

An empirical approach to Decision Support Systems: advanced decision making within a SC framework

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Abstract: Decision Support Systems are well known in higher education for multiple purposes, such as to conjugate data and intelligence, to achieve the best and possible solutions, and to adjust decisions under uncertainty. The optimality of discrete decisions (e.g., yes/no?) on uncertain environment is aimed in a Multivariate Analysis and Decision Support course: multivariate data is required, collected, and treated; then, through probabilistic measures of performance, Robust Optimization supports the development of decision rules (e.g., buy/sell?). Using an empirical approach, a case statement is specifically built to encapsulate several subproblems under an industry-based supply chain framework. Since the subproblems are student-oriented, by personal or professional reasons, the usual issues concerning domain knowledge or background information are thus avoided. Several applications are presented, addressing the planning and distribution activities, investments programming, financial risk treatment, and applied marketing.