When does competitive intensity incentivize firms to improve customer relationships? A meta-analysis

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When does competitive intensity incentivize firms to improve customer relationships? A meta-analysis

A central premise in the relationship marketing and marketing orientation literatures is that competitive intensity incentivizes firms to improve customer relationships in order to prevent customer churn. We argue that especially for high competitive intensity, this proposition is not straightforward. We propose that high competitive intensity can also disincentivize firms from improving customer relationships, because competitive intensity can cause choice overload effects, which increase switching costs. This causes customers to stay regardless of how good their relationship with a firm is. In this paper, we perform a meta-analysis on 100 churn studies covering just under six million customers in a broad range of competitive settings. In doing so, we study how competitive intensity impacts the link between firms' relational performance and customer churn. We present initial empirical results on both a main effects analysis, and on the moderating effect of competitive intensity.

Keywords: churn, meta-analysis, competition

Track: Relationship marketing

1. Introduction

For several decades now, the market orientation- and customer relationship management literatures have proposed that in order to retain customers, firms should treat customers well, especially in an environment with many competitors (high competitive intensity). As we discuss in more detail below, the argument is that customers' increasing freedom of choice incentivizes firms to maintain satisfying customer relationships in order to retain customers. In this paper, we argue that it is currently unclear whether this theory holds in an environment with high competitive intensity. Recent findings from the choice overload literature actually suggest an opposite process whereby customers experience choice overload effects when faced with many options. In turn, this increases switching costs, which restricts rather than increases freedom of choice. We argue that an environment with many competitors (high competitive intensity) is analogous to a greater choice set, therefore making this theory applicable. It is currently unclear how these two processes play out. If the latter process dominates, this could disturb the entire competitive mechanism.

In this paper, we specifically ask the question: 'What is the impact of competitive intensity on the relationship between relational performance and churn?' We define relational performance as customers' overall evaluations of their relationship with a firm. To assess how competitive intensity moderates this relationship, we perform a meta-analysis on 1073 effect sizes originating from 100 churn studies involving just under six million customers in contractual settings. As performing well in customer relationships is equivalent to cultivating customer assets, our work addresses recent calls for research in this area (MSI 2018). In addition, we answer recent calls for a meta-analysis of the churn literature (Ascarza et al., 2018) by presenting a main effects analysis of a broad set of churn predictors. This provides a valuable overview for marketing practitioners.

To complement the meta-analysis, we will also perform a cross-sectional survey study. In doing so, we aim to shed light on the theoretical mechanism by which the moderating effects in our meta-analysis work. Specifically, we will analyze when competitive intensity increases and decreases switching costs. In the following section, we first present a conceptual framework and discuss the moderating effects of competition on the link between relational performance and churn in greater detail. Subsequently, we discuss methodological details of the meta-analysis and the survey study, and present initial results for our meta-analysis. We conclude by discussing implications, limitations and giving suggestions for further research.

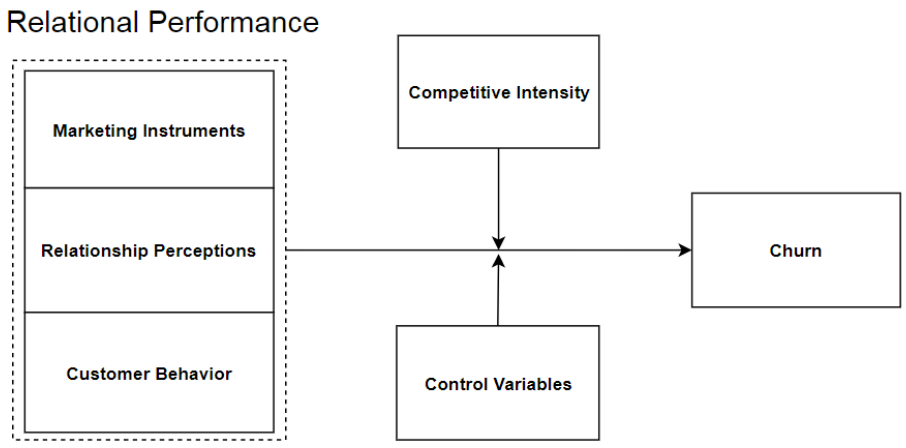
2. Theoretical Background

2.1 Conceptual framework

Following Ascarza et al. (2018), we define churn as a customer's decision to stop transacting with a firm, and view retention as the opposite of churn. We operationalize relational performance by using a set of popular churn predictors as relational performance indicators (RPI's). As shown in Figure 1, we specifically identify three overarching RPI categories based on the Customer Asset Management of Services (CUSAMS) framework (Bolton, Lemon & Verhoef, 2004). These RPI categories are 1) marketing instruments such as price or (objective) product/service quality, 2) relationship perceptions such as satisfaction and commitment, and 3) customer behavior such as relationship length, breadth or depth. We will refer to the individual predictors as RPI's, and to the overarching categories as RPI categories.

In line with Kotler & Armstrong (2018, p.77), we define *marketing instruments* as "the set of tactical marketing tools related to product, price, place and promotion, that the firm blends to produce the response it wants in the target market". We define *relationship perceptions* as measures indicating how a customer evaluates their overall relationship. Finally, we define *customer behavior* as any form of customer behavior which occurs in a relationship before a customer churns, and which the empirical churn literature has viewed as indicative of how customers evaluate their relationships. Consistent with empirical practice in the churn literature, we include these RPI categories on an equal footing rather than further specifying the potentially complex theoretical relationships between specific RPI's (Blattberg, Kim & Neslin, 2008). We also include a broad set of control variables, in line with standard meta-analytic practice (Babiç Rosario, Sotgiu, De Valck & Bijmolt, 2016).

Figure 1. Conceptual Framework



2.2 Moderating effects of competitive intensity

In this section, we argue that competitive intensity moderates the RPI-churn relationship by influencing switching costs. We define switching costs as 'perceived economic and psychological costs associated with changing from one alternative to another' (Jones, Mothersbaugh & Beatty 2002, p.441). The marketing literature shows that switching costs serve as a barrier that prevents customers from churning (Blut, Frennea, Mittal & Mothersbaugh, 2015). Greater switching costs should therefore weaken the relationship between RPI's and churn, as especially those customers who are in a relationship with a poorly-performing firm and thus have reason to churn now face increasingly high barriers to do so. In the following paragraphs, we will first argue that competitive intensity can strengthen the RPI-churn relationship by decreasing switching costs, and subsequently argue that competitive intensity can weaken this relationship by increasing switching costs.

For the switching-costs decreasing effect of competitive intensity, we reason from firm behavior. As Lusch & Laczniak (1987, p.3) note, it is common to view competitive effects from an evolutionary perspective. In this perspective, "organizations can be viewed as struggling for survival in an environment of limited resources. If the environment becomes overpopulated with organizations, this results in further competitive rivalry among members of the population." In order to distinguish themselves from the competition, firms seek competitive advantages, and good relational performance is such an advantage (Narver & Slater, 1999). One specific strategy which firms increasingly use when more competitors are present is to more actively entice customers to switch by offering switchers greater benefits, thus lowering switching costs (Taylor, 2003). In turn, because churning now becomes easier for customers in dissatisfactory relationships, this perspective suggests that an increase in competitive intensity strengthens the connection between relational performance and churn. Similar reasoning can be found in the market orientation literature (Jaworski & Kohli, 1993) and the customer relationship literature (Bendapudi & Berry, 1997).

For the switching-costs increasing effects of (high) competitive intensity, we reason from literature on choice overload. A recent meta-analysis of this literature demonstrates that the more alternatives in a choice set there are, the more difficulty consumers experience in selecting an alternative due to an increase in the cognitive effort required (Chernev, Böckenholt & Goodman, 2015). An increase in cognitive load is the same as an increase in switching costs. Assuming that the number of alternatives in a choice set increases with the number of competitors, we expect that the number of competitors in an industry is analogous to the number

of alternatives in a choice set, and therefore expect that switching costs increase with greater competitive intensity. In turn, because churning now becomes more difficult, this perspective suggests that an increase in competitive intensity weakens the connection between relational performance and churn, especially at high competitive intensity.

Rather than either of these two processes dominating, the overall moderating effect of competitive intensity on the relational performance-churn relationship could also be a combination of these two processes. In such a combination, competitive intensity initially strengthens the relational performance-churn relationship due to the first process, but at some critical number of competitors, the relationship becomes weaker at greater competitive intensity due to the choice overload process. If these two processes indeed combine in this way, knowledge on where this point occurs is relevant for marketing theory, marketing practitioners and competition regulators alike.

3. Methodology

We address our research question using a meta-analytic approach. We have opted for this approach, as competitive intensity varies most strongly between different industries, countries and time periods. As prior churn studies have taken place in various settings, this makes the meta-analytic method especially appropriate.

3.1 Search procedure

In our meta-analysis, we restrict ourselves to papers based on six criteria. We include papers which 1) study churn and retention behavior, 2) are written in English, 3) are quantitative and can be transformed to an effect size measure 4) include at least one author affiliated to an academic institution (to prevent e.g. theses from entering our data), 5) contain clearly defined constructs or variables and 6) are performed in contractual, B2C and for-profit settings. We include these latter criteria, as our reasoning for switching costs leading to more retention may not be applicable to non-contractual, B2B or not-for-profit settings (Day & Wensley, 1988, Verbeke, Dietz & Verwaal, 2011). To obtain relevant papers, we searched in the S*cienceDirect, EBSCOhost,* and *ISI Web of Science* databases. For grey literature and relatively unknown journals, we used *Google Scholar, SSRN* and *MSI Working Papers*. We used multiple search terms, including potential synonyms such as ‘Churn’, ‘Retention’ and ‘Switching’. We selected studies for further consideration based on the title and abstract. In case of uncertainty, the paper was included in the database for closer examination at a later stage. To minimize the number of missing yet relevant papers, we subsequently manually explored every journal issue which

occurred at least twice in our database. Finally we have contacted authors with a request for additional information on existing papers, and with a request to obtain any potential working papers.

3.2 Coding

For the coding of competitive intensity, we have obtained study-level information by retrieving data on firms' market share based on the industry, country and year of a specific study. We subsequently use this data to calculate the reciprocal of the Herfindahl-Hirschman index as our measure of competitive intensity. This measure has the meaningful interpretation of being equal to the number of firms in a market if these firms were to be of identical size (Adelman 1969). In our analyses, we will refer to this measure as the number of 'effective' competitors. Following earlier meta-analyses, we also include a set of research design characteristics, which are necessary to obtain accurate and comparable effect size estimates, but are not of theoretical interest (Babiç Rosario et al., 2016).

To assess the quality of coding, two separate coders have independently coded a subset of 20 papers. To assess inter-rater reliability, we calculated the ICC(3,1) (Shrout & Fleiss 1979) or Cohen's unweighted Kappa (Cohen 1960), depending on the type of data. In our sample, the two raters agreed on all effect sizes (ICC=1), agreed on sample sizes underlying each study (ICC=0.74), the number of variables present in each study (ICC=0.98), and on controls, such as the industry in which each study took place (κ=0.91).

3.3 Effect size calculation

Following common meta-analytic practice in the marketing literature, we use correlation coefficients as an effect size measure (Babic Rosario et al., 2016). If these correlation coefficients are not directly reported, we transform other measures (e.g. t-statistics, chi square statistics, z-scores) into correlation coefficients. We include effect sizes obtained both from bivariate analyses (e.g. t-tests) and from analyses using multivariate models (e.g. multiple regression). Our analysis accounts for the fact that different studies partial out different sets of variables by controlling for the number of variables that studies contain.

3.4 Analysis procedure

We begin our analysis by presenting descriptive statistics per RPI and RPI category, and estimate individual meta-analytic models for every RPI and RPI category. In doing so, we present the first meta-analytic overview of the churn literature. This analysis also allows us to

assess the extent of heterogeneity in our effect size estimates using the I^2 statistic. As our subsequent moderator analysis explains heterogeneity in effect sizes, such heterogeneity needs to be present. While there is no general rule, we take I^2 values higher than 80% as sufficient heterogeneity (Babiç Rosario et al., 2016).

For our moderator analysis, we estimate two models. We first present a 'naïve' model which aggregates over all RPI categories, and thus recognizes that competitive intensity may impact the influence of RPI effect sizes in general, regardless of category. Subsequently, we present a model which distinguishes between competitive effects for every RPI category, and compares effects of competitive intensity across categories. In the future, we will also perform a set of robustness checks and include quadratic terms in our models.

We have selected a multilevel mixed effects modeling approach to account for the fact that many studies report multiple non-independent parameter estimates for the same RPI, which leads to confidence intervals which are too narrow if unaccounted for (Van den Noortgate, López-López, Marín-Martínez & Sánchez-Meca, 2013). We present a number of initial results from these models below.

4. Results

Table 1 below displays effect sizes per RPI category. We have coded effect sizes so that a negative value reflects better relational performance (e.g. more satisfaction, fewer complaints). Relationship perceptions have the strongest effect sizes of the three RPI categories (β_{rp}=-0.104), and marketing instruments have the weakest (β_{mi}=-0.018). There is sufficient heterogeneity in effect sizes within these categories to warrant a moderator analysis (I^2> 80% for all categories). We now present results from a model which includes competitive intensity, but does not distinguish between RPI categories. We subtract a value of one from our competitive intensity measure. In doing so, the intercept reflects a situation with one effective competitor rather than zero effective competitors. We show results in Table 2. These results show that RPI's are significantly different from zero even at one effective competitor (α=-0.038, p=0.0047). The term for competitive intensity is negative and significant ($\beta_{nr.eff.comp}$=-0.0035, p=0.0018) which suggests that effect sizes of RPI's grow stronger as competitive intensity increases. We visually display this in Figure 1a.

In model 2, we include RPI category as a predictor, and also include the interaction between competitive intensity and RPI category. We use relational perceptions as the reference category, and display results in Table 2. These results show that the effects of relational perceptions are significantly different from zero, even at one effective competitor (β_{rp}=-0.0405,

p=0.0302). Simple effects of customer behaviour and marketing instruments are not significantly different from the effect size of relational perceptions at this (low) level of competitive intensity (β_{cb}=-0.031, p=0.5378, β_{mi}=-0.0154, p=0.5878). In comparison to the prior model, this model suggests very similar effects of competitive intensity for relationship perceptions ($\beta_{nr.eff.comp}$=-0.0046, p=0.0002), and marketing instruments ($\beta_{nr.\ eff.\ comp*MI}$=0.0039, p=0.1942, i.e. no difference with 'reference category' competitive effects). However, competitive effects for customer behaviour are significantly weaker than those for relationship perceptions ($\beta_{nr.eff.comp*CB}$=0.00048, p=0.0194). Figure 1b shows that effect sizes of customer behavior decrease at greater levels of competitive intensity.

Conclusion

In this paper, we've studied the effects of competitive intensity on the relational performance-churn relationship, and presented a main effects analysis. Initial results suggest that relational performance indeed becomes a stronger churn determinant at greater competitive intensity. As next steps, we will add quadratic effects, include robustness checks, and perform a survey study to study the underlying mechanism in greater detail.

Table 1. RPI category effect sizes

Category	Min ES	Mean ES	Max ES	Model ES	nES	I2
Marketing Instruments	-0.246	-0.017	0.46	-0.018	125	99.73
Relationship Perceptions	-0.513	-0.088	0.295	-0.104	203	98.67
Customer Behavior	-0.757	-0.032	0.559	-0.042	502	99.96

Figure 1a. competitive effects overall/ Figure 1b. competitive effects, customer behavior

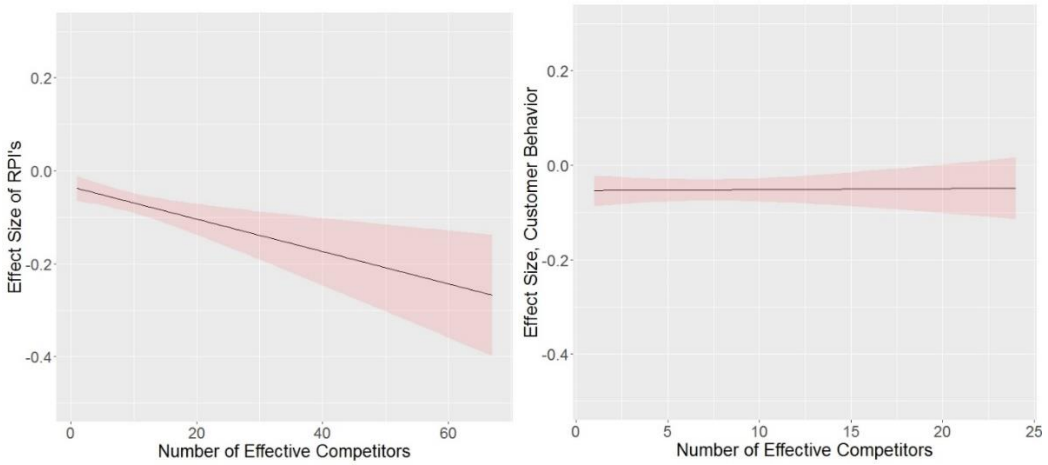


Table 2. Estimation results, overall model

Model 1*	B	se	z	p
Intercept	-0.0380	0.0134	-2.8302	0.0047
Nr. eff. Comp	-0.0035	0.0011	-3.1229	0.0018
Nr. of add. vars (mean-centered)	0.0007	0.0006	1.0372	0.2996

*BIC=-950.23. AIC=-972.26

Table 3. Estimation results. category-specific model

Model 2**	B	se	z	p
Relationship perceptions (Ref. cat)	-0.0405	0.0187	-2.1669	0.0302
Nr. eff. Comp	-0.0046	0.0012	-3.7298	0.0002
Customer Behavior	-0.0131	0.0213	-0.6161	0.5378
Marketing Instruments	-0.0154	0.0285	-0.5421	0.5878
Nr. eff. Comp:Customer Behavior	0.0048	0.0021	2.3371	0.0194
Nr. eff. Comp: Marketing Instruments	0.0039	0.0030	1.2981	0.1942
Nr. of add. Vars (mean-centered)	0.0006	0.0006	1.0386	0.2990

**BIC=-923,8893, AIC=-963,4916

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