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MULTI-GENERATIONAL KNOWLEDGE SHARING FOR NASA ENGINEERS

Abstract

NASA, like many other organizations, is facing major challenges when it comes to its workforce. The average age of its personnel is 46, and 68 percent of its population is between 35 and 55. According to the U.S. Government Accounting Office, if the workforce continues aging, not enough engineers will have moved up the ranks and have the requisite skills to enable NASA to meet its vision for space exploration. In order to meet its goals of developing a new generation of spacecraft to support human spaceflight to the moon and Mars, the agency must engage and retain younger generations of workers and bridge the gaps between the four generations working today. Knowledge sharing among the generations is more critical than ever.

Preparing the next generation of leaders is not as simple as increasing training opportunities. The four generations have different communication styles and expectations of their work environment. For example, while the older generations might feel most comfortable communicating in person or via telephone, younger generations tend to prefer instant messaging or interfacing through social networking tools.

This paper describes the strategies used to develop the NASA Engineering Network with the goal of engaging different generations. The system includes a federated search engine, communities of practice, an expertise locator, and a portal to tie all the components together. By including both authoritative content from established leaders as well as collaborative content created by peer-to-peer communities, multiple generations are able to find what they seek and share what they know. Strategic communities of practice increase knowledge sharing by including both established leaders in engineering disciplines and younger engineers from the earliest stages of community development through deployment and maintenance.

Areas of discussion in this paper include tools and strategies to support multi-generational interaction and international implications of the changing workforce.

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