

Virginia Tech engineer defines the globalization rubric for construction

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Virginia Tech's John Taylor has identified two key advancements for companies to become and stay globally competitive: a Global Self-Assessment Tool or G-SAT and the hiring of a person to span the cultural boundaries. Credit: Virginia Tech

Imagine going in for a performance evaluation and the only object in the room is a report saying your work is not up to par. No explanations are provided, and no one is available to you to ask how to improve your efforts.

This feeling of frustration is one many construction companies face in their efforts to go global.

Looking into the abyss of globalization for the design and construction industry and the potential difficulties of cross-cultural partnerships is John E. Taylor, an associate professor of civil and environmental engineering at Virginia Tech. Taylor has created a unique lab at Virginia Tech that conducts experiments and develops simulations that examine, model and improve systemic change in engineering networks of industrial and [societal importance](#). One of the key areas of research his Civil Engineering Network Dynamics Lab investigates is the impact of globalization dynamics on design and construction project performance.

Taylor has identified two key advancements for companies to become and stay globally competitive: a Global [Self-Assessment Tool](#) or G-SAT and the hiring of a person to span the cultural boundaries.

The Construction Industry Institute, the National Science Foundation and the Alfred P. Sloan Foundation are funding his work in this area.

Construction companies face the usual obstacles of corporations trying to tap into markets across the world, but they also face some of the most unique challenges. This isn't just collaborating with a new office or setting up conference calls to discuss [sales pitches](#), factory output, or brand advertising. Global construction takes on the routine problems and juggles the batons of complex political interests, soils and terrain, and owner's desires, while on a metaphorical fire of cross-cultural partnerships.

Taylor worked with Gerald Schacht of [Abbott Laboratories](#) and Rob Smith of CH2M HILL, co-chairs on the G-SAT project. They also collaborated with John Messner of Penn State University. Their work is empowering engineering and construction organizations in the evaluation

of their globalization progress, tactics for further globalization, and prioritization of those tactics, Taylor said. The G-SAT also creates a metric to measure and compare the globalization efforts of companies and tracks their progress over time. G-SAT is offered in Excel and after taking several hours to complete the first time, is relatively easy to update, allowing companies to easily track the progress of their globalization plans.

In a different study, Taylor and collaborators Sirkka Jarvenpaa and Elizabeth Keating from the University of Texas at Austin with funding from the National Science Foundation studied three companies with offices in the Romania, Kolkata, and Mumbai. Each firm is collaborating with a different engineering office in the United States. Through these long-term case studies they developed several recommendations for the construction industry.

Taylor suggested collaborating firms give more attention to recognizing misalignment between the two groups of project managers and engineers and identifying compromises to find common ground between cultures and practices. He also advised that there is a need to better understand and manage expectations of the other cultural group's behavior, outlook, communication, values, and historical leadership styles.

The team developed several solutions ranging from better use of conferencing and work flow management software to improving individual and team awareness of behaviors that are interpreted as disregarding and disrespectful. A cross-cultural necessity for positive feedback was found to be important and it was noted that the amount and manner communicated affected how positive it was. Taylor also indicated that this holds true for cross-generational interactions as well as cross-cultural.

Taylor and his team quantified the importance of having a person act as

a "cultural boundary spanner." This team member has spent a few years in both countries and is knowledgeable concerning both cultures. As they hypothesized, the cultural boundary spanner became the center of team-based communication and a key to achieving efficient cross-cultural team performance, Taylor said.

In a series of experiments, Taylor and the team were able to show that multicultural teams with a cultural boundary spanner are able to initially outperform other multicultural teams by 33 percent and a cultural boundary spanner enabled a multicultural team to perform as well as a domestic group with the same culture and language after several project interactions.

Another crucial finding was that, as multicultural teams adapt, their performance rapidly improves and can even possibly outperform a homogeneously cultural and lingual group, said Taylor.

More information: <http://www.cend.cee.vt.edu/index.shtml>

Provided by Virginia Tech

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