

Leader's actions	RII	Rank
Creating a favorable psychological climate in the workplace	0.93	1
Tasks come down ready-made from top to bottom	0.89	2
Formation of working groups for achieving specific goals	0.86	3
General tasks are solved exclusively at the top, private - at the bottom	0.85	4
Conflict avoidance, emphasis on good personal relationships between employees	0.84	5
A leader must have authority similar to that of the father in a patriarchal family	0.82	6
The leader does a lot of work personally and subordinates are expected to do the same	0.80	7
Generation of horizontal information flows	0.79	8
Use of vertical information flows	0.72	9
The leader is clearly distinguished by special knowledge, skills and human qualities	0.69	10
Promoting public recognition of the university	0.67	11
Making adjustments during the implementation of the plan	0.63	12
Support for self-planning	0.62	13
Providing opportunities for self-realization of employees	0.60	14
Prioritization of people's interests over tasks	0.56	15
Autonomy of employees in their creative process	0.54	16
Maintaining organizational flexibility	0.53	17
Permanent moral encouragement of employees	0.52	18
Introducing advanced technology into everyday work	0.51	19
Systematic monetary rewards for employee success	0.50	20

The managers of Russian universities prefer the formation of a favorable psychological climate and the creation of ready-made tasks as the most effective actions of the leader for the development of innovative activity. According to the respondents, monetary and moral remuneration and the introduction of advanced technologies are of the least relative importance. The differences in rankings of leadership actions conducive to innovation, according to Russian professors and managers are shown in Table 3.

Table 3: The difference in assessments of professors and managers from Table 1 and Table 2

Leader's actions	Professors		Managers		Rank Difference
	RII	Rank	RII	Rank	
A leader must have authority similar to that of the father in a patriarchal family	0.9	3	0.82	6	3

The leader does a lot of work personally and subordinates are expected to do the same	0.65	12	0.8	7	5
Autonomy of employees in their creative process	0.71	10	0.54	16	6
Conflict avoidance, emphasis on good personal relationships between employees	0.86	5	0.84	5	-
Creating a favorable psychological climate in the workplace	0.84	6	0.93	1	5
Formation of working groups for achieving specific goals	0.83	7	0.86	3	4
General tasks are solved exclusively at the top, private - at the bottom	0.91	2	0.85	4	2
Generation of horizontal information flows	0.57	16	0.79	8	8
Introducing advanced technology into everyday work	0.6	14	0.51	19	5
Maintaining organizational flexibility	0.64	13	0.53	17	4
Making adjustments during the implementation of the plan	0.67	11	0.63	12	1
Permanent moral encouragement of employees	0.54	19	0.52	18	1
Prioritization of people's interests over tasks	0.53	20	0.56	15	5
Promoting public recognition of the university	0.56	17	0.67	11	6
Providing opportunities for self-realization of employees	0.58	15	0.6	14	1
Support for self-planning	0.55	18	0.62	13	5
Systematic monetary remunerations for employee success	0.94	1	0.5	20	19
Tasks come down ready-made from top to bottom	0.8	8	0.89	2	6
The leader is clearly distinguished by special knowledge, skills and human qualities	0.78	9	0.69	10	1
Use of vertical information flows	0.89	4	0.72	9	5

In Table 3, there is a difference in the assessments of managers and subordinates on the same issue. Moreover, this difference in the assessment of more than 10 points (50% of the rating) is observed only on one point - monetary remuneration.

Thus, managers generally understand what actions can stimulate their subordinates to innovative activity. Although managers underestimate the influence of monetary remuneration, which is extremely important (No. 1 in rating with a relative importance of 0.94).

This may be because at the university, managers do not have access to information about the income of subordinates and cannot adjust the monetary remuneration of professors. As the latter is not included in the area of their functional responsibility.

Table 4 presents the actions of a leader impeding innovation. According to professors, the following are the most impeding actions. Namely, the frequent changes in the organizational role of employees (their responsibilities and functional roles), the need to transform existing professional skills and information

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

deficit. At the same time, the least negative impact is exerted by ignoring patent laws, rigidity of planning and focusing on current goals.

Table 4: Leader's actions that impede university innovation, according to professors from Russia

Leader's actions	RII	Rank
Frequent changes in the organizational role of employees (their functional areas of responsibility)	0.94	1
Reluctance to change existing professional skills	0.92	2
Uncertainty in decision making due to lack of information, pessimistic assessment of prospects	0.91	3
The decision-making process is dispersed across all levels, although integrated	0.89	4
A leader admits the possibility of creating undesirable conditions for employees, for example, downgrades for the project's sake	0.86	5
Moral encouragement from a leader is extremely rare	0.85	6
Antipathy to change at the university	0.84	7
Decisions descend from top to bottom, but are made within strictly defined frames	0.81	8
Centralization of resource allocation	0.79	9
Motivation is implemented by setting high standards and expecting self-organization from employees	0.78	10
Monetary rewards are unsystematic	0.75	11
Lack of competencies in the management of innovative projects' financing	0.72	12
The leader forms closely cohesive working groups	0.71	13
The limited inclusion of employees in the decision-making process	0.70	14
The leader is a "workaholic" who spares neither him/herself nor others	0.69	15
Orientation to prevailing work models	0.63	16
Rigidity in planning	0.62	17
Ignoring patent law	0.58	18
Leader - the oldest and most experienced person in the team	0.56	19
Prevalence of current goals	0.54	20

Managers from Russian universities believe (Table 5) that innovation is mostly hindered by the lack of information, motivation through setting high standards and dispersing the decision-making process.

Table 5: Leader's actions that impede university innovation, according to Russian managers

Leader's actions	RII	Rank
Uncertainty in decision making due to lack of information, pessimistic assessment of prospects	0.92	1
Motivation is implemented by setting high standards and expecting self-organization from employees	0.90	2
The decision-making process is dispersed across all levels, although integrated	0.89	3
Lack of competencies in the management of financing innovative projects	0.86	4
Frequent changes in the organizational status of employees (their functional areas of responsibility)	0.85	5
Moral encouragement from a leader is extremely rare	0.84	6

**2019
Vol.20 No.1**

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

Prevalence of current goals	0.82	7
Orientation to prevailing work models	0.79	8
Reluctance to change existing professional skills	0.77	9
The limited inclusion of employees in the decision-making process	0.74	10
Antipathy to change at the university	0.73	11
Centralization of resource allocation	0.69	12
Decisions descend from top to bottom, but are made within strictly defined frames	0.67	13
The leader admits the possibility of creating undesirable conditions for employees, for example, downgrades for the project's sake	0.66	14
Leader - the oldest and most experienced person in the team	0.61	15
The leader forms closely cohesive working groups	0.60	16
A leader is a "workaholic" who spares neither him/herself nor others	0.57	17
Ignoring patent law	0.56	18
Rigidity in planning	0.54	19
Monetary rewards are unsystematic	0.53	20

At the same time, the rigidity of planning, ignoring patent laws and unsystematic monetary remuneration, according to managers, have the least negative impact on innovative development. Unsystematic monetary remuneration according to the index of relative importance took low positions in the ratings of both conducive to innovation actions (Table 2) and impeding ones (Table 4). The said may indicate that managers from Russian universities do not consider the systematic monetary remuneration to be a factor affecting the innovative process. They possibly refer it to the less important, basic factors. When comparing assessments (Table 6) of managers and professors about actions that impede innovation, the following was found.

**Table 6: The difference in assessments of professors and managers from Table 4
and Table 5**

Leader's actions	Professors		Managers		Rank Difference
	RII	Rank	RII	Rank	
A leader is a "workaholic" who spares neither him/herself nor others	0.84	7	0.57	17	10
Antipathy to change at the university	0.79	9	0.73	11	2
Centralization of resource allocation	0.81	8	0.69	12	4
Decisions descend from top to bottom, but are made within strictly defined frames	0.94	1	0.67	13	12
Frequent changes in the organizational status of employees (their functional areas of responsibility)	0.58	18	0.85	5	13
Ignoring patent law	0.72	12	0.56	18	6
Lack of competencies in the management of financing innovative projects	0.56	19	0.86	4	15
Leader - the oldest and most experienced person in the team	0.75	11	0.61	15	4
Monetary rewards are unsystematic	0.85	6	0.53	20	14

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

Moral encouragement from a leader is extremely rare	0.78	10	0.84	6	4
Motivation is implemented by setting high standards and expecting self-organization from employees	0.63	16	0.9	2	14
Orientation to prevailing work models	0.54	20	0.79	8	12
Prevalence of current goals	0.92	2	0.82	7	5
Reluctance to change existing professional skills	0.62	17	0.77	9	8
Rigidity in planning	0.89	4	0.54	19	15
The decision-making process is dispersed across all levels, although integrated	0.71	13	0.89	3	10
The leader admits the possibility of creating undesirable conditions for employees, for example, downgrades for the project's sake	0.69	15	0.66	14	1
The leader forms closely cohesive working groups	0.7	14	0.6	16	4
The limited inclusion of employees in the decision-making process	0.91	3	0.74	10	17
Uncertainty in decision making due to lack of information, pessimistic assessment of prospects	0.86	5	0.92	1	4

The assessment between respondents differs by more than 10 rating points (more than 50%) in 9 out of 20 leader's actions. Thus, the authors assume that managers do not know exactly what impedes innovative activities among their subordinates. This state of affairs may affect the ineffectiveness of innovative management tools introduced by managers, as they differ from the expectations and needs of professors (subordinates).

Exploitative authoritative and benevolent authoritative styles are the closest to the respondents and the most effective leadership styles according to Likert for the development of innovative activity in Russian universities. Since there is a significant gap in the rating hierarchies, a tougher leadership style - exploitative authoritative - will only deepen professors' dissatisfaction. Primarily regarding the systematic monetary reward, on which the views of managers and subordinates were the most inconsistent.

Thus, the leadership style of a supportive autocracy will have the greatest positive effect on university innovation. As it will allow maintaining the "paternal" position of a leader with a nascent trust in subordinates and their creative products. Thereby minimizing the existing lag in assessments of innovative development of adepartment or unit.

Survey in the Beihang University in China

Table 7 presents the results of a survey of professors about the leader's actions contributing to the innovation process.

Table 7: Leader's actions facilitating university innovation, according to professors from China

Leader's actions	RII	Rank
Permanent moral encouragement of employees	0.96	1
Providing opportunities for self-realization of employees	0.94	2
Generation of horizontal information flows	0.93	3
Making adjustments during the implementation of the plan	0.89	4
Systematic monetary rewards for employee success	0.86	5
Formation of working groups for achieving specific goals	0.84	6
Support for self-planning	0.83	7
A leader is clearly distinguished by special knowledge, skills and human qualities	0.81	8
A lot of work is done personally by the leader and subordinates are expected to do the same	0.76	9
The leader must have authority similar to that of the father in a patriarchal family	0.73	10
Prioritization of people's interests over tasks	0.67	11
Introducing advanced technology into everyday work	0.65	12
Creating a favorable psychological climate in the workplace	0.64	13
Use of vertical information flows	0.61	14
Maintaining organizational flexibility	0.59	15
General tasks are solved exclusively at the top, private - at the bottom	0.57	16
Promoting public recognition of the university	0.56	17
Autonomy of employees in their creative process	0.55	18
Conflict avoidance, emphasis on good personal relationships between employees	0.54	19
Tasks come down ready-made from top to bottom	0.53	20

For Chinese professors, the leader's actions which are the most conducive to innovation are constant moral encouragement, support for employees' self-realization and the creation of horizontal flows of information. While delegated tasks from top to bottom, conflict avoidance, and employee autonomy in the creative process have the least positive effect.

Table 8 presents a rating of the leader's actions that promote innovation at the university, according to the managers from China. Where it is seen that the most positively influential actions are the creation of adjustments in the implementation of the plan, support for self-planning and horizontal information flows. While the prioritization of people over tasks, support for the self-realization of workers in the workplace and the autonomy of employees in the creative process is among the least positive.

Table 8: Leader's actions facilitating university innovation, according to Chinese managers

Leader's actions	RII	Rank
Making adjustments during the implementation of the plan	0.93	1
Support for self-planning	0.89	2

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

Generation of horizontal information flows	0.88	3
Maintaining organizational flexibility	0.85	4
Promoting public recognition of the university	0.84	5
Formation of working groups for achieving specific goals	0.83	6
Tasks come down ready-made from top to bottom	0.81	7
The leader is clearly distinguished by special knowledge, skills and human qualities	0.79	8
A lot of work is done personally by the leader and subordinates are expected to do the same	0.70	9
A leader must have authority similar to that of the father in a patriarchal family	0.69	10
Conflict avoidance, emphasis on good personal relationships between employees	0.65	11
Introducing advanced technology into everyday work	0.63	12
Creating a favorable psychological climate in the workplace	0.62	13
Use of vertical information flows	0.61	14
Permanent moral encouragement of employees	0.56	15
General tasks are solved exclusively at the top, private - at the bottom	0.54	16
Systematic monetary rewards for employee success	0.53	17
Autonomy of employees in their creative process	0.52	18
Prioritization of people's interests over tasks	0.51	19
Providing opportunities for self-realization of employees	0.50	20

The differences in rankings of leadership actions facilitating innovation, according to Chinese professors and managers are shown in Table 9.

Table 9: The difference in assessments of professors and managers from Table 7 and Table 8

Leader's actions	Professors		Managers		Rank Difference
	RII	Rank	RII	Rank	
A leader must have authority similar to that of the father in a patriarchal family	0.73	10	0.69	10	-
A lot of work is done personally by the leader and subordinates are expected to do the same	0.76	9	0.7	9	-
Autonomy of employees in their creative process	0.55	18	0.52	18	-
Conflict avoidance, emphasis on good personal relationships between employees	0.54	19	0.65	11	8
Creating a favorable psychological climate in the workplace	0.64	13	0.62	13	-
Formation of working groups for achieving specific goals	0.84	6	0.83	6	-
General tasks are solved exclusively at the top, private - at the bottom	0.57	16	0.54	16	-
Generation of horizontal information flows	0.93	3	0.88	3	-
Introducing advanced technology into everyday work	0.65	12	0.63	12	-
Maintaining organizational flexibility	0.59	15	0.85	4	11
Making adjustments during the implementation of	0.89	4	0.93	1	3

the plan					
Permanent moral encouragement of employees	0.96	1	0.56	15	14
Prioritization of people's interests over tasks	0.67	11	0.51	19	8
Promoting public recognition of the university	0.56	17	0.84	5	12
Providing opportunities for self-realization of employees	0.94	2	0.5	20	18
Support for self-planning	0.83	7	0.89	2	5
Systematic monetary rewards for employee success	0.86	5	0.53	17	12
Tasks come down ready-made from top to bottom	0.53	20	0.81	7	13
The leader is clearly distinguished by special knowledge, skills and human qualities	0.81	8	0.79	8	-
Use of vertical information flows	0.61	14	0.61	14	-

As can be seen from Table 9, 10 out of 20 leader's actions conducive to innovation coincide in the assessments of managers and professors. This indicates that managers and subordinates have a similar strategic vision of the innovation process development. At the same time, there is a significant difference (more than 10 rating positions) in certain leader's actions that relate to daily work. Such a distribution of assessments may indicate that the managers interviewed are not just invited managers, who are not acknowledged of this university's state of affairs. On the contrary, they have worked in the relevant university's departments previously (before being promoted to the manager positions). That is, managers understand the problems and expectations of professors in practice. However, the significant difference in assessments for certain "operational" tasks emphasizes the difference in the vision of daily work on different organizational levels.

According to table 10, the most negative actions for innovation are a rare moral encouragement from the manager, rigidity of planning and frequent changes in the functional roles of employees.

Table 10: Leader's actions hindering university innovation, according to Chinese professors

Leader's actions	RII	Rank
Moral encouragement from a leader is extremely rare	0.94	1
Frequent changes in the organizational status of employees (their functional areas of responsibility)	0.93	2
Rigidity in planning	0.90	3
The decision-making process is dispersed across all levels, although integrated	0.89	4
Monetary rewards are unsystematic	0.86	5
A leader is a "workaholic" who spares neither him/herself nor others	0.85	6
Prevalence of current goals	0.84	7
Orientation to prevailing work models	0.82	8
Reluctance to change existing professional skills	0.79	9
The leader admits the possibility of creating undesirable conditions for employees, for example, downgrades for the project's sake	0.76	10
Antipathy to change at the university	0.74	11

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

Motivation is implemented by setting high standards and expecting self-organization from employees	0.73	12
Decisions descend from top to bottom, but are made within strictly defined frames	0.72	13
Leader - the oldest and most experienced person in the team	0.70	14
The leader forms closely cohesive working groups	0.65	15
The limited inclusion of employees in the decision-making process	0.59	16
Ignoring patent law	0.58	17
Uncertainty in decision making due to lack of information, pessimistic assessment of prospects	0.57	18
Lack of competencies in the management of financing innovative projects	0.56	19
Centralization of resource allocation	0.55	20

The least negative impact on the innovation process at the university, according to Chinese professors, is exerted by centralization in the distribution of resources, a lack of competencies in managing the financing of innovative projects, and a lack of information when making decisions.

The managers of Chinese universities believe that orientation to current goals, frequent changes in the functional roles of employees and rejection of changes have the greatest negative impact on the innovation process. The lack of information when making decisions, centralization of resources, positioning the leader as a "workaholic", who spares neither him/herself nor the employees, have the least negative impact (Table 11).

Table 11: Leader's actions that impede university innovation, according to Chinese managers

Leader's actions	RII	Rank
Prevalence of current goals	0.94	1
Frequent changes in the organizational status of employees (their functional areas of responsibility)	0.91	2
Antipathy to change at the university	0.89	3
The decision-making process is dispersed across all levels, although integrated	0.88	4
The leader admits the possibility of creating undesirable conditions for employees, for example, downgrades for the project's sake	0.86	5
The limited inclusion of employees in the decision-making process	0.84	6
Lack of competencies in the management of financing innovative projects	0.83	7
Monetary rewards are unsystematic	0.79	8
Reluctance to change existing professional skills	0.76	9
Moral encouragement from a leader is extremely rare	0.74	10
Rigidity in planning	0.72	11
Motivation is implemented by setting high standards and expecting self-organization from employees	0.68	12
Decisions descend from top to bottom, but are made within strictly defined frames	0.67	13
Leader - the oldest and most experienced person in the team	0.66	14
Ignoring patent law	0.62	15
Orientation to prevailing work models	0.58	16

The leader forms closely cohesive working groups	0.57	17
Uncertainty in decision making due to lack of information, pessimistic assessment of prospects	0.56	18
A leader is a "workaholic" who spares neither him/herself nor others	0.54	19
Centralization of resource allocation	0.53	20

As we can see, on the whole, the maximum qualitative ratings are the same for managers and professors from China. For other values, the difference in ratings is insignificant and only by two features exceeds 10 rating units (Table 12). The said confirms the hypothesis put forward above that leaders in this sample of respondents are likely to have a career path from this team and understand what stimulates employees of this particular university and what is not, thereby more accurately satisfying their needs and expectations.

Table 12: The difference in assessments of professors and managers from table 4 and table 5

Leader's actions	Professors		Managers		Rank Difference
	RII	Rank	RII	Rank	
A leader is a "workaholic" who spares neither him/herself nor others	0.85	6	0.54	19	13
Antipathy to change at the university	0.74	11	0.89	3	8
Centralization of resource allocation	0.55	20	0.53	20	-
Decisions descend from top to bottom, but are made within strictly defined frames	0.72	13	0.67	13	-
Frequent changes in the organizational status of employees (their functional areas of responsibility)	0.93	2	0.91	2	-
Ignoring patent law	0.58	17	0.62	15	2
Lack of competencies in the management of financing innovative projects	0.56	19	0.83	7	12
Leader - the oldest and most experienced person in the team	0.7	14	0.66	14	-
Monetary rewards are unsystematic	0.86	5	0.79	8	3
Moral encouragement from a leader is extremely rare	0.94	1	0.74	10	9
Motivation is implemented by setting high standards and expecting self-organization from employees	0.73	12	0.68	12	-
Orientation to prevailing work models	0.82	8	0.58	16	8
Prevalence of current goals	0.84	7	0.94	1	6
Reluctance to change existing professional skills	0.79	9	0.76	9	-
Rigidity in planning	0.9	3	0.72	11	8
The decision-making process is dispersed across all levels, although integrated	0.89	4	0.88	4	-
The leader admits the possibility of creating undesirable conditions for employees, for example, downgrades for the project's sake	0.76	10	0.86	5	5

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

The leader forms closely cohesive working groups	0,65	15	0.57	17	4
The limited inclusion of employees in the decision-making process	0,59	16	0.84	6	17
Uncertainty in decision making due to lack of information, pessimistic assessment of prospects	0,57	18	0.56	18	2

Based on the answers of the respondents, it can be stated that the benevolent authoritative model and consultative model can be considered as leadership styles according to Likert, which are close to respondents and can stimulate the development of innovative activity in Chinese universities. Professors are loyal to centralization of resources and decision-making (explicit autocracy features). Professors also do not attribute the lack of information in decision-making to those aspects that impede innovation (which is not peculiar for consultative model). Therefore, benevolent authoritative leadership style will provide the greatest positive impact on the development of university innovation according to the survey. An authoritative leadership style will help maintain trust within the team and prevent a significant removal of the leader from the immediate daily work process, which provokes a deepening of the difference in assessments of further innovative development.

Discussion

There are several basic theories for determining leadership style of educational organisations management (Taylor, Levin, Likert), as well as derived styles based on Herzberg and McGregor motivation theories. In the course of the study, the authors chose Likert's theory as the least conservative and most easily adaptable to real leadership styles, regardless of the nationality of the respondents. Taylor's theory and the theory of "X" and "Y" of McGregor's motivation factors, in the author's opinion, are not applicable in the framework of real universities, similar to Levin's theory. Since there is no methodology for unambiguous classification of factors into a category where the classification process is also dependent on respondents' nationality (Hairullina and Gasilov, 2012).

The benevolent authoritative style for both groups of respondents from Russia and China was determined to be the most effective in terms of innovative activity management. This fact can largely be explained by the proximity of cultures. Drawing on Hofstede's Theory (Hofstede, 2018) about cultural dimensions, one can see close assessments of organizational culture in Russia and China. 3 out of 5 cultural criteria put forward by Hofstede coincide completely and 2 differ. In Russia and China, the same dominance of feminine values (non-separation of social roles and responsibilities between men and women). There is as well a pronounced craving for collectivism (well-being and maintaining a peaceful environment within the team is extremely important) and a high level of power distance (uneven distribution of power). The difference in cultural factors influencing organizational cultures in China and Russia lies in temporal orientation

and acceptance of uncertainty. Chinese teams are focused on long-term planning and strategic goals, while Russian ones are focused on current goals. Chinese teams are neutral in the appearance of unclear situations, while Russian ones strive to establish specific rules based on traditions and customs. Both groups of respondents prefer collective values; do not feel the need to fight for power. Respondents from China consider current-oriented actions as destructive regarding innovations. Chinese respondents are also neutral concerning information deficit in decision-making, which is in contrast to Russian respondents (tables 1, 2, 4, 5, 7, 8, 10, 11). Thus, the results obtained during the study are fully consistent with Hofstede's estimates, thereby confirming their representativeness.

Conclusions

According to Likert's theory, benevolent authoritative is the most effective leadership style for 2 groups of respondents from China and Russia. In which the leader takes a "paternal" position, gives tasks from top to bottom, while there is some trust between employees and managers, and motivation is manifested in systematic rewards. Thus, the study proves that the correction of the leader's actions can stimulate innovation, as well as meet the expectations and needs of employees if managers and subordinates assess differently the importance of the work process aspects. The findings of this research may have significance for the enhancement of Russian and Chinese universities' managers' leadership style for the effective innovation process. Specifically the result of this research has the following importance for the university principals, deans, professors, and others. First, it may help the managers of educational institutions to expand and enrich their representations about leadership styles, which might be motivating to make the professors more effective. Second, the research creates the possibility of improving the quality of employees' innovation activity by developing the leadership style of the managers in educational institutions. Third, it may explain the impact of specific leader's actions on professors' level of innovative activity, which may be significant for decision-makers.

References

Abwalla, J. (2014). *The Principals Leadership Styles and Teachers Performance in Secondary Schools of Gambella Regional States*. An Unpublished thesis submitted to the Department of Educational Planning and Management, Institute of Education and Professional Development Studies, Jimma University, Ethiopia.

Agbim, K.C. (2013). The Impact of Organizational Structure and Leadership Styles on Innovation, 63.

Arad, S., Hanson, M.A., Schneider, R.J. (1997). A Framework for the Study of Relationships between Organizational Characteristics and Organizational Innovation. *The Journal of Creative Behavior*, *31(1),* 42-58.

Chang, J., Bai, X., Li, J.J. (2015). The influence of leadership on product and process innovations in China: The contingent role of knowledge acquisition capability. *Industrial Marketing Management*, *50,* 18-29.

POLISH JOURNAL OF MANAGEMENT STUDIES
Zabolotniaia M., Cheng Z., Dacko-Pikiewicz Z.

2019
Vol.20 No.1

Cook, A.S., Zill, A., Meyer, B. (2019). Observing leadership as behavior in teams and herds–An ethological approach to share leadership research. *The Leadership Quarterly*.

Crossan, M.M., Apaydin, M. (2010). A Multidimensional Framework of Organizational Innovation: A Systematic Review of the Literature. *Journal of Management Studies*, *47(6),* 1154-1191.

CSTP & WPSTI (2018). Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data. https://www.oecd-ilibrary.org/science-and-technology/oslo-manual_9789264013100-en; Access on: 10.06.2019.

Dacko-Pikiewicz, Z., Walancik, M. (2016). The economic or social dimension of lifelong learning, *Forum Scientiae Oeconomia*, *4(2),* 13-25.

Dacko-Pikiewicz, Z. (2019). The selected aspects of strategic management in the city divided by the border in the context of the development of the cross-border market of cultural services. *Polish Journal of Management Studies*, 19(1), 130-144.

Hairullina, L.I., Gasilov, V.S. (2012). Labor protection culture as an element of enterprise management. *Fundamental Researches*, *11,* 665-669.

Hofstede, G. (2018). Lokales Denken, globales Handeln: Interkuturelle Zusammenarbeit und globales Management, Beck, 576.

Jiang, W., Wang, L., Chu, Z., Zheng, C. (2019). Does leader turnover intention hinder team innovation performance? The roles of leader self-sacrificial behavior and empathic concern. *Journal of Business Research*, *104,* 261-270.

Kesting, P., Ulhøi, J.P., Song, L.J., Niu, H. (2015). The impact of leadership styles on innovation-a review. *Journal of Innovation Management*, *3(4),* 22-41.

Khan, M.J., Aslam, N., Riaz, M.N. (2012). Leadership Styles as Predictors of Innovative Work Behavior. *Pakistan Journal of Social and Clinical Psychology*, *10(1),* 17-22.

Kot-Radojewska, M., Timenko, I.V. (2018). Employee loyalty to the organization in the context of the form of employment. *Oeconomia Copernicana*, *9(3),* 511–527.

Koval'ová, M. (2016). People in the Process of Innovation and as the Factor Increasing Business Performance. *Forum Scientiae Oeconomia*, *4(3),* 15-26.

Kremer, H., Villamor, I., Aguinis, H. (2019). Innovation leadership: Best-practice recommendations for promoting employee creativity, voice, and knowledge sharing. *Business Horizons*, *62(1),* 65-74.

Lii, P., Kuo, F.I. (2016). Innovation-oriented supply chain integration for combined competitiveness and firm performance. *International Journal of Production Economics, 174,* 142-155.

Ryabov, I.V., Melnikov, O.N. (2011). Model of comparative assessment of innovative activity in enterprises. *Economy, Business and Law*, *1,* 8-16.

Saaty, T.L. (2008). Decision making with the analytic hierarchy process. *International Journal of Services Sciences*, *1(1),* 83-98.

Ślusarczyk, B. (2017). Prospects for the shared services centers development in Poland in the context of human resources availability. *Polish Journal of Management Studies*, *15(1),* 218-231.

Soloukdar, A., Bahiraei, S., Mahmoudi, S.M., Matin, H.Z. (2012). Devising Academic Principals' Competencies Model by Concept Mapping Method. *Journal of Basic and Applied Scientific Research*, *2(3),* 2773–2781.

Szczepańska-Woszczyna, K. (2018). Strategy, Corporate Culture, Structure and Operational Processes as the Context for the Innovativeness of an Organization, *Foundations of Management, 10,* 33-44.

Szczepańska-Woszczyna, K., Dacko-Pikiewicz, D. (2007). *Edukacja wobec rynku pracy i integracji europejskiej.* Wyższa Szkoła Biznesu w Dąbrowie Górniczej, Dąbrowa Górnicza.

Tabor, J. (2011). Behaviors of Small- and Medium-Sized Enterprises in the Face of Employee Entrepreneurship. [In:] Determinants of Entrepreneurship Development in SME Sector Companies. (Eds.) Lachiewicz, S., Szymanska, K., Kurowska, M. *Techn. Univ. Lodz. Press.*, 292-311.

Timofeev, S.P. (2009). Improvement of the quality of innovative activity of the school through the development of the style of leadership of the teaching staff. *Integration*, *200.*

Vaccaro, I.G., Jansen, J.J., Van Den Bosch, F.A., Volberda, H.W. (2012). Management Innovation and Leadership: The Moderating Role of Organizational Size. *Journal of Management Studies*, *49(1),* 28-51.

Zdunczyk, K., Blenkinsopp, J. (2007). Do Organisational Factors Support Creativity and Innovation in Polish Firms? *European Journal of Innovation Management*, *10(1),* 25-40.

WPŁYW STYLÓW PRZEWODZENIA NA AKTYWNOŚĆ INNOWACYJNĄ PRACOWNIKÓW

Streszczenie: Celem tych badań jest identyfikacja stylów przywództwa stymulujących innowacje na uniwersytetach w Chinach i Rosji. Wywiady przeprowadzono ze 116 respondentami (menedżerami i nauczycielami), których odpowiedzi uszeregowano na podstawie skali Saaty. Następnie przedstawiono odpowiedzi w postaci tabel ratingowych działań przywódczych, które promują i hamują innowacje. Wyniki przeanalizowano pod kątem teorii Likerta i teorii Hofstede, co pozwoliło autorom zidentyfikować najbardziej efektywny styl przywództwa dla menedżerów uniwersytetów chińskich i rosyjskich. Wyniki pokazują, że korekta działań lidera może stymulować innowacje, a także spełniać oczekiwania i potrzeby pracowników, jeśli kierownicy i podwładni inaczej oceniają znaczenie aspektów procesu pracy. Autorytatywny styl przywództwa pomoże utrzymać zaufanie w zespole i zapobiegnie znacznemu usunięciu lidera z codziennego codziennego procesu pracy, co powoduje pogłębienie różnic w ocenach dalszego innowacyjnego zarządzania i rozwoju.

Słowa kluczowe: style przywództwa, działalność innowacyjna, innowacja, uniwersytet

欧洲地区的项目管理和资金

摘要：本研究的目的是确定能够激发中国和俄罗斯大学创新的领导风格。访谈是针对116位受访者(经理和老师)进行的，他们的回答根据Saaty量表进行排名。然后，以促进和阻碍创新的领导行为评分表的形式给出答案。对结果进行了李克特理论和霍夫斯泰德理论的分析，这使作者能够确定中俄大学管理者最有效的领导风格。结果表明，如果管理者和下属对工作流程各方面的重要性进行不同的评估，则纠正领导者的行为可以激发创新，并满足员工的期望和需求。权威的领导风格将有助于保持团队内部的信任，并防止领导者直接离开日常工作流程，这会加剧对进一步创新管理和开发的评估差异。

关键词：领导风格，创新活动，创新，大学