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A Behavioral Economics Approach to Customer Relationship Management

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Abstract

Can firms be competitive in a market when improving quality is not technically feasible, cost inefficient, or when quality parity is easily matched? Prior work has suggested customer relationship management (CRM) as a tool for horizontal differentiation. However, this use of CRM fails to address the fundamental issue of leveraging CRM for quality disadvantage. Drawing upon behavioral economics, we develop a set of propositions to explore this strategic use of CRM. Specifically, a customer relationship is proposed to increase competitiveness through (1) making the customer relationship available as a decision heuristic, (2) creating customer interactions from their reference dependence and loss aversion, and (3) competing on relational heuristic rather than on quality attribute. Our innovative approach to CRM adds to the literature in three respects. First, it shows that customers can temporarily tolerate a lower quality, because they do not typically engage in cognitive reasoning. Second, it establishes that a higher quality may leave no room for firms to interact with customers and cause a deterioration of subsequent quality evaluations. Finally, it suggests that it may not be cost efficient to over-invest in quality, if maintaining a relationship is more feasible to firms.

Keywords: Behavioral economics, customer relationship management, perceived quality

1. Introduction

Achieving the highest possible quality is the major endeavor of most firms (e.g., Conlon et al. 2001; Dabholkar et al. 2000; Hellofs and Jacobson 1999; Olsen 2002). This strategic imperative is based on the economic rationality postulation that, given their knowledge of utilities, alternatives, and outcomes, customers can compute which alternative will yield the greatest utility (Simon 1955); therefore, rational customers always prefer a higher quality alternative over a lower quality one, all other factors being equal.

Given that customers are rational, can firms be possibly competitive in a market when improving quality is not technically feasible, cost inefficient (Telang et al. 2004), or when quality parity is easily matched (Vandenbosch and Dawar 2002)? Prior work has suggested customer relationship management (CRM) as a competitive driver, through which firms can know customer tastes better and thus enable horizontal differentiation (Dwyer et al. 1987; Reinartz et al. 2004; Vandenbosch and Dawar 2002; Winer 2001). However, this use of CRM fails to address the fundamental issue of leveraging CRM for quality disadvantage. It reflects the oversimplified economic rationality assumption that firms strive to be quality leaders, with CRM simply adding "tastes" to this vertical differentiation.

In this paper, we draw upon models of bounded rationality to leverage CRM for quality disadvantage. Kahneman and his colleagues' research programs on behavioral economics (Kahneman 2003; Kahneman and Frederick 2002; Kahneman and Tversky 1973, 1979; Tversky and Kahneman 1992) recognize that customers often act with limited rationality, depending on the feasibility of being rational (Simon 1955), or on the availability of information for being rational (Kahneman 2003). This bounded rationality has contributed to a number of anomalies that we have observed in a market, for example, information goods with different qualities coexisting at the same price (e.g., zero prices in Telang et al. 2004).

Specifically, we propose that customer relationships can be used to increase competitiveness through three mechanisms: (1) two cognitive systems, (2) loss aversion and reference dependence, and (3) attribute substitution developed in Kahneman and his colleagues' research programs. These propositions include making customer relationships available as decision heuristics, creating customer interactions from customers' loss aversion and reference dependence, and competing on relational heuristics rather than on quality attributes.

Our study adds to the literature in three respects. *First*, it shows that customers can temporarily tolerate a lower quality, because they do not typically engage in cognitive reasoning. Hence, firms seeking to increase competitiveness can focus more on customer relationships by allocating resources to what really concerns customers, rather than jumping into the race of quality competition (Proposition P1).

Second, it establishes that a higher quality may leave no room for firms to interact with customers and cause a deterioration of subsequent quality evaluations, as compared to those customers who receive a lower quality offering but are later compensated by customer interactions. With customer interactions being the essence of CRM processes (Winer 2001), no interaction equals to no customer relationship. Nevertheless, not all firms have opportunities to interact directly with their customers. Procter & Gamble (P&G), the packaged goods manufacturer, has developed websites to increase customer involvement with its uninvolved brands like Pampers, Tide, and Crest in order to leverage the interactivity of the Web and strengthen its customer relationships (Assael 2004) (Proposition P2).

Finally, it suggests that it may not be cost efficient to over-invest in quality, if maintaining a relationship is more feasible to firms. This is because customers use relationships as heuristic substitutes for quality attributes in performance evaluations, resulting in evaluations that are more consistent with relationships than with quality. In practice, it is expected that both vertical differentiation (by quality) and horizontal differentiation (by customer relationship) matter, and that customer relationships mitigate quality disadvantage. Consequently, a lower quality firm with CRM may still be competitive (Proposition P3).

2. Behavioral Economics in CRM

According to the economic rationality assumption, rational customers should give products of the same quality the same evaluation. However, the concept of bounded rationality (Simon 1955, 1979; Kahneman 2003) has long recognized that customers often act with limited rationality. This bounded rationality has opened up numerous opportunities for firms to compete strategically. Drawing upon behavioral economics (Kahneman 2003; Kahneman and Frederick 2002; Kahneman and Tversky 1973, 1979; Tversky and Kahneman 1992), we develop a set of propositions to explore, under bounded rationality, the relationship among quality, customer relationship, and competitiveness. Three aspects of behavioral economics are especially relevant to CRM:

2.1 Two Cognitive Systems

Kahneman (2003) distinguishes two types of cognitive processes: intuition and reasoning. Intuition is fast, spontaneous, effortless, and emotionally charged, whereas reasoning is slow, deliberate, effortful, and neutral. Intuition and reasoning are alternative ways of decision-making. People sometimes answer a difficult question by answering an easier one instead, so the processing of information is often superficial. Similar concepts have been applied in many research domains, including satisfaction literature (Mattila 2003). The concept of two cognitive processes is useful for the management of customer relationships, with performance evaluations being the likely outcomes of relational intuition,

quality reasoning, or both.

2.2 Value Function

Prospect theory (Kahneman and Tversky 1979; Kahneman et al. 1991; Tversky and Kahneman 1992) proposes an S-shaped value function, which postulates that people's judgments display (1) loss aversion (the function is steeper in the negative than in the positive domain), and (1) reference dependence (gains and losses are evaluated in terms of a reference point). In CRM, a customer who receives a lower level of quality (undesirable certain losses) will have a stronger motivation to engage in interactions with the firm in order to raise the quality to a higher level. Alternatively, a customer who receives a higher quality (desirable certain gains) will have a lower incentive to engage in interactions with the firm in order to preserve the status quo.

2.3 Attribute Substitution

Kahneman and Frederick (2002) propose attribute substitution as an intuitive cognitive process in which a judgment is mediated by a more accessible heuristic attribute, rather than by a target attribute of the judgment. Highly accessible attributes will influence decisions, while attributes of low accessibility will be ignored (Kahneman 2003). In CRM, customer relationships may serve as heuristics to substitute for the target attributes of costs and benefits. Through customer interactions, the relational heuristics are made more accessible than quality attributes. The relational heuristics are therefore competitors for substitution for a judgment.

3. Propositions

Framed in the behavioral economics language of Kahneman and his colleagues, we develop three propositions that explore the relationship among quality, customer relationship, and competitiveness. The *first* proposition recognizes the view of two cognitive systems and asserts that this cognitive heterogeneity causes customers to perceive the same quality differently. The *second* proposition reflects the view of prospect theory and advocates that loss aversion makes quality losses more devastating than an equal amount of quality gains, and reference dependence renders regains in quality more valuable than straight gains in quality. The *third* proposition captures the view of attribute substitution and posits that customers often use relational heuristics to substitute for quality attributes in making judgments. Figure 1 illustrates the relationships of the three propositions based on a behavioral economics approach to CRM.

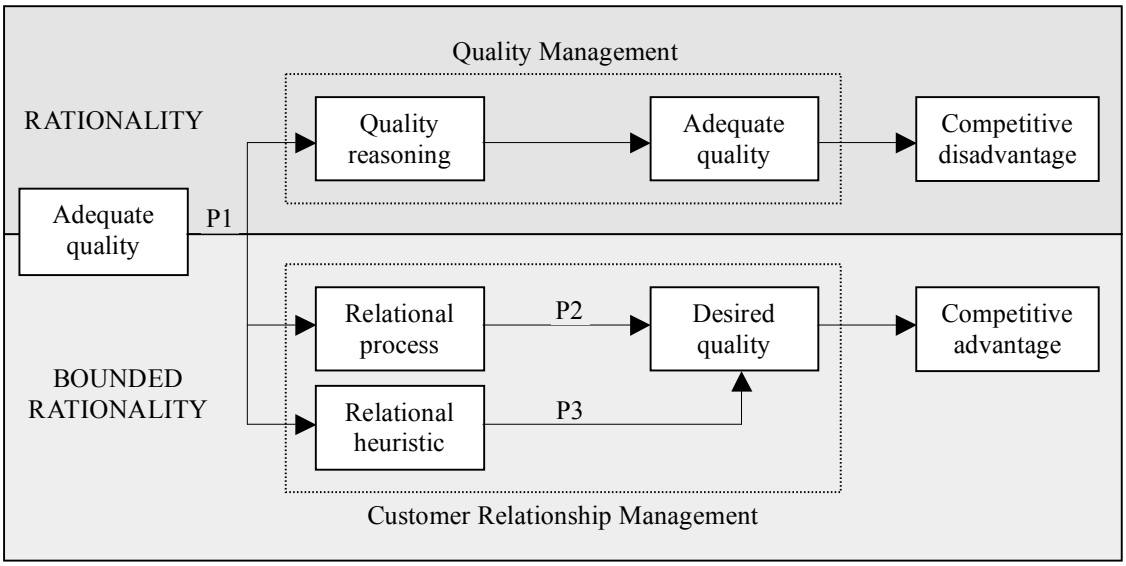

Figure 1. Predicted Relationships based on the Behavioral Economics Approach to CRM Illustrated

3.1 Proposition 1

P1 (two cognitive systems): *A firm that offers an adequate quality will not always be competitively disadvantageous to a firm that offers a desired quality, depending on a customer's stochastic use of one of the following two cognitive systems to process the quality information.*

(a) If the quality information is processed deliberately, then the customer will correctly perceive the quality as adequate, which is competitively disadvantageous (reasoning).

(b) If the quality information is processed intuitively, then there is a chance for the customer to falsely perceive the quality as desired, which is competitively advantageous (intuition).

This proposition distinguishes two levels of acceptable quality: adequate and desired. The adequate quality reflects the minimum level of performance that a customer finds acceptable, while the desired quality is the quality that the customer hopes to receive (Parasuraman et al. 1991). Most studies take an economic rational stance, such that a higher quality leads to a higher performance evaluation (Dabholker 2000; Oliver 1997); yet, anomalies are not rare. For example, Conlon et al. (2001) found that no relationship existed between purchase price and the quality rating of a vehicle. Hellofs and Jacobson (1999) found a negative effect of market share on quality.

The concept of two cognitive processes suggests that customers often look for an adequate quality, instead of a desired quality. The view that customers' preferences to the two cognitive systems are heterogeneous implies that a lower quality firm may still be viable in a market. This is because some customers make their quality evaluations on the basis of intuition (bounded rational), while others make their judgments on the basis of reasoning (rational). Consequently, customers following the two different cognitive processes are likely to reach different decision outcomes, even if the quality is the same. This heterogeneity in cognitive processes leads to a temporary tolerance for an adequate quality. A vertical differentiation as a result of this cognitive heterogeneity is different from that considered in the previous literature, where a lower price is used to sustain a low quality.

There is some empirical evidence for this proposition. Mattila (2003) proposes a

similar dual process model based on a comparable notion of cognitive economy. Unless motivated to do so, customers may not necessarily evaluate a product. Customers prefer information processing modes that require less effort than analytic modes that are cognitively demanding. Telang et al. (2004) show that quality differences can exist in a market even when a customer is paying the same price (i.e., zero for Internet information goods) for the different qualities. Together, cognitive inertia (intuition) and quality difference contribute to the observation that customers irrationally stick with the industry leader's product even though the new product is either of superior quality, less expensive, or both (Vandenbosch and Dawar 2002).

3.2 Proposition 2

P2 (loss aversion and reference dependence): *A firm that offers an adequate quality can be more competitive than a firm that offers a desired quality, depending on a customer's interaction process with the firm.*

(a) If the quality remains unchanged at the adequate level, then the customer will falsely perceive the quality as less than adequate, which is competitively disadvantageous (loss aversion, losses loom larger than gains).

(b) If the quality changes to any level greater than adequate but less than desired, then the customer will falsely perceive the quality as desired, which is competitively advantageous (reference dependence, regains loom larger than gains).

The notions of loss aversion and reference dependence suggest that the utility of decision outcomes is not only determined by the final state of endowment, but also by reference dependence (Kahneman et al. 1991; Kahneman 2003). Thaler (1980) shows that the value of a product to a customer appears to be higher when the product is viewed as something that could be lost or sacrificed than when the same product is evaluated as a potential gain. Similarly, Kahneman (2003) states that out-of-pocket losses are valued much more highly than opportunity costs are because the former losses are "actual" losses and the latter losses are opportunity losses. Consequently, responses to increases and to decreases in price, for example, might not always be mirror images of each other (Kahneman et al. 1991).

When applying these notions to CRM, loss-averse customers find losses in quality to be less bearable than gains in quality, even if the quality outcome in the two situations is the same. Hence, even if an adequate quality remains unchanged, the loss-averse customers will perceive the quality as even less than adequate, which by definition, is unacceptable (Parasuraman et al. 1991). While the idea of reference dependence predicts that customers who receive an adequate quality first (gain), and then interact with the firm to improve the quality to as close to the desired level as possible (regain), would likely consider the outcome quality as desirable. The process of regaining (using the original gain as the reference point) is the critical determinant of whether or not an adequate quality can be transformed successfully into a desired quality. Together, loss aversion and reference dependence suggest that it is competitively disadvantageous for an adequate quality to remain unimproved, because loss-averse customers will deem this quality as unacceptably low; whereas it is competitively advantageous if an adequate quality can make some improvement, because reference-dependent customers will find this quality improvement to be more desirable than it actually is.

The role of CRM here is to provide a process for quality regains. Perceived quality is a function of both process and outcome (Ruyter and Wetzels 1998), and CRM similarly emphasizes the process, not just the outcome (Reinartz et al. 2004). When a quality that a customer initially receives is desired, the customer will process the quality information

intuitively because there is no need to carry out additional cognitive processing. Mattila's (2003) memory-based judgment study demonstrates that customers are not motivated to evaluate familiar products and services. Alternatively, when a quality is only adequate, the interaction process between a firm and a customer may very well be important in determining the quality judgment. The customer will do some reasoning about the quality in order to raise the quality to the desired level. Ruyter and Wetzels (1998) found that the interaction between an unfavorable outcome and a positive process may still result in a positive overall assessment of quality. Mittal et al. (1998) found that overall satisfaction is affected asymmetrically by attribute-level performance, with negative performance of an attribute having a greater impact than positive performance.

Regains is a signal to customers of the continuous improvement of quality, which is more valuable than gains. For example, software companies often use "patches" (type of software used to repair or update existing software) to fix minor product flaws upon customers' requests. This reflects the companies' commitments and concerns for their customers. The continuous improvement of customer experience is as important for delivering excellent service, for example, Federal Express' continuous improvement not only of its package movements, but also of its tracking systems (Ford et al. 2001).

Regains in quality allow customers to co-produce their own qualities; this interaction process is more satisfying. No one knows customers' needs better than customers themselves. Ford et al. (2001) advocate that empowering customers to co-produce their own experiences other than simply "being there" is a driver for excellent customer service. For example, Dell Computers encourages customers to participate in the purchase and consumption by involving them in the configuration of their own computers. Vandenbosch and Dawar (2002) argue that a customer can extract a higher value from a product that is configured to his or her needs, such as integrating a new organizational software system with the existing IT infrastructure. Therefore, it is more competitively advantageous for firms to let customers co-develop new offerings that are tailored to their needs, rather than develop polished offerings ready for a mass audience.

3.3 Proposition 3

P3 (attribute substitution): *A firm that offers an adequate quality can be more competitive than a firm that offers a desired quality, depending on a customer's relationship with the firm.*

(a) If the quality information is more accessible than the relational heuristic, then the customer will correctly perceive the quality as adequate, which is competitively disadvantageous (reasoning).

(b) If the relational heuristic is more accessible than the quality information, then the customer will falsely perceive the quality as desired, which is competitively advantageous (attribute substitution).

We introduce the concept of relational heuristics by showing that customer relationships are the heuristics for quality attributes, such that good customer relationships can be used to substitute for adequate qualities that increase competitiveness. Relational heuristics are one of the affect heuristics, which have been demonstrated to substitute for the evaluations of the costs and benefits of various technologies and even the predicted economic performances of various industries (Slovic et al. 2002).

There are two factors that contribute to this relational heuristic substitution for quality attribute in CRM. *First*, in the evaluation of quality, customers consider not only the functional benefits of an offering, but also its psychological and emotional benefits (Hellofs and Jacobson 1999). With ongoing customer interactions, relational heuristics are made more accessible for outcome evaluations. The high accessibility of relational heuristics can

also be reflected in many customers' placing significant value in maintaining relationships with firms: they value the interactions with firms as much as or more than what they actually buy (Vandenbosch and Dawar 2002), and many customers express an intention to be a partner with the firms (Parasuraman et al. 1991). Therefore, interactions make customer relationships into highly accessible heuristics that are critical for maintaining a lead in a market.

Second, quality assessments are sometimes highly complex and clear outcomes are not always evident. This is especially true for technologically complex products or information goods. Customers often lack the ability and knowledge to assess the qualities of technology products or lack the opportunity to evaluate the qualities of information goods beforehand. Relational heuristics are therefore used as cues to signal the presence or absence of outcome qualities. Dwyer et al. (1987) direct our attention to technological and usage characteristics of products (e.g., computers and communication systems requiring ongoing service or technical extension) that are often more important than the products themselves to the performance level of the products.

This substitution mechanism further explains why both adequate and desired qualities can coexist in a market: because some customers use relational heuristics to substitute quality attributes, adequate qualities, if compensated by better customer relationships, can generate a performance level that is no less than desired qualities. Therefore, this mechanism predicts a "real" performance improvement, rather than an "opportunistic" selection made by customers as predicted in Proposition P1.

Supportive evidence abounds. Using the concept of fairness heuristic, Hui et al. (2004) examine the interactive effect of process quality and outcome quality on service evaluation. They found that when customers are uncertain about the service outcome prior to consumption, they will use process quality as a heuristic substitute in their assessment of the trustworthiness of the service provider. Ruyter and Wetzels (1998) found that both outcome and process are used as criteria or cues to assess the quality of service because most patients cannot distinguish between the "caring" (expressive) and the "curing" (technical) performance of medical care providers. Hellofs and Jacobson (1999) found that customers use market share to substitute for quality. When a brand gains share, customers infer that the quality should improve, even if there is no change in objective quality.

4. Conclusions

Firms may under-invest or over-invest in quality, whereas customers may fail to distinguish lower qualities from higher ones. This paradox challenges economic rationality, while opening up opportunities for using CRM to leverage quality. Conceiving of customers as bounded rational, we exploit this paradox by developing a set of propositions leveraging quality and customer relationship, based on principles of behavioral economics about customers' cognitive heterogeneity, loss aversion, and attribute substitution.

In brief, Proposition P1 highlights customers' irrationality in evaluating quality, with a higher quality not necessarily receiving a higher evaluation; Proposition P2 predicts the role of the customer interaction process in mitigating the losses resulting from a lower quality; and Proposition P3 recommends the strategic use of customer relationship as an aspect of horizontal differentiation, when quality is not vertically differentiated or is not competitive. Eventually, competitiveness depends on a combination of quality and customer relationship, which therefore, among other factors, are the two viable competitive strategies for firms.

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