

A Comparative Analysis of Different Adaptation Methods of the Fibonacci Sequence in Creative Pattern-making

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Abstract – *This research investigates the adaptation of mathematical concepts, particularly the Fibonacci sequence, in the creative pattern-making techniques of renowned designers Issey Miyake, Shingo Sato, and Andrea Brocca. Through an in-depth analysis of their methods, using cotton greige fabric as a standardized variable, the study explores key parameters applied in garment work study analysis. The research addresses questions concerning current adaptation methods, the application of garment work study analysis, and the identification of the most effective adaptation technique for mass production. It seeks to address the knowledge gap and limited adoption of advanced pattern construction techniques in the garment industry.*

By conducting comparative analyses, the research highlights the distinct attributes of each designer's approach to garment production while striving to bridge the gap between haute couture and mass production. The findings underscore the importance of marker utilization and production time as critical factors in enhancing sustainability and profitability within the fashion industry.

While acknowledging limitations, such as the confined focus on selected designers, this study provides valuable insights for academia and industry professionals, offering a foundation for future investigations. Additionally, it simplifies these adaptation methods for potential application in mass production, contributing to the broader adoption of innovative pattern-making techniques.

Keywords: *Fibonacci sequence, creative pattern making, garment production, economic development, sustainability*



Fig. 1 Fibonacci Spiral, Golden Ratio Pyramid, partenon Source;(The pyramid of Khafre, the Great Sphinx and The Golden Ratio., n.d.)

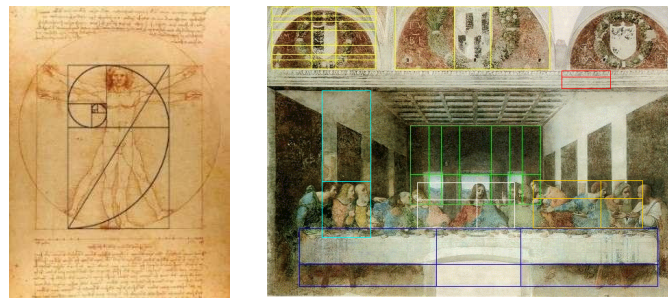


Fig. 2 Leonardo's Vitruvian Man with Golden ratios (Left) The Last Supper - Golden Ratio (Right) Source ;(Da Vinci - Vitruvian Man Golden ratio, n.d.), (Meisner, 2013)

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