STRATEGIC CONSTRUCTION MODELING AND DELIVERY
INDUSTRIAL RESEARCH CHAIR

IDENTIFYING CONSTRUCTION ORGANIZATIONAL COMPETENCIES AND PERFORMANCE

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ABOUT THE CHAIR

Established in January 2012 under the leadership of Dr. Aminah Robinson Fayek, the Industrial Research Chair in Strategic Construction Modeling and Delivery operates within the Department of Civil and Environmental Engineering at the University of Alberta.

The Chair brings together construction industry owners, contractors, and labour groups working in Alberta and across Canada to develop comprehensive research-based solutions to key industry problems. Giving particular attention to Canada's oil and gas, utilities, industrial, and commercial construction sectors, the Chair focuses on strategic concerns related to construction management—such as construction industry productivity, project delivery, and performance. Research undertaken includes improvements to labour productivity, structuring projects and teams, assessing owner and contractor competencies, and reducing project execution risk.

The Chair's research program takes advantage of fuzzy logic's ability to capture and quantify the many subjective uncertainties that challenge construction projects. Researchers combine fuzzy logic with other forms of uncertainty modeling, artificial intelligence, and simulation techniques to develop advanced decision-support tools and approaches.

PROJECT PARTNERS

NSERC CRSNG

BACKGROUND

- The construction industry is a dynamic, uncertain, and complex environment that has been criticized for its underperformance.
- Organizational competencies are combinations of resources, sets of skills, information, and technologies that enable organizations to achieve competitive advantage and a better performance.
- Construction organizations need to identify, assess, and enhance their competencies to achieve better performance and competitiveness.

OBJECTIVES

- Compile construction organizational competency and performance list.
- Develop organizational competency measures (processes & practices) and performance indicator metrics.
- Develop a framework to establish competency-performance relationship.
- Develop fuzzy hybrid model using organizational competencies to predict performance.

ORGANIZATIONAL COMPETENCY-PERFORMANCE FRAMEWORK
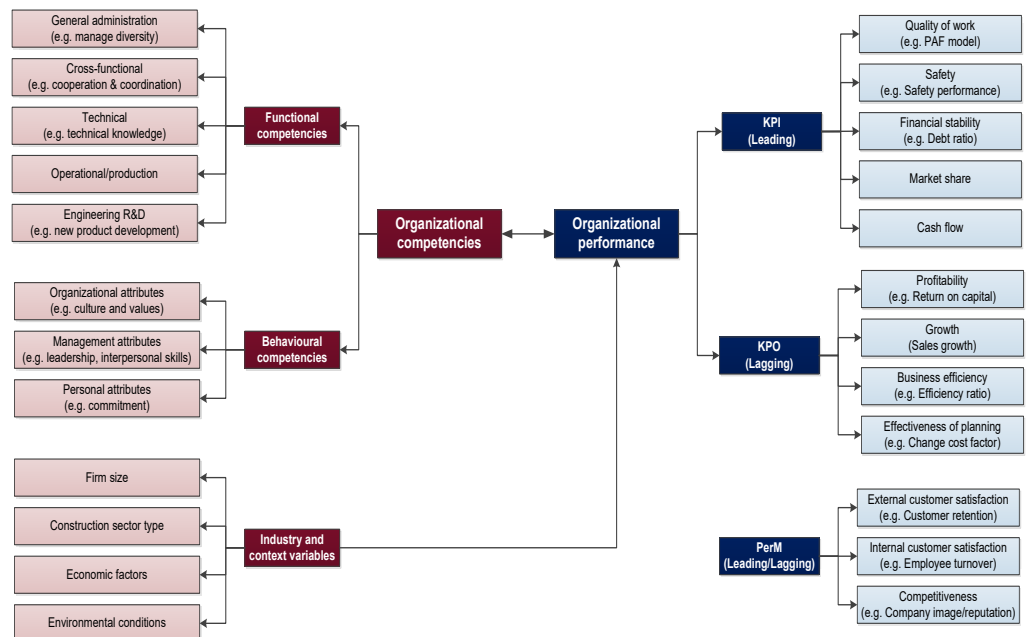
INDUSTRY APPLICATIONS AND BENEFITS

- Identification of organizational competencies that lead to improved performance and competitiveness.
- Provides practitioners with a systematic process for measuring and enhancing competencies at organizational and project levels.
- Provides insight on how organizational leaders can improve organizational and project practices to maximize their performance and competitive advantage.