

PNP 2021
Personality in Norm and in Pathology**FARMER'S PERSONALITY IN THE FACE OF MODERN
THREATS AND CHALLENGES**

Ekaterina Abilova (a), Nikolay Kokanov (b)*, Tatiana Lushnikova (c), Marina Bardina (d)

*Corresponding author

(a) Chelyabinsk State University, 454001, Bratiev Kashirinykh st., 129 Chelyabinsk, Russian Federation,
ekaterina.abilova@mail.ru(b) Chelyabinsk State University, 454001, Bratiev Kashirinykh st., 129 Chelyabinsk, Russian Federation, Николай
kokanov@mail.ru

(c) Chelyabinsk State University, 454001, Bratiev Kashirinykh st., 129 Chelyabinsk, Russian Federation, lu.ta@bk.ru

(d) Chelyabinsk State University, 454001, Bratiev Kashirinykh st., 129 Chelyabinsk, Russian Federation,
bardina@mail.ru**Abstract**

Food security of a country, creation of favorable economic and social conditions in rural areas is a fundamental issue for any region, and the key factor in resolving this issue is stably functioning peasant (farmer) households, as well as the determining role of a personality of a farmer in the agricultural sector of the economy. Farming in the context of new trends and vectors of development plays a huge role in improving the well-being of rural areas of each region and the country as a whole. It is important to note intensification of the import substitution policy, wide support of agriculture by the state, and, of course, negative consequences of the COVID-19 pandemic for the agricultural industry and rural population, the high likelihood of other serious threats of a political, environmental, biological nature. Therefore, the development of an integrated conceptual approach to determining the prospects functioning of households in new environmental conditions, taking into account their significant contribution to the sustainable development of rural areas and ensuring living conditions of rural communities (including emergency situations) is a pressing problem that requires an urgent solution. In the article, a model of socio-economic conditions for the functioning of a modern farming economy is formed, which is not only an efficiently functioning business unit (which, of course, is extremely important for ensuring food security) but also a socially responsible agricultural economy that acts as a guarantor and driver of sustainable development of rural areas in times of significant (and previously unpredictable) fluctuations in the environment.

2357-1330 © 2021 Published by European Publisher.

Keywords: Farms, global challenges, socio-economic environment, threats

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 Unported License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

1. Introduction

In the modern socio-economic, political, and institutional environment, in the context of new global challenges and threats (sanction restrictions, natural disasters, epidemics, and pandemics), which determine high economic and social instability (Eby et al., 2005), peasant (farmer) households are gaining particular importance in the development of the domestic agricultural economy, whose livelihoods are inextricably linked with rural communities and are closely incorporated into rural areas (Chesley, 2005). Currently, the development of farming is updated with new impulses associated with the increased importance of the agricultural sector for the welfare of each region and the country as a whole, intensification of the import substitution policy, widespread support for agriculture by the state, negative consequences of the COVID-19 pandemic for the agricultural sector and rural population, high probability of occurrence other serious threats of a political, environmental, biological (and other) nature. In our opinion, the development of an integrated conceptual approach to determining the prospects for the functioning of farms in new conditions is an important direction in the development of modern agricultural science (Boswell & Olson-Buchanan, 2007).

2. Problem Statement

The fundamental scientific task of the project is the conceptualization of promising trajectories for the development of farming in modern environmental conditions (Venugopal et al., 2019), taking into account the existing challenges and threats, unique features of the studied phenomenon (farming), its ability to overcome the consequences of unforeseen circumstances (coronavirus pandemic, natural disasters, man-made disasters, political tension, etc.). Solution to this scientific problem involves: 1) identification and analysis of socio-economic problems of rural areas in the context of modern extraordinary situations (Youndt et al., 2004) (violation of international and interregional relations, local closure of territories, suspension of activities of some enterprises, social isolation of the population and other unfavorable circumstances); 2) determination of possibilities for the functioning of peasant (farmer) households in the current conditions, performance of a wide range of economic, social, environmental functions; 3) specification of promising (from the perspective of rural communities, society as a whole) directions of farming development in the new socio-economic conditions.

3. Research Questions

With regard to the object under study, special methods for studying a complex environment are used. At the same time, the identification of alternative options for the development of farms will allow, firstly, to specify possible trajectories of their development, and secondly, to predict their effective functioning in the existing environment, in the face of challenges and threats.

In conditions of high mobility of socio-economic and institutional environment, fundamental and applied economic science considers it more expedient to determine the promising trajectories of development of peasant (farmer) households based on taking into account both the specifics of the object under study and its current state (Andersén, 2019) and dynamics of the environment in which it develops.

This is especially true for this phenomenon (farming), the functioning of which is based, on the one hand, on the industry (agriculture), significantly dependent on natural and climatic factors (practically uncontrollable and often changing in an unfavorable direction), but on the other hand, on new trends confirming growing importance of the agricultural sector for the welfare of regions and the country.

Of course, the issue of farming is raised in many research works that are significant for science (Barrett, 2008), but many questions regarding the prospects for the development of peasant (farmer) household economies in the context of globalization, rapid technological progress, urbanization (and other modern phenomena) remain unresolved (Keeney et al., 2013). Consequently, the development of a new conceptual approach to the formation and development of farming will be able to ensure the successful development of the agricultural sector during a rapidly changing dynamic internal and external environment. However, the successful functioning of peasant (farmer) households is unlikely without a scientific analysis of their current state, the study of the current operating conditions, design of trends in functioning in a different environment, and forecasting of promising trajectories of further development. Of course, the scientific basis for the implementation of the listed stages of research can be modern concepts based on fundamental achievements of economic theory, scientific doctrines of the behavior of objects in a complex fluctuating environment.

4. Purpose of the Study

The purpose of the study is to improve the conceptual approach to determining promising trends in the development of farms in the context of modern crisis phenomena and threats, taking into account, firstly, organizational and technological uniqueness of the households themselves, secondly, the state of the environment, its mobility and challenges, and thirdly, the potential of farming in overcoming the consequences of the unfavorable environmental, technosphere, biological and other phenomena (based on materials from an industrial-agrarian region - the Chelyabinsk region). The farmer has unique characteristics and characteristics in the development of the agricultural business. The purpose of the study is to study the potential of farmers in the formation and development of a powerful platform for agricultural business and ensuring food security.

The aim of the study is to analyze the socio-economic environment of the functioning of households in the context of modern challenges and threats and to develop a model of integral indicators of rural areas.

The intensification of research on the phenomenon of "farming" has been observed in recent decades not only in domestic but also in western science.

5. Research Methods

The information base of the study was made up of: statistical and analytical materials of the Federal State Statistics Service of the Russian Federation (Rosstat); data from the All-Russian Agricultural Census 2016; information from the Ministry of Agriculture of Russia and its regional body on the problem under study; data obtained by the authors in the regional municipalities and in the course

of surveys (questionnaires and interviews) of rural residents, heads of peasant (farmer) households, representatives of administrations.

We analyzed the actual state of the rural areas of the Chelyabinsk region according to the main socio-economic indicators. The study assessed the state of 15 districts of the Chelyabinsk region in 2019. The sample included rural areas for which extensive data were available for detailed comparative analysis. From the available statistical data, a "reference" rural area was selected, the indicators of which are as close as possible to the ideal (best) values. Then, on the basis of the integral indicator, the ratings of the rural areas of the Chelyabinsk region were determined. The rural area, where the integral indicator is minimal, received a high rating since the distance to the reference enterprise for the studied subject is minimal. We presented the initial data in the form of table 1. The calculation of the integral indicator was carried out according to the formula in figure 1.

$$\Delta_{IJ} = \frac{K_{ИДJ} - K_{ФIJ}}{K_{ИДJ} - K_{НАИХJ}}, J = 1, \dots, N, \quad (1)$$

Figure 1. Formula

Note: I is the object number;

J - criterion number;

N is the number of criteria;

Δ - distance from the i-th object to the "ideal object according to the j-th criterion (indicator);

$K_{ИДJ}$ - the best value of the j-th indicator among all objects;

$K_{ФIJ}$ - the actual value of the j-th indicator for the i-th object;

$K_{НАИХJ}$ - the worst value of the j-th indicator among all objects.

Based on statistical data, we have determined the relative distances from each rural area of the Chelyabinsk region to the "ideal" object for all indicators.

6. Findings

The results of the calculation are presented in Table 1. Based on calculations using the method of relative distances (or "reference" indicator), which confirms the conclusion that the lower the integral indicator, the higher the rating of the socio-economic development of a rural area rating for socio-economic development rural areas of the Chelyabinsk region is as follows:

1st place - Bredinsky district (5.78)

2nd place - Sosnovsky district (6.72)

3rd place - Yemanzhelinsky district (7.39)

In these areas, the most favorable conditions have developed for the accumulation and development of human potential. Social policy in the countryside plays a huge role in solving problems of human development. And if we can quantitatively assess the indicators of socio-economic development, the task of assessing the qualitative characteristics is more difficult. It is necessary to take into account

not only the labor, the creative potential of an agricultural worker but also aspects of his internal development. Social fears of agricultural workers reflect the whole range of problems that exist in the countryside: low profitability of agricultural production, lack of material and technical base, and an innovative component. Therefore, it is necessary to develop innovative susceptibility, the level of emotional intelligence, entrepreneurial abilities inherent in the personality of the farmer (Frank & Obloj, 2014). The features of the organization of farming activities directly affect the formation of human capital and potential, serve as the basis for achieving economic goals and determine the potential of human resources in rural areas.

Table 1. Federal District Main indicators of the activity of peasant (farmer) households in the Ural (Federal Service ..., 2020)

| Index | 1991r. | 2000r. | 2010r. | 2014r. | 2015r. | 2016r. |
|---|---------|---------------------|--------------------|--------|--------|--------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Agricultural production, million rubles | | | | | | |
| Kurgan region | No data | 319,3 | 1216,5 | 3797,9 | 6420,5 | 6188,6 |
| Tyumen region | No data | 583,1 | 1513,4 | a | a | |
| Chelyabinsk region | No data | 359,9 | 1792,3 | 4455,2 | 7976,2 | 9947,1 |
| Sown area, thousand hectares | | | | | | |
| Kurgan region | 7,2 | 108,3 ^{op} | 338,1 ^o | 425,9 | 435,9 | 472,2 |
| Tyumen region | 7,6 | 187,4 | 147,0 ^o | 193,5 | 185,8 | 191,3 |
| Chelyabinsk region | 7,4 | 221,0 | 423,3 | 588,2 | 582,8 | 638,5 |
| including: cereals | | | | | | |
| Kurgan region | 5,2 a | 108,3 | 314,2 | 373,9 | 372,5 | 400,7 |
| Tyumen region | 4,7 a | 142,9 | 145,9 | 141,5 | 138,0 | 140,1 |
| Chelyabinsk region | 4,4 a | 194,1 | 388,9 | 495,9 | 477,9 | 531,8 |
| potatoes | | | | | | |
| Kurgan region | 0,3 | 0,4 | 1,2 a | 2,0 | 2,0 | 2,3 |
| Tyumen region | 0,3 | 1,1 | 1,9 a | 2,0 | 2,1 | 2,0 |
| Chelyabinsk region | 0,4 | 0,8 | 1,9 a | 2,1 | 2,6 | 2,9 |
| Vegetables | | | | | | |
| Kurgan region | 0,0 | 0,1 | 0,4 | 0,3 | 0,4 | 0,3 |
| Tyumen region | 0,0 | 0,4 | 0,4 | 0,2 | 0,2 | 0,2 |
| Chelyabinsk region | 0,0 | 0,1 | 0,6 | 0,4 | 0,4 | 0,6 |
| Gross harvest, thousand tons grain | | | | | | |
| Kurgan region | 4,4 | 102,7 | 203,0 | 359,1 | 539,4 | 627,4 |
| Tyumen region | 5,7 | 217,2 | 195,0 | 276,4 | 253,0 | 225,2 |
| Chelyabinsk region | 2,1 | 227,6 | 166,2 | 383,1 | 667,8 | 813,0 |
| Gross harvest, thousand tons grain | | | | | | |
| Kurgan region | 4,4 | 102,7 | 203,0 | 359,1 | 539,4 | 627,4 |
| Tyumen region | 5,7 | 217,2 | 195,0 | 276,4 | 253,0 | 225,2 |
| Chelyabinsk region | 2,1 | 227,6 | 166,2 | 383,1 | 667,8 | 813,0 |
| potatoes | | | | | | |
| Kurgan region | 1,0 | 3,9 | 10,2 | 27,2 | 32,8 | 31,7 |
| Tyumen region | 1,9 | 13,2 | 29,7 | 36,0 | 31,5 | 29,8 |
| Chelyabinsk region | 1,9 | 9,1 | 22,0 | 31,7 | 37,6 | 38,2 |

| Productivity from 1 hectare, c: | | | | | | |
|---|---------|--------|-------|-------|-------|-------|
| cereals and legumes | | | | | | |
| Kurgan region | 8,4 | 9,2 | 9,3 | 14,4 | 14,7 | 15,9 |
| Tyumen region | 12,0 | 13,5 | 16,8 | 19,5 | 18,3 | 16,1 |
| Chelyabinsk region | 4,7 | 12,2 | 7,8 | 9,3 | 14,1 | 15,4 |
| potatoes | | | | | | |
| Kurgan region | 47,0 a | 107,0 | 89,4 | 163,7 | 161,4 | 145,2 |
| Tyumen region | 89,0 a | 124,0 | 156,0 | 181,0 | 157,0 | 150,0 |
| Chelyabinsk region | 56,0 | 108,0 | 117,0 | 153,0 | 149,0 | 142,0 |
| vegetables a | | | | | | |
| Kurgan region | 89,0 | 83,0 | 201,0 | 240,7 | 142,7 | 202,7 |
| Tyumen region | 55,0 | 196,0 | 359,0 | 402,0 | 323,0 | 370,0 |
| Chelyabinsk region | 124,0 | 133,0 | 127,0 | 125,0 | 168,0 | 215,0 |
| Pigs a | | | | | | |
| Kurgan region | 0,9a | 8,4 a | 19,8 | 12,2 | 12,2 | 15,7 |
| Tyumen region | 0,1 a | 19,1 a | 27,4 | 0,6 a | 0,4 a | 0,4 a |
| Chelyabinsk region | 1,9 a | 12,3 | 11,3 | 8,6 | 7,9 | 7,6 a |
| Sheep and goats | | | | | | |
| Kurgan region | 1,8 | 4,1 | 11,5 | 10,7 | 10,8 | 10,2 |
| Tyumen region | 0,0 | 4,2 | 3,3 | 3,3 a | 3,7 a | 2,2 a |
| Chelyabinsk region | 1,8 | 5,1 | 12,1 | 16,5 | 16,2 | 17,2 |
| Livestock production: livestock and poultry raised | | | | | | |
| Kurgan region | No data | 1,9 a | 2,2 | 3,6 | 3,6 a | 2,0 a |
| Tyumen region | 0,2 | 1,7 | 6,1 | 11,1 | 11,7 | 13,2 |
| Chelyabinsk region | 0,5 | 3,3 | 2,2 | 2,3 | 2,4 a | 2,8 |
| milk, thousand tons | | | | | | |
| Kurgan region | No data | 9,5 a | 7,6 | 7,3 | 7,1 a | 8,4 |
| Tyumen region | 0,2 | 15,9 | 16,9 | 19,1 | 15,2 | 14,0 |
| Chelyabinsk region | 0,5 | 13,5 | 18,2 | 16,2 | 18,0 | 18,8 |
| eggs, mln. pcs. | | | | | | |
| Kurgan region | No data | 2,7 | 2,4 | 3,3 | 3,1 | 4,6 |
| Tyumen region | 0,1 | 0,8 | 1,1 | 0,1 | 0,1 | 0,0 |
| Chelyabinsk region | 0,4 | 2,6 | 2,2 | 1,4 | 1,3 | 1,3 |

6.1. In the general state of peasant (farm) households, an obvious positive trend is observed only in the production of grain crops

In general, it should be noted that during the analyzed twenty-seven years, the proportion of products produced by agricultural organizations, personal subsidiary, and peasant (farm) households has undergone significant changes (Khan et al., 2019).

6.2. The success and effectiveness of activities today are determined by an integrated approach that includes a set of resources involved in the production of the final product

Along with material resources, the criterion of using the human factor as a combination of intellectual and physical labor is of great importance in modern conditions. The material and personal

(human) factors form a complex multifunctional system based on an integrated approach. We have identified the principles of creation and functioning of peasant (farmer) households on the basis of an integrated economic and technological approach to the development of farming in modern environmental conditions (Entry et al., 2004).

Today's challenges and threats to rural areas are complex. They consist not only of a lack of funds (Minakov, 2017). In addition to a solid material base, the village has lost the basis that distinguished it from the urban way of life. The villager's core is based on a collective approach. Unfortunately, in the era of changes associated with digitalization, the development of personal individual achievements, rural residents feel alienated from collective labor. Farms and personal subsidiary plots become a means of survival for them (Youndt & Snell, 2004). Moreover, the first ones consider the countryside not just as a resource base with cheap labor, but they perform a number of socially significant functions. It is important to note that the success and effectiveness of the functioning of an agricultural enterprise are determined not only by the form of management but also by the managerial abilities of managers. The principles of creation and functioning of peasant (farmer) households are presented in Figure 2.

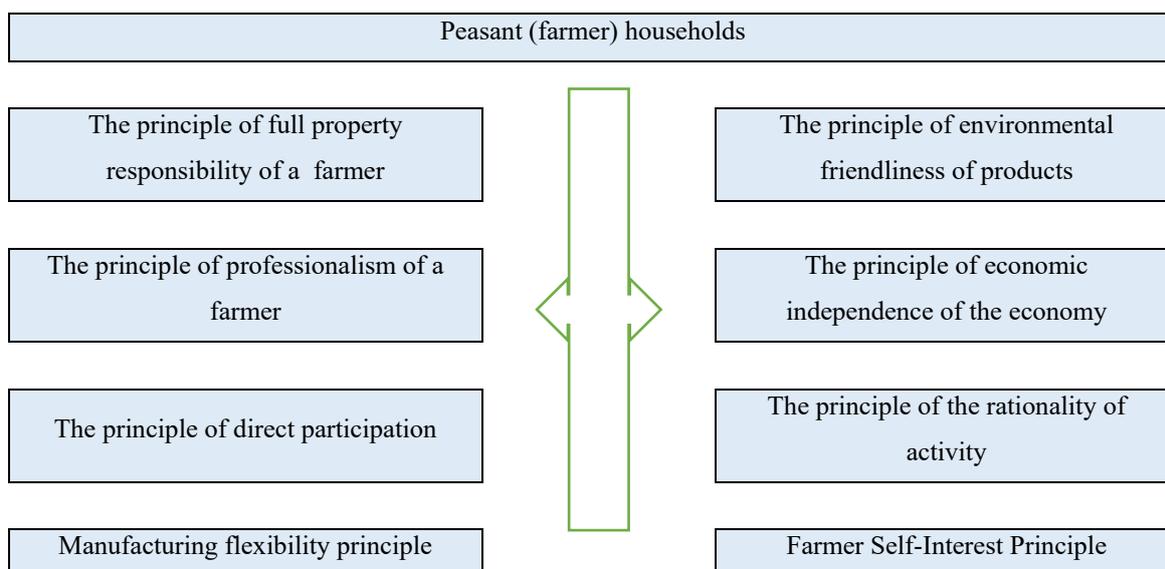


Figure 2. Principles of creation and functioning of peasant (farm) households

6.3. The principles presented in the figure emphasize that the farm is a volunteer enterprise. At the same time, a choice is made regarding the type of products produced, sales activities, suppliers

The farmer is personally interested in the quality and relevance of his products (Chen et al., 2009). He minimizes costs, focusing on effective results. Peasant (farm) households operate in a rapidly changing environment. Therefore, they are forced to adapt to changes, showing flexibility and complexity. The principle of environmental friendliness of manufactured products is of particular relevance. Modern farmers use environmentally friendly crop cultivation technologies based on the

application of innovations, the achievements of science and technology. Peasant farms operate with certain obligations and legal responsibilities.

6.4. It is important to note that a prerequisite for the successful development of small businesses is to improve the quality indicators of the human capital of rural areas

It is necessary to direct investments in human capital both on the part of the agricultural producer himself and on the part of the state.

Human capital as a phenomenon is considered in unity with the economic and social indicators of the development of rural areas.

7. Conclusion

A dynamic and complex environment for the functioning of peasant (farmer) households requires an appropriate (interdisciplinary, integrated) approach to determining the promising trajectories of their development. The significant dependence of the functioning of peasant (farmer) households on a number of factors, including economic, social, political, and other processes, determines a special conceptualization of the prospects for the development of domestic farming in a mobile institutional environment, in conditions of high uncertainty and risks, challenges and threats (Beigi & Shirmohammadi, 2017)

The interdisciplinary conceptual approach developed in the course of our study is distinguished by both methodological novelty and applied possibilities of its use in the study (and forecasting) of development of farming in Russia. The scientific novelty of the research, as a result, lies, on the one hand, in its fundamental content (development of a concept for determining promising trajectories for development of farms in the face of modern challenges and threats), on the other hand, in the originality of the applied research results, namely, in the fact that the obtained during the implementation of the project, scientific and practical recommendations can be used in the specification of the role and capabilities of peasant (farmer) households in overcoming consequences of a pandemic, and in a broader sense in determining such important aspects of their activities as functioning in new environmental conditions (Klimovskikh, 2018), associated with modern restrictions (violation of international, interregional and local relations, closed territories (Anderson, 2019), suspension of some enterprises, self-isolation of the population, etc.), organization of logistics, marketing and other transactions with agricultural products and resources in conditions of globalization of the economy (in coordination of transactions with counterparties, partners, government and public structures), performance of socially significant social and environmental functions in the countryside to ensure national security (food, biological, environmental, etc.), creating conditions for successful solution of problems in the development of the agricultural sector and rural areas in difficult socio-economic situations.

Acknowledgments

The research was carried out with the financial support of the RFBR in the framework of the scientific project No. 19-29-07315.

References

- Andersén, J. (2019). Resource orchestration of firm-specific human capital and firm performance—the role of collaborative human resource management and entrepreneurial orientation. *The International Journal of Human Resource Management*, 1–33. <https://doi.org/10.1080/09585192.2019.1579250>
- Anderson, J. (2019). National Survey and Segmentation of Smallholder Households in Mozambique: Household Level Data (CGAP, Washington, DC).
- Barrett, C. (2008). Smallholder market participation: Concepts and evidence from eastern and southern Africa. *Food Policy*, 33, 299–317
- Beigi, M., & Shirmohammadi, M. (2017). Qualitative research on work-family in the management field: A review. *Applied Psychology*, 66(3), 382–433. <https://doi.org/10.1111/apps.1209>
- Boswell, W. R., & Olson-Buchanan, J. B. (2007). The use of communication technologies after hours: The role of work attitudes and work-life conflict. *Journal of Management*, 33(4), 592–610.
- Chen, Z., Powell, G. N., & Greenhaus, J. H. (2009). Work-to-family conflict, positive spillover, and boundary management: A person-environment fit approach. *Journal of Vocational Behavior*, 74(1), 82–93.
- Chesley, N. (2005). Blurring boundaries? Linking technology use, spillover, individual distress, and family satisfaction. *Journal of Marriage and Family*, 67(5), 1237–1248. <https://doi.org/10.1111/j.1741-3737.2005.00213>
- Eby, L. T., Casper, W. J., Lockwood, A., Bordeaux, C., & Brinley, A. (2005). Work and family research in IO/OB: Content analysis and review of the literature (1980–2002). *Journal of Vocational Behavior*, 66(1), 124–197.
- Entry, J. A., Sojka, R. E., & Shewmaker, G. E. (2004). Irrigation increases inorganic carbon in agricultural soils. *Environmental Management*, 33, 309–317.
- Frank, D. H., & Obloj, T. (2014). Firm-specific human capital, organizational incentives, and agency costs: Evidence from retail banking. *Strategic Management Journal*, 35(9), 1279–1301. <https://doi.org/10.1002/smj.2148>
- Keeney, J., Boyd, E. M., Sinha, R., Westring, A. F., & Ryan, A. M. (2013). From “work-family” to “work-life”: Broadening our conceptualization and measurement. *Journal of Vocational Behavior*, 82(3), 221–237.
- Khan, M, Nakano, Y., & Kurosaki, T. (2019). Impact of contract farming on land productivity and income of maize and potato growers in Pakistan. *Food Policy*, 85, 28–39
- Venugopal, A., Krishnan, T. N., Kumar, M., & Upadhyayula, R. S. (2019). Strengthening organizational ambidexterity with top management team mechanisms and processes. *The International Journal of Human Resource Management*, 30(4), 586–617. <https://doi.org/10.1080/09585192.2016.1277369>
- Youndt, M. A., Subramaniam, M., & Snell, S. A. (2004). Intellectual capital profiles: An examination of investments and returns. *Journal of Management Studies*, 41(2), 335–361. <https://doi.org/10.1111/j.1467-6486.2004.00435.x>
- Youndt, M., & Snell, S. (2004). Human resource configurations, intellectual capital, and organizational performance. *Journal of Managerial Issues*, 16(3), 337–360. <http://www.jstor.org/stable/40604485>