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Amirhossein Bazargan, Salma Karray, Saeed Zolfaghari

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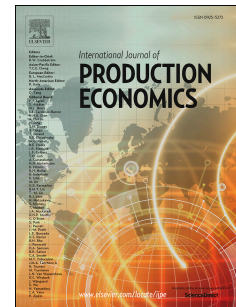
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Modeling reward expiry for loyalty programs in a competitive market*

Amirhossein Bazargan¹, Salma Karray^{2†}, Saeed Zolfaghari³

¹ *PhD student, Ryerson University, Toronto, Ontario, Canada.*

² *Associate professor, University of Ontario Institute of Technology (UOIT), Oshawa, Ontario, Canada.*

³ *Professor, Ryerson University, Toronto, Ontario, Canada.*

Abstract

This paper investigates reward expiry for loyalty programs. It provides insights into the profitability of setting reward expiry for competing firms and identifies conditions under which such a policy would be beneficial. We develop and solve a game-theoretic that reflects consumer behavior in choosing products and redeeming rewards. Applying a new iterative algorithm, we get the Nash equilibrium outputs for three scenarios (games): (1) neither firm sets an expiry date, (2) both firms set an expiry date, and (3) only one firm sets an expiry date. Comparison of the firms' profits across scenarios shows that the firms' prices and profits are affected by the loyalty program of the competing firm and by consumers' valuation of rewards and of time to rewards. In particular, a firm offering rewards that do not expire should increase its price if the competing firm changes its reward policy from no expiry to expiry, even when the expiry period is quite long. Finally, when customers are highly sensitive to rewards and time, reward expiry is a dominant strategy for both firms, i.e., both firms gain the most profits when they both have reward expiry. However, both firms' rewards should not expire if consumers have low valuations of both rewards and time.

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† Corresponding author. Email: salma.karray@uoit.ca, Tel: +905-721-8668.

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