**On Sustainable Supplier Selection and Order Allocation using Combinatorial Auctions**

A presentation titled "On Sustainable Supplier Selection and Order Allocation using Combinatorial Auctions" was delivered by Dr. Sadeque Hamdan at the 65th Annual Canadian Operational Research Society (CORS) Conference, held from June 3 to June 5, 2024, in London, Canada. The CORS Conference is a prestigious platform that brings together top researchers, academics, and industry professionals in the field of operational research. This year's event served as a valuable forum for discussing new methodologies and emerging trends in decision-making, supply chain management, and sustainability.

Dr. Hamdan's presentation explored innovative approaches to sustainable supplier selection and order allocation using combinatorial auctions, offering fresh perspectives on integrating sustainability into procurement strategies. This ongoing study is a collaboration between Dr. Chefi Triki from the University of Kent, UK and Dr. Simona Mancini from Università degli Studi di Palermo, Italy. The presentation highlighted the importance of supplier selection in business operations, where cost-effectiveness, reliability, and sustainability are critical factors. The research focuses on sustainable supplier selection and order allocation by leveraging combinatorial auctions, a bidding process that allows suppliers to bundle items and offer discounts. Suppliers, in this approach, are provided with the expected demand for products over multiple periods and are invited to submit numerous bids for the products they manufacture. One of the key innovations in this study is a mathematical model that identifies winning bids based on both the bid price and the sustainability value of each bid. The model ensures that for every period, the supply is secured by at least a minimum number of suppliers, promoting resilience in the supply chain.

The presentation introduced a novel "price-popularity kernel search algorithm" designed to optimize the bidding process by considering both the bid price and the popularity of items. Preliminary results indicate superior performance compared to traditional methods, potentially transforming supplier selection by integrating sustainability. The ongoing collaboration with Dr. Triki and Dr. Mancini aims to further enhance sustainable procurement strategies, aligning with global sustainability goals while ensuring profitability and efficiency.