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Warranty as a Signal of Quality and the Lemons Problem: Evidence from the Automotive Industry*

Mikolaj KLIMCZAK

Wroclaw University of Economics and Business, Poland

Correspondence should be addressed to: Mikolaj KLIMCZAK, mikolaj.klimczak@ue.wroc.pl

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Abstract

Information asymmetry between buyers and sellers in automotive markets creates significant challenges for consumers seeking to assess vehicle quality before purchase. This study examines the effectiveness of warranties as quality signals in addressing Akerlof's "lemons problem," where buyers cannot distinguish between high-quality "peaches" and low-quality "lemons" in the marketplace. While Spence's signalling theory suggests that only high-quality manufacturers can afford extensive warranties due to lower expected claim rates, limited empirical research has tested this theoretical framework in practice.

This research addresses a critical gap in the literature by investigating whether extended warranty coverage correlates with actual product reliability in the automotive industry. Using a case study methodology, we analyse Kia Motors' aggressive warranty strategy against objective reliability data from the ADAC reliability index, which measures roadside assistance calls per 1,000 registered vehicles. To assess signalling effectiveness, the study examines warranty policies and reliability rankings across multiple vehicle segments and model years.

Our empirical analysis reveals a notable disconnect between warranty length and reliability rankings in third-party assessments. Despite offering industry-leading 7-year warranties, Kia vehicles consistently rank in middle-to-lower positions in reliability evaluations, with average rankings of 8.375/14 to 31.25/57 across different segments. This paradox challenges traditional signalling theory assumptions and suggests that warranties serve multiple strategic functions beyond quality communication, including risk mitigation, competitive differentiation, and brand positioning. The results have important implications for signalling theory development and automotive industry strategy, particularly as markets evolve toward electric vehicles and software-defined automotive technologies.

Keywords: Signalling Theory, Warranty, Automotive Industry, Information Asymmetry

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