

# Cognitive Dissonance in the Swine Value Chain

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## ▪ Introduction: Motivation of Research Problem

The changing face of U.S. and Canadian agriculture has been described by the greater extent of coordination of supply stages. This is accompanied by an increasing recognition of the value chain as an inter-dependent market system (Boehlje, 1999, Barry et al., 1992). The inter-dependent nature of a value chain system raises an issue of the nature of the competitive environment. With out an understanding of the competitive players in a value chain environment, the formulation of a competitive strategy becomes problematic. The competitive perceptions of intermediary users of swine genetic products such as veterinarians and end users such as swine farmer/producers are important in so far as they influence the opportunities and strategies available to developers of swine genetic seed stock.

## Research Objective

As a result, the objective of this research was to provide a theoretical and methodological approach to ascertaining these differences in competitive perceptions. A cognitive dissonance approach was used to explain differences in the competitive perceptions among swine genetic managers, veterinarians, and swine farmer/producers. With this framework, cluster analysis was employed as a methodological tool to assess the existence and extent of the discordance of these competitive perceptions. Empirical measures of cognitive dissonance are reported.

## Research Contribution

The implication of this cognitive dissonance approach is that it provides a fruitful addition to the field of competitive strategy in a value chain context.

Being sensitive to the competitive perceptions in a value chain environment can inform swine genetic managers of their product re-positioning and marketing strategies. Specifically, it enables swine genetic managers to formulate strategies that not only capitalize on a swine genetic firm's competitive advantages, but also reduce the dissipation of economic rents arising from cognitive dissonance. A cognitive dissonance approach provides an initial framework for the competitive analysis in a value chain environment.

### ▪ **Cognitive Dissonance: Theoretical Approach**

In devising a model of cognitive dissonance, theories were drawn from cognitive dissonance (Festinger, 1957, Akerlof and Dickens, 1982), social cognition (Ginsberg, 1994; Reger and Huff, 1993), strategic group theory (Caves and Porter, 1977), information economics (Arrow, 1974) and structural hole theory (Burt, 1992). Based on the synthesis of these theoretical views, the following hypothesis were devised:

- *H1a: Cognitive dissonance exists between swine genetic managers, veterinarians and swine farmer/producer groups*
- *H2a: The degree of cognitive dissonance increases as one becomes further removed from the swine genetic manager group.*

### ▪ **Research Methodology and Findings**

A novel application of cluster analysis (Aldenderfer and Blashfield, 1984; Ketchen and Shook, 1996) was employed to measure differences in cognition among these market participant groups<sup>1</sup>. The Goodman-Kruskal (1954) test statistic was used to show the extent of such differences in cognitive perception. At the 4-cluster solution, the pair wise comparison between the swine genetic manager group and the farmer group has a Goodman-Kruskal test statistic value of 0.600. For the pair-wise comparison between the swine genetic manager group and the veterinary group, the Goodman-Kruskal test statistic has a value of 0.666. For the transitive result, the pair-wise comparison between the swine farmer/producer and veterinary group, the Goodman-Kruskal test statistic has a value of 0.200.

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<sup>1</sup>The novelty of this approach stems from not only addressing prior limitations concerning the subjectivity involved with the "validation" of cluster techniques (Ketchen and Shook, 1996), but also the application of cluster methods in comparing alternative cognitive maps has not been previously done in the literature.

While support for cognitive dissonance existed between the cognitive maps of these three market groups, the degree of dissonance was not significantly greater between farmers and swine genetic managers than between veterinarians and swine genetic managers. As a result, the Goodman-Kruskal test statistics showed support for hypothesis 1a. However, there was no conclusive support for hypothesis 1b.

### ▪ **Conclusions: Implications of Research Findings**

These results indicate the quality of information about the products and firm characteristics of genetics firms held by swine veterinarians is not better than the quality of information about swine genetics firms held by farmers. Thus, a model of marketing strategy that exploits swine veterinary practitioners as an information conduit between genetics firms and end consumers - farmers - would be flawed. Most veterinarians do not have the necessary inter-group information channels in place to act as a resource for their clients in making choices about swine genetics. To conclude, a cognitive dissonance approach can serve as a management tool to assess the competitive perceptions of the market place and provides an alternative method for competitor analysis in a value chain environment.

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