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Quality Competition Between Firms

An Empirical Investigation With Respect to Product Quality Improvements of Industrial Firms, Competitive Marketing-mix Reactions and Perceived Success

Summary

This summary will focus on the five phases of the research. First, the problem is elucidated. Second, we will present the main hypotheses of this study. Third, we will describe the profile of the empirical research. Next, we will present the major findings and finally we will draw some conclusions.

Problem definition

Recently, a number of (inter)national programs aimed at stimulating the development of higher quality products have been initiated. More and more companies consider Total Quality Management as an inevitable instrument to improve products and services. Quality competition is generally seen as a useful instrument for achieving success in terms of market share and profits. In marketing there has been ample research in the area of competition and the competitive process, in the past ten years. However, there was not much attention for quality problems and quality as a competitive weapon; as part of the marketing-mix. This dissertation tackles product quality improvements and competitive reactions of competitors. More specifically the empirical research is focused on four questions:

- * What are the most important motives for improving product quality?
- * What type of product quality improvement is used?
- * What is the specific reaction of the main competitor?
- * What is the eventual success of the product quality improvement for the initiating company?

To investigate these questions we investigated the existing literature in various disciplines; marketing, (industrial) economics and quality management. We have presented an overview of the literature on market entries and competitive incumbent reactions. Literature on market entries and competitive incumbent reactions is relevant because of the comparable situation with the product quality improvement from a competition perspective. The product is improved, or newly introduced in the market. To a certain extent, incumbents are forced to make room for the new entrant, respectively the product with the improved quality. On the other hand, we used insights from econometric marketing modelling, usually gathered in consumer markets with clear boundaries. Insights from econometric marketing model building are relevant because there are some studies where the product quality is operationalised, though rudimentary. Our empirical research is descriptive and explorative and uses management perceptions. The basic model can therefore be characterised by a behavioural approach. In the final analyses, the

conclusions are not drawn for the individual firm, but for group(s) of firms. In this way we tried to supply ingredients for a more common acceptable general theory on product quality improvements and competitive reactions. As far as we know, for the first time the reaction of competitors to quality improvements is empirically established. Based on such findings, one could try to formulate reaction hypotheses with a normative character.

Hypotheses

A product quality improvement is defined as a repositioning, product modification or an addition to existing product ranges in order to meet the wishes and needs of the customer. Thereby, one should keep in mind the relative quality position to competition of the company. Product is defined as the tangible product, including the characteristics that are implied by customers.

The most important hypotheses can be divided in two categories. The first category handles hypotheses about competitive reactions. The second set of hypotheses is related to the perceived success of product quality improvements. From other research (Biggadike 1979, Robinson 1988) it appears that the typical reaction of the competitor to market entries is no reaction. Therefore, our hypotheses with respect to product quality improvements is that the number of product quality improvements without a reaction of the main competitor is greater than the number of product quality improvements with such a reaction. Furthermore, if a reaction of the main competitor takes place, the typical reaction is a strict imitation of the product quality improvement. Another hypothesis with respect to reaction intensities is based on the hypothesis of Marris (1968), who assumes that "In static markets (saturation phase of the product life cycle) the conflict situation is necessarily intense...[An entrant] may be compelled to fight a war in which one or more producers are driven out to make room for him". Our hypothesis reads that the intensity of the competitive reaction (number of marketing-mix instruments used by the most important competitor) is greater in the saturation phase than in the growth phase of the product life cycle. The type of product quality improvement could also be a factor for competitors to determine the type of reaction, as well as the intensity and speed of reaction. Finally, a number of hypotheses has been formulated with respect to the perceived result of the product quality improvement. Success could be influenced by the motives to improve product quality, the type of product quality, the speed and intensity of the competitive reaction, besides environmental influences.

Empirical research

The empirical research is based on a mail survey amongst almost 2000 companies in The Netherlands. Twenty percent of the companies we contacted responded with filling in a comprehensive questionnaire, describing their most important product quality improvement in the past five years. The research took place in the period november 1987-january 1988. Although a broad range of companies were contacted, we focused our research on the relatively homogeneous group of 247 companies, acting in industrial markets with durable products. Somewhat more than two hundred of these companies gave detailed information on their most important quality improvement, motives, reactions of the main competitor and results. Again, it is important to realise that the findings are

based on perceptions of managers. Therefore, a behavioural approach is used in order to depict the action and reaction patterns in quality competition.

Findings

In the empirical part of the study it appears that a majority (70%) of the product quality improvements induced a reaction of the main competitor. Almost 60% of the companies reacted with the marketing-mix instrument product. It is noteworthy to state that 25% of the companies (also) used the marketing-mix instrument price and 23% promotion. So, the typical reaction of the main competitor is to react with the marketing-mix instrument product. A substantial number of companies also made use of other marketing-mix instruments; mainly price or promotion.

We could not find a significant difference between the intensity of the reaction of the main competitor in the growth phase and the saturation phase of the product life cycle. However, the intensity of the competitive reaction is significantly lower in the decline phase of the product life cycle than in the other phases. These findings are in line with the findings of Biggadike (1979) and Robinson (1988) in their research of market entries. Five reasons could be given.

- 1) The competitive pressure has decreased, because of the shake-out in the saturation phase. Firms are forced to create a market niche, in which they are relatively safe from competition.
- 2) Product quality improvements in growth markets could uncover product possibilities not yet adopted by competition. Because of the urge to imitate this could lead to more intensive reaction of competitors.
- 3) Competitive reactions are not influenced by absolute sales figures, but by relative sales (e.g. sales growth or market share).
- 4) Markets in a growth phase are relatively young, and usually promising. Future possibilities are, as a rule, large and worth a strategic investment.
- 5) Firms in a growth market are often managed in a different way than firms in a saturation phase or a decline phase. In general, it is easier to depart from budget constraints and to react adequately to competitive product quality improvements in the growth phase.

Furthermore, the main competitors appear to react intensively on product quality improvements based on reliability. It seems that reliability is, as was found in other studies, an important quality factor. Competitors discern the importance and react in accordance with this fact. The competitive reaction to improvements in the serviceability is very tardy. Probably this is caused by inherent difficulties in imitating services. Product quality improvements based on

- 1) the internal strength and support of firms,
 - 2) pointed at the reliability and/or serviceability of the product, and
 - 3) in the first phases of the product life cycle,
- appear to be more successful than product quality improvements without these characteristics.

Finally, it appears that the intensity of the reaction in case of product quality improvements is not less than the intensity of the incumbent reaction in case of market entries of firms.

Conclusions

Our investigation shows that a number of relationships with respect to product quality improvements could be determined. Even the PIMS studies could not give proper insight into these relationships. However, our approach has been partial. So, the complete conceptual model has not been estimated at once. This does not preclude that a more elaborate and extended approach could give more and stronger evidence for our conclusions.

Finally, it appears that service-aspects are important in quality competition. These types of product quality improvements are difficult and not very swift to imitate. Furthermore it leads to higher (perceived) market shares and profits. A high quality service turns out to be an important competitive instrument. Therefore, it is important that future scientific research in this area is focused on tools and instruments which could help improving service quality. Because of the inherent multidisciplinary character of this type of research this is not only a task of scientific work in the marketing discipline.