Sustainable Building Codes: How the Perceptions of Building Code Officials Influence Their Intent to Adopt the International Green Construction Code

Aaron Sauer, MS and David McCandless, Ed.D
University of Central Missouri
Warrensburg, Missouri

Sustainable practice is a prominent issue in the design and construction industries that is being driven by an array of contemporary concerns including global climate change, corporate accountability, depletion of non-renewable energy reserves, rising energy costs, energy security, environmental deterioration, and environmental health. The transition from traditional practices to sustainable design and construction will require action on many fronts. As with other ecological issues, change must occur in social, economic, and political-legislative spheres. In the design and construction field, a prominent aspect of the political-legislative landscape is building code enforcement. While sustainability is a prominent issue in the construction industry, it is frequently practiced on an elective basis at the discretion of the building owner with the assistance of the designer and contractor. This is especially true in cities not governed by statewide efficiency and environmental performance standards. However, the International Green Construction Code (IGCC) which was developed by the International Code Council (ICC) will impose mandatory green construction standards in jurisdictions that choose to adopt the code. As an innovative code offering, the IGCC faces many barriers to adoption. History includes many examples where superior technologies were available long before their widespread adoption. Although the ICC family of model codes has achieved widespread adoption in the U.S., it is unknown to what extent the IGCC will be embraced by local jurisdictions. The field of innovation diffusion includes a wealth of existing literature and theoretical models. One prominent framework has used perceptions of key attributes of innovations to predict intent to adopt and adoption behavior. Building on the existing theories and literature, the problem of the study is to investigate how building code officials' perceptions of key attributes influence their intent to adopt the IGCC.

The research design for this study will employ an online survey instrument for the collection of quantitative data. A random sample of building code officials from Illinois, Kansas, Missouri and Nebraska will be invited to participate in the study. A multiple regression analysis will be used to model code officials' intent to adopt the IGCC based on their perceptions of four key attributes. The model will identify statistically significant attributes that can best predict potential adoption behavior. The survey will also collect data on code officials' knowledge of the IGCC and preferences towards adopting the code on an elective basis prior to full adoption. Ultimately, the need to understand the diffusion of sustainable codes and the factors that influence their adoption can be grounded in research that shows them to be effective in addressing the contemporary concerns facing this generation. Based on the findings of this study, proponents of sustainable construction practices will be better prepared to address issues related to strategy formulation and policy development. Ultimately this will serve to accelerate the adoption of the IGCC by assisting change agents in promoting the application of sustainable building regulations at the local level.

Key Words: Technology management, Innovation diffusion, Sustainable construction, International Green Construction Code