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Market structure, consumer banking, and optimal level of service quality

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Abstract

In this article, we use a very simple game theoretic model to investigate the influence of differing market structures, or competitive conditions, on a bank's decision to increase the level of quality of the retail, or consumer, services that it markets. The results from our model suggest that the optional level of a bank's service quality depends critically on the competitive structure of the market in which the bank operates, the degree of demand interaction between banks, and the ease of imitation of competitors' service quality innovations.

We find that banks in low demand interaction markets will adopt different strategies, inducing each bank to develop its own "unique" brand of quality. It is not necessarily the case that the *leading* banks will lead in quality improvements. This may partially explain why some of the largest banks do not have the highest levels of consumer service quality.

JEL classification: C70; D40; G20
Keywords: Consumer banking; Service quality; Competition; Market structure; Quality innovations; Game theory

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1. Introduction

In this article, we use a very simple game theoretic model to investigate the influence of differing market structures, or competitive conditions, on the bank's decision to increase the level of quality of the retail, or consumer, services it offers. We view an increase in the level of consumer service quality as an "innovation" in the service or a new service offering. Viewing increases in the level of consumer service quality as service innovations allows us to link our analysis to the large and powerful economic literature on the bank's decision to innovate. Specifically, our analysis draws heavily from the extant literature on market structures' influence on product innovation. Additionally, we focus on consumer service quality in recognition of the fundamental differences in delivery strategies employed by banks in difference financial markets. For example, a "rationing" model of service delivery typically characterizes consumer financial service markets, while a "pricing" model of service delivery is usually used to provide commercial and industrial financial services. The game theory model we develop in this article is a better fit for the rationing model of consumer financial service delivery.

We consider the use of a game theoretic approach quite timely for our analysis, considering the recent attention game theory has received. For example, in 1994, the Nobel Prize in Economics Science was won by three game theorists. In his Nobel lecture, Harsanyi (1995) spoke about what game theory is and why it is important. He said:

> Game theory is a theory of *strategic interaction*. That is to say, it is a theory of *rational behavior* in social situations in which each player has to choose his moves on the basis of what he thinks the other players' *countermoves* are likely to be.
>
> In principle, *every* social situation involves strategic interaction among the participants. Thus, one might argue that proper understanding of *any* social situation would require game-theoretic analysis.. ..
>
> ...game theory has now definitely become an important analytical tool in understanding the operation of our economic system.

The Nobel Prize and these remarks highlight the significant contribution game theory has made to the economics profession in general and the subfield of industrial organization in particular (e.g., Tirole, 1990). However, game theory has had an even broader impact. The vast majority of recent management theory has been greatly informed by game theory (e.g., Chase & Prentice, 1987; Oster, 1990). Additionally, from a more practical perspective, many major banks are making use of game theory in their strategic operations (e.g., Barnett, 1995).

Thus, we believe it quite appropriate to develop strategic decisions about consumer service quality provided by banks within a game theoretic model. Our results from that model suggest that the optional level of a banks' service quality depends critically on the competitive structure of the market in which it operates, the degree of demand interaction between banks, and the ease of imitation of competitors' service quality innovations. The remainder of our paper is organized as follows. Section 2 presents some background and specific linkages to the market structure and product innovations literature. Section 3 presents our model and results. Lastly, Section 4 offers a brief conclusion.