An empirical analysis of the relationship between supply chain strategies, product characteristics, environmental uncertainty and performance

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This paper aims to investigate supply chain (SC) strategies, analyzing the adoption of lean, agile, leagile and traditional SC strategies with respect to product characteristics, environmental uncertainty, business performance and innovation performance. The paper presents an empirical analysis carried out on a sample of 329 companies from Portugal and Brazil. Cluster analysis was applied, based on lean and agile SC characteristics, to identify patterns among different SC strategies. One-way analysis of variance of different constructs by types of SC clusters was conducted to test the research hypotheses.

The cluster analysis indicates that the companies studied adopt four types of SC strategies – lean, agile, leagile and traditional. The differences between the clusters are identified and discussed, highlighting that companies adopting a leagile SC strategy present the highest performance, while those that adopt a traditional SC present the lowest; companies adopting an agile SC compete in the most complex and dynamic environments, while companies with a lean SC present a clear predominance of functional rather than innovative products.

This paper provides empirical evidence of the antecedents and consequences of the adoption of different SC strategies. As a limitation, the results are based on a survey research with a limited sample size. Based on the analysis of the relationship between constructs that have not been addressed previously, the paper adds to the knowledge regarding the role of SC strategies, as well as the antecedents and consequences of their adoption. The results may support managers in the difficult task of choosing the "right" SC strategy.

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