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SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Enabling the Future - Developing the Space Workforce (5)

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DEVELOPING THE QUALITY OF SAPCE WORKFORCE FROM CHINA SPACE TEAM MATURITY ASSESMENT PERSPECTIVE BASED ON FACTOR ANALYSIS

Abstract

As the most widely and common organizational unit, the maturity of space teams affects the development of space workforce directly. This research sought to explore factors contributing to maturity of space teams. Mangers and team leaders can use the structural factors to figure out the team improvement direction, thus developing the quality of space workforce.

A "two type's maturity of space teams" model was designed to fit the general and specific requirements of different types of space teams in this study. The general maturity is used to assess the common maturity through all types of teams. The specific maturity is used to assess specific type of teams for different types of space teams showing different characteristics, for example, the ability of equipment maintenance is more important to production teams while systematic thinking is more important to management teams.

Based on the Input-Mediator-Output-Input (IMOI) model, 21 attributes were put together in a general maturity questionnaire survey. The most part of data for the study had been obtained from the China Aerospace Science and Technology Corporation (CASC), and the rest from the Beihang University (BUAA). 161 subjects who was taking part in a real aerospace science and technology program and being a full team member finished the survey. The data was collected by the structural survey and analyzed by means of Factor Analysis in SPSS 16.0 package. Four critical factors were identified: environment context, team management, team members' satisfaction, and knowledge and norms. The internal consistency coefficient of the four factors were: 0.870.8110.8410.739 respectively.

There are three types of teams classified in Chinese space workforce: management teams, research teams, and production teams. 52 subjects in real Chinese space teams were interviewed to define the main factors contribute to each specific maturity of the three types. System thinking, response speed, openness for the management teams, team member health maintenance, material management, equipment maintenance, team member production skills for production teams, task node supervision, mission planning, interface and coordination with external teams, coherence between individual and collective for research teams were defined.

At the last part of the study, practical implications of the team maturity assessment on two real Chinese space teams were showed to identify the developing direction for each of them.