

IMPACT OF PANDEMIC TRANSFORMATIONAL CHANGE ON THE HUMAN CAPITAL IN INFORMAL NETWORKS AND ORGANIZATIONAL PERFORMANCE IN RUSSIA

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Abstract

The processes of knowledge sharing and learning in informal networks intensify during the periods of transformational change in organizations, since the system of formal business processes is experiencing destructive influence of the external environment. The aim of the study is to provide empirical insight into the process of human capital creation in informal networks under the influence of recent pandemic limitations and opportunities and evaluate its impact on organizational performance. The data collected using structured questionnaire in Google Forms include 203 responses from employees of Russian companies and entrepreneurs operating in Sverdlovsk region. The authors propose an original framework to evaluate the impact of informal human and relational capitals on performance and use factor and regression analyses to test the research hypotheses. Research findings demonstrate that internal changes in processes and social sphere due to pandemic positively impact informal knowledge sharing and learning which in turn reinforce organizational performance. Practical implication of this study is that more human capital management practices considering informal networking principles are needed as informal knowledge sharing is an important predictor of organizational performance during transformation.

Key words: organizational change, COVID-19 pandemic, human capital, informal networking, performance

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Introduction

The COVID-19 pandemic has become one of the prominent drivers of organizational change in two recent years as most entities have faced the need to restructure their value chains and key business processes (Li et al., 2021). Pandemic change can be viewed as a process of significant transformation of internal structures in organizations in response to the lockdown, the need for social distancing and dramatic developments in the consumer and labour markets,

implemented in order to survive and adapt to the new conditions. According to the knowledge-based view of the firm, the essential resources that ensure success of strategic transformation are the knowledge and human capital of stakeholders, which are used consistently to sustain survival and competitiveness (Grant, 1997). Due to increased uncertainty, new knowledge sharing strategies emerged in organizations, closing the gap in understanding of value-creating activities, contingent perspectives on employee wellbeing, learning and human capital reproduction processes in the new environment (Bratianu & Bejinaru, 2021). Organizational change therefore may contribute significantly to reducing the overall uncertainty and improving performance by focusing on network knowledge flow and internal expertise accumulated.

The stock of relevant knowledge used in various business situations is reflected in the human capital of individuals and networking groups. Human capital is a heterogenic resource that has a variety of dimensions, therefore its impact on development of organizations can be demonstrated using explicit formal as well as latent informal structures. Informal networking facilitates tacit knowledge exchange and provides the necessary level of psychological support for employees and entrepreneurs to build an atmosphere of mutual trust and create value for stakeholders effectively (Horak et al., 2020). Informal networks typically support the coordination of activities in every organization on every stage of its maturity as they are mainly configured, regulated and driven by formal frameworks and exist side by side with them. The strength of informal networks for knowledge sharing can change at different stages of an organizational transformation in accordance with the interests of stakeholders, so networks have an ambiguous effect on performance depending on the context (Waldstrøm, 2001). Therefore, it is strategically important to identify the structure, transactional content and the nature of connections in informal communication networks, which in turn will shed light on the processes of reproduction and accumulation of human capital in organizations.

This paper aims to provide an empirical insight into the process of human capital creation in informal networks under the influence of recent pandemic by studying its impact on organizational performance. The study suggests an approach by which the accumulation of knowledge in networks is performed via human capital stocks, and knowledge sharing occurs supported by relational capital embedded in employees' informal leadership. Human capital distinguishes transactional content in informal networks, which is related to knowledge sharing and learning. Relational capital underpins dynamic properties of transactional content in informal networks, which is related to authority and influence of informal leaders. Authors propose that such informal knowledge sharing and leadership may be considered as significant predictors of organizational performance during pandemic transformation.

1 Informal networks, organizational change and performance: hypotheses development

In the periods of punctuated organizational equilibrium employees function as part of multiple project teams within formal and informal structures because lateral geo-agnostic networking communication is increasingly important for knowledge economy, especially during pandemic restrictions (Bratianu & Bejinaru, 2021; Gersick, 1991; Horak et al., 2020). Interpersonal relationship, group knowledge and expertise together create the basis for the reproduction and application of human capital stocks. It is widely accepted that informal networks facilitate task completion, knowledge sharing and directly affect employee productivity, therefore they are critical for both knowledge-intensive and industrial-type organizations (Orbach et al., 2015). Informal network can be defined as a specific set of relations among persons which promotes information and signals through routes not prescribed by organization; these properties may be used to interpret social behavior of the involved individuals (Huning et al., 2015). Unfreezing of organizations during initial transformation stages intensively advocates post-bureaucratic values and makes networking capital relevant. Orbach et al. (2015) demonstrated that the lack or crisis of prescribed rigid hierarchical structure improves lateral communication and inspires informal knowledge-sharing.

Knowledge in forms of professional advice, technical or instrumental innovations and personal experience is becoming an important element of transactional content in informal networks during transformation. Pandemic restrictions further promote probabilistic and nonlinear mental models that help to understand strategies for survival and achievement of competitive advantage (Bratianu & Bejinaru, 2021). First, informal networks accumulate emotional and spiritual knowledge, providing psychological support for employees, making impact on their wellbeing. Second, there is a vital need for knowledge exploration in order to transform the key business processes. Pandemic crisis may be perceived as an opportunity to learn and grow, encouraging networking communication in order to minimize change-related stress (Li et al., 2021). Third, organizational learning in some cases can no longer rely on previously accumulated formalized knowledge and procedures because competences for coping with organizational change require interpersonal communication. Consequently, we put forward the following hypothesis:

H1. Human capital in informal networks, related to knowledge sharing and learning, has a significant positive impact on organizational performance during pandemic transformation.

Traditionally management research emphasizes the importance of informal leadership in coordination and motivation of work within contemporary organizations (Carnabuci et al., 2018). The structure of informal networks implies that separation of roles according to individual background, psychological characteristics, desired level of authority and influence is essential for group performance. Well-established leaders regarded as organic members of networking groups make superior contribution to decision-making as they have the necessary level of charisma, authority and expertise. People cognitively respond to emotional interactions with formal and informal leaders in real-life networks and develop their perception and attitude through interpersonal relations, which crystalize in a form of intellectual capital. Leadership therefore can be considered as an important element of relational capital, embedded in social systems to provide trust and achievement of goals. Despite the positive effects of informal leadership, it is also associated with certain threats, such as shifting the balance of formal power in the organization, distortions in the perception of strategy, restriction of access to resources and resistance to change (Kan & Parry, 2004).

By using the term “capital” we mainly assume that there are also several opportunities for stakeholder value creation. First, informal leadership reduces uncertainty during pandemic, minimizing cognitive inconsistency and improving goal congruence in different clusters of organizational networks. Second, leadership provides cognitive models to establish the necessary level of motivation for both linear performers and highly qualified specialists. Goal congruence and motivation can significantly affect both quality of work results and the speed of decision-making. Third, it promotes consistent values and strategic vision to establish appropriate psychological climate and build a platform for organizational culture (Huning et al., 2015). Consequently, we put forward the following hypothesis:

H2. Relational capital in informal networks, related to leadership, authority and influence, has a significant positive impact on organizational performance during pandemic transformation.

2 Methods and data

According to the findings and suggestions of previous studies on intellectual capital in Russian regions, authors used a survey method to estimate stocks of human and relational capitals (Andreeva & Garanina, 2016). Therefore, a multi-section questionnaire has been developed in order to test the hypotheses put forward. The key points of the survey were associated with a lockdown following the pandemic that began in 2020. Survey items revealed certain aspects of

organizational transformation during the pandemic and its impact on the formal and informal aspects of business activities. The respondents were asked to evaluate the strength of changes in local technology development, strategic planning, social and labour spheres using 7-point Likert-type scale. Human capital in informal networks according to the proposed framework is embodied in tacit professional knowledge, informal coaching, mutual trust to managers or colleagues and personal relations. Relational capital in informal networks according to literature review is considered as power, authority and influence reflected in informal leadership. Authors also asked respondents to evaluate the strength of changes and value for improvements in formal structures and processes during pandemic and lockdown, concerning transformation at both operational and strategic levels of organizations.

As a first step, exploratory factor analysis was performed to test the reliability and validity of used scales. Standard principal component analysis and varimax rotation were performed for factor extraction, Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity indicated the proportion of variance caused by the considered factors and suitability of survey items for structure detection respectively. Cronbach's alpha was used to test reliability: authors considered that value over 0,8 indicates a good internal consistency of the scales. As a second step, linear regression analysis was performed to check the impact of human and relational capitals in informal networks in conditions of pandemic restrictions on organizational performance. Performance was used as a dependent variable; formal strategic and operational changes were used as control variables. Human capital in informal networks and relational capital were used as exploratory variables. The data was collected in the first half of 2021, using structured questionnaire in Google Forms. It includes 203 responses from employees of the randomly selected Russian companies and entrepreneurs operating in Sverdlovsk region (the response rate is 68%). The final sample includes the answers of managers (30,6%), workers (25,1%), specialists or consultants (31,0%) and top-managers or business owners (13,3%) from small and medium enterprises with up to 100 employees (42,9%) and large organizations (57,1%).

3 Results and discussion

Extraction of the factors shown in Table 1 allowed to explain 70,1% of the variance in the initial variables. KMO value (0,854) and Bartlett's test (significance is less than 1%) showed suitability of the obtained data for factor extraction. The authors interpreted the factors in accordance with survey items and hypotheses. Respondents noted the significant impact of

pandemic restrictions (lockdown) on formal strategic processes in organizations. Key business processes as well as strategic vision have undergone significant transformation. Significant operational changes include improving the communication with clients, legal support and digital infrastructure of organizations. Rather a neutral or negative attitude among respondents can be noted when assessing the processes of hiring and firing employees. The considered implicit theoretical constructs demonstrate an acceptable level of consistency as Cronbach's alpha exceeds the critical value. Also, factor loadings are at an acceptable level above 0,5. Both exploratory variables such as human capital, reflecting networking knowledge and relational capital, embodying leadership showed acceptable level of consistency.

Tab. 1: Descriptive statistics for the survey items and results of factor analysis. Mean values, standard deviations (S.D.), factor loadings (FL) and Cronbach's alphas (α) are shown.

Survey items	Mean	S.D.	Factor	FL	Mean	S.D.	α
Over the past year, the volume of sales of goods and services increased	4,30	0,12	Organizational performance PERF	0,863	4,41	1,52	0,93
Our company's market share increased over the past year	4,38	0,12		0,863			
The company has achieved the desired level of profitability and (or) value for money	4,35	0,11		0,851			
I am satisfied with the performance of the company over the past year compared to our competitors	4,41	0,11		0,794			
We have introduced new products and services frequently over the past year	4,60	0,14		0,730			
Changes due to pandemic forced us to radically rethink our previous experience	5,00	0,10	Formal strategic changes FOR_ST_CH	0,822	5,01	1,15	0,86
All key business processes have undergone a significant transformation	5,00	0,10		0,740			
Lockdown forced us to radically reconsider our approach to strategic planning	5,09	0,10		0,727			
Lockdown has greatly advanced the development of certain technologies and approaches that we only planned to implement	5,20	0,10		0,723			
Lockdown led to a significant revision of relations in the social and labour sphere	4,74	0,10		0,703			
Legal support of the company's activities improved	4,74	0,09	Formal operational changes FOR_OP_CH	0,755	4,62	0,95	0,87
Communication with government agencies, including the tax service improved	4,49	0,09		0,725			
Company's financial activities improved (search for new sources of financing etc.)	4,54	0,09		0,722			
Hiring and firing employees, as well as personnel selection improved	4,17	0,09		0,713			
Staff training and career development improved	4,33	0,11		0,705			
Communication helps to update and (or) settle agreements with the clients	4,85	0,07		0,590			
Digital infrastructure of the company improved significantly	5,19	0,08		0,565			

Survey items	Mean	S.D.	Factor	FL	Mean	S.D.	α
There is my fellowship group; these are the people with whom I like to spend my free time	4,80	0,09	Human capital in informal networks (knowledge and learning) HC_INF_NET	0,728	5,11	1,14	0,86
The group I communicate with allows me to easily share professional knowledge	5,13	0,09		0,823			
Such communication allows us to obtain knowledge for new ideas	5,11	0,09		0,823			
Employee training is faster when working with informal coaches	5,39	0,11		0,737			
We have strong informal leaders in my department who do not occupy managerial positions	5,04	0,09	Relational capital in informal networks (leadership) RC_INF_LED	0,733	4,84	1,08	0,85
Informal leaders have a high level of influence on the psychological climate in our department	4,98	0,10		0,788			
... on the decision-making process in the company (department)	4,53	0,09		0,814			
... on the expertise, key knowledge and professionalism of employees in our company (department)	4,82	0,09		0,808			

Source: Performance items partially adapted from (Andreeva & Garanina, 2016). Control and exploratory survey items developed by the authors.

The results of the regression analysis are shown in Table 2. Regression coefficients in three models were estimated by the least square method, control variables, and then explanatory variables were sequentially entered. Authors assessed the change in the coefficient of determination to study the contribution of the selected variables to the organizational performance. Model 3, which includes all selected dependent variables, explains no more than 35% of variation in organizational performance, while the human capital variable (networking knowledge and learning) adds about 7% to model's exploratory power, therefore results can be accepted. The results demonstrate that the *first hypothesis is supported*.

Compared to explanatory variables, formal change plays a more significant role in the transformation of organizations during a pandemic. Accelerated digitalization process, timely communication with stakeholders, as well as search for new sources of funding have significantly improved the performance of organizations. In support of this, the knowledge and experience gained on a daily basis in informal networks encourage the process of creating value in organizations. The human capital factor involved in informal networks for knowledge exchange and learning makes a significant positive contribution to organizational performance. In the face of pandemic constraints, informal networking is an important way to share knowledge and build trust. The presence of informal networks implies the existence of narrow circles of friends that are suitable for spending free time, exchanging emotional signals and new ideas. Interpreting extracted factors demonstrates that, training in networks is carried out by informal coaches on the basis of daily interaction, which expands the scope of formal structures in the internal environment of organizations.

Tab. 2: Results of regression analysis. Performance (PERF) is a dependent variable.

Variables	Model 1		Model 2		Model 3	
	B	t	B	t	B	t
Constant	-0,001	-0,002	-1,112**	-2,098	-1,206**	-2,142
FOR_ST_CH Formal strategic changes	0,307***	3,452	0,286***	3,377	0,277***	3,197
FOR_OP_CH Formal operational changes	0,622***	5,772	0,462***	4,272	0,458***	4,226
HC_INF_NET Informal knowledge	---	---	0,383***	4,705	0,371***	4,366
RC_INF_LED Informal leadership	---	---	---	---	0,044	0,504
R^2	0,288		0,359		0,360	
Adjusted R^2	0,281		0,350		0,347	
R^2 change	----		0,069		0,066	
F	40,49***		37,23***		27,88***	
Number of observations	203		203		203	

Source: authors' own elaboration. *** - significant at 1% level, ** - significant at 5% level, * - significant at 10% level.

As can be seen from the results obtained using Model 3, shown in Table 2, the contribution of the informal leadership variable is not statistically significant. Consequently, *the second hypothesis is rejected*. Among the key elements of transactional content in informal communication networks, leadership is clearly not an important factor in improving organizational performance. The results obtained may be related to the fact that formal leaders in organizations have greater influence on key business processes necessary to achieve effectiveness. Some previous studies on Russian practice of managing organizations and accumulated human capital also did not reveal a significant effect of the relational capital components on performance (Andreeva & Garanina, 2016). It is likely that this form of capital acts as a precursor for a significant number of internal informal processes of network nature, but it does not directly contribute to the performance of organizations.

Conclusion

Research on informal networking can reveal how organizations are coordinated and directed in real-life situations during different phases of pandemic transformation. The needs for survival of organizations and adaptation of people to new conditions result in functioning and development of informal networks. Networking environment is also an important platform for reproduction and application of human capital in organizations as it supports the exchange of emotional and spiritual knowledge. Summarising the results obtained, authors conclude that internal changes in value creation processes, social and labour sphere due to pandemic positively impact informal knowledge sharing and learning which in turn reinforce organizational performance. Despite this, informal leadership seems to be irrelevant factor for the organizational performance or, probably, the influence of this factor is mediated by other components of the organizational internal structures.

Practical implication of this study is that more human capital management practices considering informal networking principles are needed as tacit knowledge sharing is an important predictor of organizational performance during transformation. Organizations should use tools to identify the essential dimensions of informal networks that are involved in the value creation process and ensure their competitiveness and effectiveness. The study is subject to several limitations because authors narrow its scope on the human capital accumulated in informal networks paying no attention to detailed changes in formal financial and marketing strategies, explicit financial models of organizations during pandemic transformation. Besides, informal constructs specific to former Soviet Union areas such as *blat* and *svyazy* are not considered in this study (Horak et al., 2020). Further studies may extend the discussion on internal structural characteristics of informal networks and various aspects of transactional content which reflects heterogenous nature of shared knowledge and accumulated human capital.

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