**KNOWLEDGE SHARING IN A CROSS-FUNCTIONAL TEAM: THE ROLE OF ORGANISATIONAL AND MANAGERIAL FACTORS**

**(results of an empirical study)**

The transition to the new decade of the twenty-first century has been marked by a global pandemic and the test of resilience at every level of our lives. The test of adaptability has touched every person in the global community, every business company, and every corporation. On the other hand, total quarantine allowed us to see new possibilities for our lives: it led to the development of digital ecosystems, stimulated the search for alternative forms of employment and work organization. In this environment, a cross-functional team can be a powerful agent of change in a company.

The relevance of the research is explained by the widespread of cross-functional teams - as a new paradigm of product development and service delivery, they have found application in innovative companies in the mechanical engineering sector, industrial instrumentation, software development, rocket, and space instrumentation, consulting services, etc. The effectiveness of this form of work organization is regularly discussed in academic circles, but according to a systematic review of the management literature, we found that knowledge sharing in cross-functional teams has not been sufficiently studied. Knowledge sharing in these teams is seen as one of the key elements of effective teamwork and therefore requires detailed consideration, especially from the perspective of determining the extent to which organizational and managerial factors that may apply in companies influence the knowledge sharing activity of team members.

Thus the paper **aims** to describe the influence of managerial and organizational factors on knowledge sharing in cross-functional teams in contemporary Russian conditions.

**Materials and methods**. The methodological basis of the study is represented by a theoretical analysis of the existing managerial scientific literature on the object of research, empirical methods - questionnaire survey and interviewing (at the preparation stage of the study), and statistical methods (correlation analysis; mean and standard deviation; paired Student's t-test was used to assess the influence of organizational and managerial factors on knowledge sharing activities; the Spearman rank correlation method was used to assess correlation Standard software tools IBM SPSS Statistics, SmartPLS 3 were used in the analysis of the obtained data. The experiment was conducted in two phases - a pilot study (February 2020) then the main study.

**The information base** for the study was the results of a questionnaire survey conducted in June-July 2020. In the course of the survey, 259 responses were collected from participants of cross-functional teams. The author's questionnaire based on a 6-point Likert scale, consisting of two parts: the main substantive part and socio-demographic part, was developed to conduct the survey. The main substantive part is formed from the questions reflecting external factors to knowledge sharing (coordination mechanisms used in the team, the role of the leader (team and functional), organizational environment and conditions for knowledge sharing), internal factors (motives for knowledge sharing, individual attitude to knowledge sharing, which directly affect individual behavior in transferring and receiving knowledge from peers). The socio-demographic part contained questions about the demographic characteristics of the respondents.

**Results of the study**. The empirical study tested several hypotheses regarding the degree of influence of various organizational and managerial factors on the main dependent variable, individual knowledge sharing activity (IKSA), according to a structural scheme (Figure 1).

Descriptive statistics. A total of 259 people were interviewed, among whom 136 (53%) were women and 123 (47%) were men. Respondents predominantly with higher professional education (94%). Distribution of respondents according to the task being solved in the cross-functional team: product - 31; process - 124; organizational - 38; marketing - 29; social - 37.



Figure 1. Structure diagram

The experiment showed that the Mutual Alignment (MA) coordination type has a more pronounced positive effect on individual knowledge sharing activity compared to the Formalization (F) and Direct Control (DC) coordination types.

Below is a calculation of the correlation coefficients of individual knowledge sharing activity (IKSA) and organizational and managerial factors, where F - formalization, DC - direct control, MA- Mutual alignment, FRR - functional role of manager, CRR - team role of manager, OE - organizational environment, OC - organizational conditions, IS - incentive system (Table 1).

Table 1 - Correlation between variables

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| 1. IAKS | 1 |   |   |   |   |   |   |   |   |  |
| 2. F | 0.132 | 1 |   |   |   |   |   |   |   |   |
| 3. DC | 0.161 | 0.652 | 1 |   |   |   |   |   |   |   |
| 4. MС | 0.641 | 0.199 | 0.182 | 1 |   |   |   |   |   |   |
| 5. FLR |  - | 0.147 | 0.144 |   | 1 |   |   |   |   |   |
| 6. TLR |  - |  - |  - | 0.252 | 0.877 | 1 |   |   |   |   |
| 7. OE | 0.566 | 0.347 | 0.279 | 0.678 |  - | 0.128 | 1 |   |   |   |
| 8. OC | 0.452 | 0.371 | 0.327 | 0.601 | 0.267 | 0.283 | 0.701 | 1 |   |   |
| 9. IS | 0.439 | 0.25 | 0.174 | 0.48 | -0.13 |  - | 0.495 | 0.329 | 1 |   |
| 10. IM | 0.706 |  - | - | 0.651 | 0.05 | 0.182 | 0.485 | 0.43 | 0.224 | 1 |

Note 1) statistically significant results are shown (p ≤ 0.05); 2) legend: F - formalization, DC - direct control, MС - mutual coordination, FLR - functional role of the leader, TLR - team role of the leader, OE - organizational environment, OC- organizational conditions, IS - incentive system, IM - internal motivation to KS, IAKS - individual activity in KS.

The following is a calculation of the relationship between organizational and management factors and the strength of their influence on the main dependent variable (PLS).

Table 2 - Relationship of organizational and management factors and the strength of their influence on IKSA: results of PLS analysis

|  |  |
| --- | --- |
| **Organizational and management factors** | **R2** |
| Intrinsic motivation -> IKSA | 0.713\*\*\* |
| Functional role of the manager -> Direct control | 0.646\*\*\* |
| Organizational setting -> Organizational environment | 0.628\*\*\* |
| Team Role of the leader -> Mutual Alignment | 0.529\*\*\* |
| Functional role of t-> Formalization | 0.499\*\*\* |
| Mutual alignment -> Internal motivation | 0.487\*\*\* |
| Mutual agreement -> IKSA | 0.347\*\*\* |
| Incentive scheme -> Organizational environment | 0.294\*\*\* |
| Emotional role of the leader -> Internal motivation | 0.265\*\*\* |
| Organizational environment -> Internal motivation | 0.261\*\* |
| Functional role of the leader -> Mutual Alignment | 0.215\* |
| Emotional role of the leader -> IKSA | 0.189\*\*\* |
| Organizational Environment -> IKSA | 0.186\*\* |
| Organizational Environment -> Internal Motivation | 0.164\*\*\* |
| Organizational setting -> IKSA  | 0.117\*\* |
| Incentive Scheme -> Internal Motivation | 0.077\* |
| Incentive Scheme -> IKSA  | 0.055\* |

Note: 1) significant at the level of: \* -p ≤ 0.05; \*\* - p ≤ 0.01; \*\*\* p ≤ 0.005; 2)

**Conclusions**. In today's business realities, cross-functional teams act as an alternative form of work that holds great promise for change and transformation. Their management aims to improve efficiency by increasing the intensity of knowledge sharing among participants and can be viewed from the perspective of general management, team management, and HR management. Cross-functional teams have been found to face some of the biggest challenges in terms of communication and effective knowledge sharing among their members. To overcome knowledge sharing barriers, it is necessary to apply such organizational and managerial solutions that will promote the internal interest of team members in establishing interpersonal connections, effective communication channels and, ultimately, initiate increased individual activity in knowledge sharing. It has been experimentally established that it is the personal interest (internal motivation) in knowledge sharing that enhances individual activity in this process and, in turn, depends on the type of coordination chosen.