

## CONSTRUCTION ENGINEERING MASTERS DISSERTATION ABSTRACT

### **The Sharing Economy and Civil Plant Utilization**

The aim of this dissertation was to determine if the sharing economic model could improve civil plant utilization on a global scale. This is important as digital platform technology is available that can help industries avoid the unintentional idling of resources by connecting resource consumers (contractors) and providers (plant suppliers). To help answer this question a literature and market review were conducted to identify: what the typical barriers are to the sharing economy, how to address these barriers to develop an economically sustainable business model, and to understand the current state of the global plant sharing industry. The market review showed that the plant sharing industry had grown from one plant sharing company covering two countries in 2010, to nine plant sharing companies covering nine countries across four continents in 2020.

The literature and market review showed that there is a lack of knowledge on how contractors and plant suppliers viewed using a plant sharing platform to facilitate plant hiring. To address this, a market research study was carried out in the United Arab Emirates (UAE) due to its international growth potential for the plant sharing company based there. Interviews were conducted with the plant sharing company Tenderd, 15 contractors, and 15 plant suppliers. The findings from the interviews revealed that the plant sharing market in the UAE is still in its early stage of development and is still addressing how to best balance the platform demands and expectations to create value for the contractors, suppliers, and the platform itself.

The results from the research led to the creation of two models to help with interactional demands, expectations, and preferences within a plant sharing marketplace. The Civil plant sharing interactional model identified five main categories a plant sharing company needs understand to build, sustain, and grow a plant sharing marketplace. The Preferred plant sharing model (UAE) identified the preferences for contractors and suppliers for using a plant sharing platform, including a review system for those contractors and suppliers on the platform.

Further research is needed to understand the best pricing models for plant suppliers on a platform based on individual market differences between supply and demand. For plant sharing companies, further research is needed to determine how much impact the owned/hired rate for equipment affects the economic viability for expanding into new construction markets.

**Brian Chubb**  
**October 2021**