

## **A Practical Application of the Generalized Cutting Stock Algorithm**

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*Received 28 February 2018; accepted 15 March 2018*

**Abstract.** A watered-down version of the cutting stock algorithm has existed for a few centuries before the industrial revolution but no real formulation or solution to the problem was known other than for a few heuristic algorithms used under specific cases pertaining to the logging industry. The first formulations and solutions of the cutting stock problem was published about 6 decades ago by Gilmore and Gomory in the Operation research journal [6]. In that, they have explained the concept by using crude optimization techniques which are not applicable to most conditions found in the contemporary business environment. Our research project involves cutting wooden sheets and wooden rods of specific dimensions based on the requirements of the customers of Moratuwa Timber Work (MTW). The main focus of this paper is to find the optimal cutting patterns by minimizing the wastage and the trim loss. This is achieved with the aid of a web enabled database, using Java codes and Lingo programs.

**Keywords:** Cutting Stock Problem; Linear and Integer Programming; LINGO

**AMS Mathematics Subject Classification (2010):** 90C10, 90C05, 90C90