Toward a further understanding of drivers of customer loyalty across economic conditions, industries, firms, and customers

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Chapter 3

3 THE MODERATING ROLE OF INDUSTRY- AND FIRM CHARACTERISTICS ON THE CUSTOMER EQUITY DRIVERS–LOYALTY LINK IN SERVICE INDUSTRIES[6]

"It is essential that the firm identify its industry's success factors, paying more attention to the Customer Equity drivers that drive customer choice, and perhaps paying less attention to the ones that don't." – Rust, Zeithaml, and Lemon (2000, p. 262)

3.1 Introduction

Existing research has identified three so-called customer equity drivers (CEDs) that drive loyalty (Rust, Zeithaml, and Lemon 2000; Rust, Lemon, and Zeithaml 2004; Vogel, Evanschitzky, and Ramaseshan 2008): value equity, brand equity, and relationship equity. The definition of CEDs is specified in Chapter 1 (see pages 3-4). Previous research has shown the positive effects of CEDs on customer loyalty (e.g., Rust, Lemon, and Zeithaml 2004; Vogel, Evanschitzky, and Ramaseshan 2008). Apart from the positive CEDs-loyalty link, researchers have been discussing the potential variation of these positive effects across industries and firms (Anderson and Sullivan 1993; Gupta and Zeithaml 2006; Rust, Zeithaml, and Lemon 2000). However, systematic research about the reasons for this variation is sparse and speculative.

Table 3.1 shows that most studies have identified extensive individual customer characteristics, such as diverse demographic variables, relationship length and switching costs, to

[6] This Chapter is based on Yi-Chun Ou, Thorsten Wiesel, and Peter C. Verhoef, "The Moderating Role of Industry- and Firm Characteristics on the Customer Equity Drivers-Loyalty Link in Service Industries," working paper, University of Groningen

explain the cross-customer variance of the effects of loyalty drivers (e.g., Cooil et al. 2007; Mittal and Kamakura 2001). However, little is known about the differential effects of CEDs at the industry- and firm level. Second, while some studies have initially incorporated industry- and firm characteristics (e.g., Nijssen et al. 2003; Seiders et al. 2005; Verhoef, Langerak, and Donkers 2007; Voss, Godfrey, and Seiders 2010), they rarelyconsider them jointly and extensively. This disjointed consideration ignores that customers are embedded in economic systems including industries and firms (Johns 2006; Molloy, Ployhart, and Wright 2010), which jointly shape customer decision-making and further the effectiveness of marketing strategies. In addition, the factors explaining the cross-industry and cross-firm variance have not been extensively explored (Nijssen et al. 2003 and Seiders et al. 2005). Finally, most previous research focuses on few industries or firms, which provides the limited variance and thus restricts the explanation of the differential effects of loyalty drivers across industries and firms.

To build up on these previous studies, we attempt to examine the potential variance of the effects of CEDs on customer loyalty across industries and firms by integrating an extensive number of industry- and firm characteristics based on previous speculations (e.g., Rust, Zeithaml, and Lemon 2000) and empirical findings summarized in Table 3.1. Hence, this study contributes to the current body of knowledge by empirically calculate how much and explain why the CEDs-loyalty link varies across industries and firms. In doing so, we use three different data sources: (1) a large-scale customer dataset (including 8,924 customers of 95 leading firms across 18 service industries), (2) an expert survey consisting of 558 responses from managers and business consultants, and (3) external sources including data from A.C. Nielsen on firms' annual advertising expenditures as well as from firms' annual reports on revenues. To account for the hierarchical data structure with three levels (i.e., customers nested within firms and further

TABLE 3.1 Prior Empirical Studies of the Moderators on the Effects of the CEDs

Studies	Main Effects			Moderators			Number of	
	Value Equity	Brand Equity	Relationship Equity	Customer Characteristics	Firm Characteristics	Industry Characteristics	Firms	Industries
Mittal and Kamakura 2001	✓			✓			1	1
Verhoef, Franses, and Hoekstra 2002	✓		✓	✓			1	1
Nijssen et al. 2003	✓		✓			✓	2	2
Gustafsson, Johnson, and Roos 2005	✓		✓	✓			1	1
Seiders et al. 2005	✓			✓		✓	1	1
Bell, Auh, and Smalley 2005	✓			✓			1	1
Cooil et al. 2007	✓			✓				1
Chandrashekaran et al. 2007	✓			✓			4	4
Verhoef, Langerak, and Donkers 2007	✓	✓	✓		✓			1
Voss, Godfrey, and Seiders 2010	✓			✓		✓	2	2
Summary of previous studies	10/10[1]	1/10[1]	4/10[1]	8/10[1]	1/10[1]	3/10[1]	1-4	1-4
Current study	✓	✓	✓	✓[2]	✓	✓	**95**	**18**

[1]: In these fractions, the denominator refers to the number of the previous studies included in Table 1; the numerator refers to the number of the topic studied in the previous studies. For instance, concerning value equity as main effects, ten out of ten studies have examined it.
[2]: Since customer characteristics have been extensively examined, they are not included in the main model of this study for the parsimonious reason. However, customer characteristics are used for the robustness check, which does not alter the results of the main model.

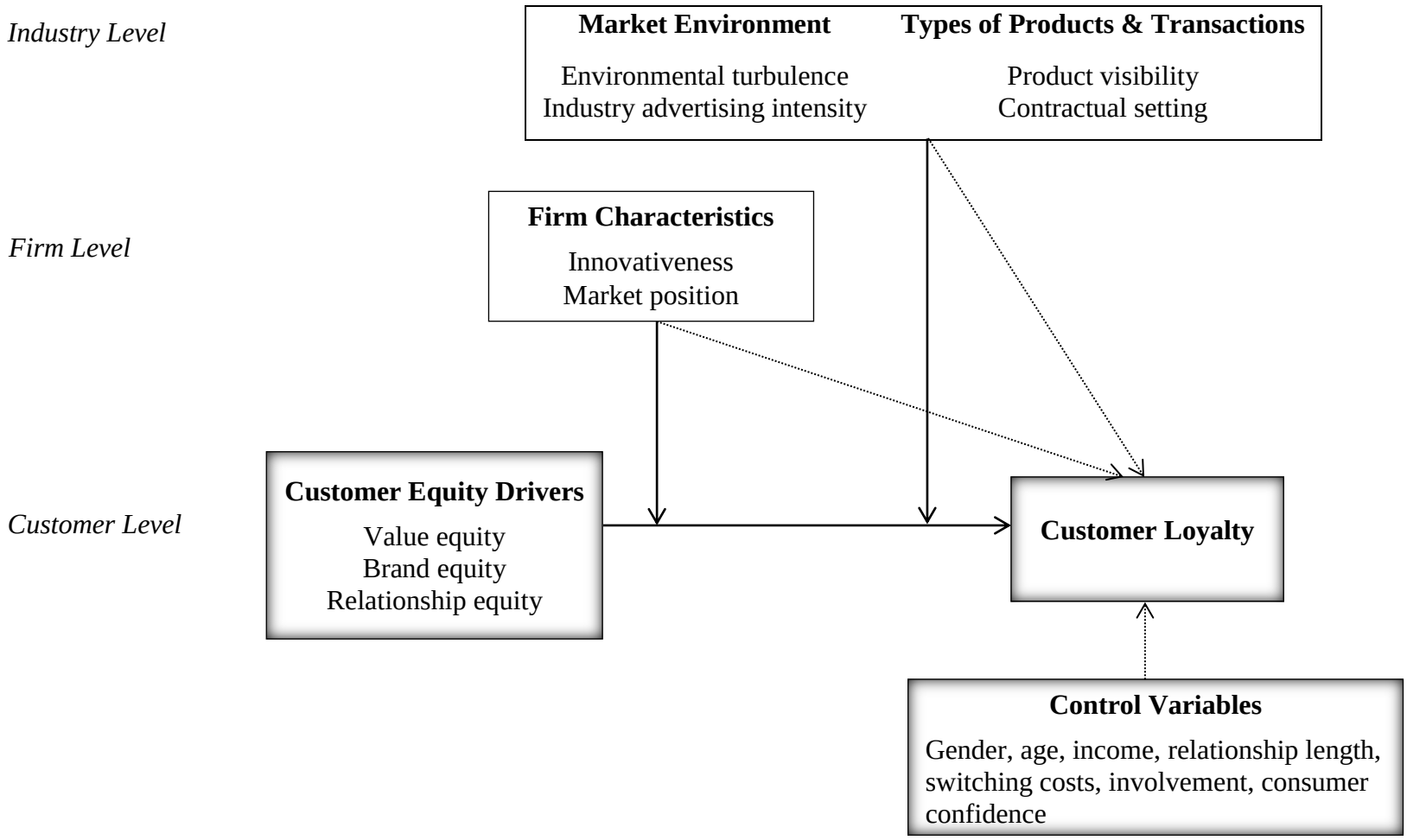
within industries), a multilevel model is applied. Our main findings show that the CEDs-loyalty link varies substantially across industries and firms. In addition, our included industry- and firm characteristics explain between 65% and 85% of the cross-industry variance and between 27.5% and 80% of the cross-firm variance. These characteristics include environmental turbulence, industry advertising intensity, product visibility, contractual settings as well as firms' innovativeness and market position. Taken together, we assist in gaining more generalizable and nuanced insights with respect to the CEDs-loyalty link. We are also able to recommend that managers develop context-specific strategies. For example, relationship equity is crucial for retaining customer loyalty, but its effect is weakened for service industries selling visible products (e.g., furnishing retailing). Furthermore, since we explain the cross-industry and cross-firm variance jointly, we provide more nuanced insights: for example, innovative brands selling visible services benefit even less from relationship equity to retain loyalty than less innovative brands selling visible products.

We organize the remainder of the chapter as follows: we first present the conceptual framework. Then, we describe the data, the variables used in this chapter, and the methodology. This is followed by the findings and robustness checks. Finally, we discuss the theoretical and managerial implications.

3.2 Conceptual Model

In the conceptual model (see Figure 3.1), we include three main independent variables (CEDs): value equity, brand equity and relationship equity. Within the marketing literature there is strong and convincing evidence that CEDs are positively related to customer loyalty (Rust, Lemon, and Zeithaml 2004; Szymanski and Henard 2001; Verhoef 2003; Vogel, Evanschitzky, and Ramaseshan 2008). The discussion of the positive link of CEDs and loyalty is elaborated in

FIGURE 3.1 A Multilevel Model of Customer Loyalty



Chapter 1 (see pages 3-4). We are particularly interested in examining and explaining the heterogeneity of this positive link at the industry- and firm level. As such, we integrate theoretically argued industry- and firm characteristics as moderators in one conceptual framework.

At the industry level, we consider the CEDs-loyalty link to be contingent on the following characteristics: market environment and types of products and transactions. The industrial organization literature assumes that the market environment may add uncertainty to the execution of strategies and hence the market environment needs to be taken into account when assessing the effectiveness of strategies (Holm, Kumar, and Rohde 2012). We propose that environmental turbulence and industry advertising intensity are the main characteristics of the market environment. Prior studies have emphasized environmental turbulence (i.e., competitive intensity and market dynamics) as an important driver of this uncertainty (Gatignon 1984; Seiders et al. 2005; Slater and Narver 1994). In addition, the industrial economics literature also indicates that industry advertising intensity may add uncertainty to the execution of marketing strategies. Firms in an intensive-advertising industry are probably not sure whether customers perceive differences between brands when most competitors heavily invest in advertising (Gatignon 1984; Powell 1996). In addition to the market environment, different types of products and transactions may shape idiosyncratic perceptions of customers and further influence the effectiveness of implementing strategies (Brouthers, Brouthers, and Werner 2008). There have been speculations that the effects of CEDs on loyalty depend on product visibility and contractual settings (Rust, Zeithaml, and Lemon 2000) in terms of types of products and transactions. Regarding the former, it is claimed that brand equity should be more important for products, which are visible to others when they are used (Rust, Zeithaml, and Lemon 2000).

Regarding the latter, loyalty decisions in industries with contractual relationships are different opposed to industries with non-contractual relationships due to the forced bonding by the contract (Lemon, White, and Winer 2002; Rust, Zeithaml, and Lemon 2000). At the firm level, we consider the CEDs-loyalty link to be contingent on two characteristics: firms' innovativeness and market position. Innovativeness is a crucial contribution to firms' sustainable competitive advantages and the investment is immense. Hence, firms require a deeper understanding of the fit of innovativeness and marketing strategies to create a synergy (Atuahene-Gima 1996). Moreover, customers behave very differently between market leaders and followers (Ehrenberg, Goodhardt, and Barwise 1990; Sharp 2010). Market leaders already have many loyal customers. Investments in strategies to increase loyalty for market leaders may be more likely to have the ceiling effect than for market followers.

We continue with an in-depth discussion of each of the included moderators. Thereby, we note that we do not put forward specific hypotheses, as the number of studied moderating effects is rather extensive, leading to a large number of potential hypotheses. The moderating effects of industry- and firm characteristics are summarized in Table 3.2.

3.2.1 Market environment

Environmental turbulence. Environmental turbulence refers to the extent to which numerous competitors frequently react to each other's strategies as well as how rapidly supplies of products and demands of customers change (e.g., Davis, Morris, and Allen 1991; Slater and Narver 1994). In turbulent environments there is a strong competition between firms and it is difficult to compete on value (Reimann, Schilke, and Thomas 2010) since value equity is the basic requirement of firms striving in such an environment (Rust, Zeithaml, and Lemon 2000). Hence, we expect that value equity will have a smaller effect on loyalty intentions. In contrast,

environmental turbulence may provide an opportunity for brand equity and relationship equity. Brand equity may be an important differentiator in a turbulent environment as it decreases customers' search costs among homogeneous products (e.g., Hill 1988). Also, brand equity may provide a signal of quality guarantee to decrease uncertainties in a turbulent environment (Mitchell, Walsh, and Yamin 2005; Weitz 1985). Therefore, the effect of brand equity is expected to be stronger in a turbulent environment. Similarly, we expect that relationship equity may decrease customer uncertainties because it provides a signal of trust between customers and firms (Berger and Mitchell 1989; Duncan and Moriarty 1998). Therefore, the effect of relationship equity may be strengthened in a turbulent environment. Taken together, we expect that the effect of value equity is weakened in a turbulent environment, but the effects of brand equity and relationship equity are strengthened.

TABLE 3.2 The Expected Impact of Industry and Firm Characteristics on the CEDs-Loyalty Link

Characteristics	Value Equity	Brand Equity	Relationship Equity
Industry Characteristics _ Market Environment			
Environmental turbulence (high)	-	+	+
Industry advertising intensity (high)	+	+/-	0
Industry Characteristics _ Types of Products and Transactions			
Product visibility (high)	-	+	-
Contractual settings	+/-	+/-	+/-
Firm Characteristics			
Innovativeness (high)	+	-	-
Market position (market leader)	-	-	-

+: positive moderating effects; -: negative moderating effects; +/- unclear direction of effects; 0: no expected moderating effects

Industry advertising intensity. Increases in advertising investments among competitors in one industry may lead customers to choice uncertainty (i.e., which alternative to choose) and broaden customers' consideration sets (Kaul and Wittink 1995; Urbany, Dickson, and Wilkie 1989). In this sense, customers are more likely to compare products or services among competitors and are more aware of differences of product attributes between competitive brands, such as prices and quality. This implies that the effect of value equity may be strengthened in intensive-advertising industries since customers pay more attention to prices and quality as important decision-making factors.

With regard to brand equity, on the one hand, one might expect that the role of brands in intensive- advertising industries becomes more salient for customers (Joshi and Hanssens 2004; McAlister, Srinivasan, and Kim 2007), as one aim of advertising is to emphasize the brand image (Vakratsas and Ambler 1999). On the other hand, the role of brands in intensive-advertising industries may become less salient for customers the role of brands in intensive-advertising industries becomes more salient for customers. The reason is that customers may perceive less differentiation between brands since most firms evenly invest in building brand image. Hence, it is not clear how industry advertising intensity moderates the link between brand equity and customer loyalty.

3.2.2 Types of products and transactions

Product visibility. Product visibility is defined as the extent to which the usage of products is noticed by others (Fisher and Price 1992). The influence of visibility on consumer behavior can be properly explained by social comparison cues (Beardon and Rose 1990; Fisher and Price 1992; Rust, Zeithaml, and Lemon 2000). Social comparison cues are the normative concern about what others think of you and how others react to your behavior. When customers use social

comparison cues, their public self-consciousness tends to be high and their behavior is more likely to be influenced by other customers (Beardon and Rose 1990). Compared to value equity and relationship equity, brands tend to be a symbol of social status and identity. When the usage of products/ services is visible in public, social comparison cues imply that customers may pay more attention to brands to maintain or indicate customers' perceived status and identity. This is because of the need for self-esteem (Aaker 1999), the need for good impression (Beardon and Rose 1990), and the aim to be accepted by desired reference groups (Beardon and Etzel 1982). Hence, we expect that brand equity may have a stronger effect on customer loyalty for visible products, while the effects of value and relationship equity may be smaller.

Contractual settings. Contractual settings are subscription-oriented, have explicit contracts between relevant parties, and can observe the drop of customers (Fader and Hardie 2007). Contractual settings and non-contractual settings differ in the restriction of customer preference and also stability of service quality. In terms of the restriction, it is more difficult for customers in contractual settings to adjust their behavior than those in non-contractual settings, as the contract duration stated in the contract may restrict customers' actions (Bucklin and Segupta 1993; Reinartz and Kumar 2002). In terms of the stability, a contract reduces performance risks of services and also uncertainties about future transactions (Macaulay 1963). This implies that firms that offer contractual services usually provide their customers relatively stable and well-defined performance, as stated in the contract. The restriction difference assumes that contracts create switching costs and lock-in customers (Klemperer 1987). That is, customers who negatively perceive the CEDs of firms in contractual settings are forced to stay (Woisetschläger, Lets, and Evanschitzky 2011) and hence the link of CEDs and customer loyalty is weakened in contractual settings. On the other side, the stability difference suggests that contractual settings

are more likely to provide stable services than non-contractual settings. The stability may increase customers' confidence in the perceptions or evaluations of services (Garbarino and Johnson 1999; Park et al. 2010). Confidence in the evaluation is a crucial factor in increasing customers' willingness to translate perceived CEDs into loyalty (Park et al. 2010). In this sense, the link of CEDs and customer loyalty is strengthened in contractual settings. Taken together, we propose that contractual settings (1) weaken the link of CEDs and customer loyalty based on the restriction of customer preference or (2) strengthen the link based on the stability of services.

3.2.3 Firm characteristics

Innovativeness. Innovativeness is a process of value creation (Kelm, Narayanan, and Pinches 1995) and defined as the development of new ideas (Damanpour, Walker, and Avellaneda 2009). Innovativeness aims to provide a better quality and lower price to improve customers' lives (Hauser, Tellis, and Griffin 2006), implying that innovation is highly relevant to the dimensions of value equity. For example, innovativeness-oriented firms tend to introduce superior new services frequently and/ or provide a better price-quality ratio (e.g., Zhou, Yim, and Tse 2005). Innovativeness becomes dominant core resource to survive in the market, which is appreciated by customers of innovativeness-oriented firms (Pearson 2002). As a consequence, in a customer's perspective, we expect that the effect of value equity may be strengthened for innovativeness-oriented firms, compared to brand equity and relationship equity.

Market position. In the customer loyalty literature, there has been a strong discussion on the link between market share and customer loyalty (Ehrenberg, Goodhardt, and Barwise 1990; Sharp 2010). Researchers have empirically demonstrated the existence of the double jeopardy phenomenon: The key idea is that big (small) brands have more (fewer) buyers that are also more (less) loyal. One implication of this empirical regularity is that big firms should place low

expectations on their marketing programs to influence customer loyalty because they already own strong customer loyalty (Dowling and Uncles 1997; Sharp and Sharp 1997). In other words, big brands do not have much to win (Du, Bhattacharya, and Sen 2011), as they are more likely to encounter the glass-ceiling effect than small brands when investing in marketing strategies. Empirically, this is partly supported by a study from Anderson and Sullivan (1993), who found that big brands' customer satisfaction is less likely to explain customer loyalty. Some studies also found that specialized strategies are more effective for small brands (Ebben and Johnson 2005; Raisch and Birkinshaw 2008). Therefore, we expect that the effects of CEDs on customer loyalty will be smaller for market leaders (big brands) than for market followers (smaller brands).

3.3 Research Design

3.3.1 Data

In order to examine the heterogeneity of the effects of the three CEDs on loyalty at the industry- and firm level, we use three types of data sources: The first data source is the DCPI data in 2011, an extensive customer survey among 8,924 customers of 95 leading Dutch companies across 18 service industries (including insurance, health insurance, banking, mobile phone, landline phone, energy providers, gasoline providers, travel agencies, holiday resorts, airlines, supermarkets, health/beauty retailing, department stores, electronic retailing, Do-It-Yourself retailing, furnishing retailing, e-booking, and online retailing). For each industry, a list of firms (between 4 and 11) is provided and a respondent chooses the companies (maximum 3) s/he currently is a customer of and repeatedly answers the questions concerning the chosen firms. The sample size per industry is between 303 and 781 customers; the average sample size is 496 customers. Our sample consists of 46.4% males. 22.9% of the respondents are between 18 and 29 years old, 24.8% between 30 and 39, 20.1% between 40 and 49, 25.3% between 50 and 64, and 7.0% more

than 65 years old. The majority of respondents (48.9%) earns between €30,000 and €60,000 per year. The second data source is an expert survey in which 558 respondents (managers and business consultants) share their opinions on industry- and firm characteristics of the studied industries and firms. The third data source consists of external sources, including data from A.C. Nielsen on firms' annual advertising expenditures as well as from firms' annual reports on revenues.

3.3.2 Measurement of variables

Dependent variable. The measurement of the dependent variable (loyalty intentions) is identical to that in Chapter 2 (see pages 24-25).

Customer-level variables. The customer-level variables are collected from the customer survey. The measurements of CEDs are identical to those in Chapter 2 (see pages 24-25). The principal component analysis (PCA) clearly shows the presence of three CEDs[7], indicating that the CEDs are not unidimensional (see Table 3.3). The reliability (Cronbach's α) of value equity, brand equity, and relationship equity is sufficient, with values of 0.73, 0.70, and 0.85, respectively. To examine discriminant validity, we calculate the average variance extracted (AVE) of each CED as well as each CED's shared variance with other CEDs (Fornell and Larcker 1981). Given that the AVE (between 0.65 and 0.77) is larger than the shared variance (between 0.30 and 0.36), discriminant validity is supported. To test for potential common method bias (CMB), we use two methods to examine whether the results are biased by the common method: (1) Harman's one-factor test (Podsakoff and Organ 1986) and (2) partial correlation with a marker variable (Lindell and Whitney 2001). Neither Harman's one-factor test nor the partial correlation with a marker

[7] Confirmatory factor analysis (CFA) is also applied to verify the factor structure of CEDs. CFA shows an adequate model fit. The factors of CEDs are justified to be accepted (RMSEA=0.064, CFI=0.99, GFI=0.99, AGFI=0.96, RMR=0.04). In addition, we note that one question of value equity for energy providers is not present because it was not appropriate for this context (i.e., I can buy this products/ services at places that are convenient for me). To handle the missing values (in total 639), we chose the method of "replace by mean." To justify this choice, we reanalyze the PCA, which includes two questions of value equity instead of three. The result still shows the presence of three CEDs.

variable finds evidence for common method bias. Finally, we measure gender, age, income[8], relationship length[8], involvement and switching costs, and include these variables as controls in our model. We use the averages of the items to form the CEDs constructs.

Industry characteristics. Two industry characteristics are collected from the expert survey. Seven-point Likert scales are used for these characteristics. Environmental turbulence measures the extent of competition and hostilities (Slater and Narver 1994) as well as how dynamic a market is (Homburg and Pflesser 2000). Product visibility emphasizes how visible the usage of products is to others (Fisher and Price 1992). The relevant questions are shown in Table 3.3. In addition to the expert survey, AC Nielsen provides firms' annual expenditures in all advertising activities. We aggregate these firm-level advertising expenditures to obtain industry advertising intensity. This is calculated by averaging expenditures of all firms in a single industry since the data have different numbers of firms in each industry. Finally, based on the definition of contractual settings mentioned previously (Fader and Hardie 2007), we code contractual settings with 1 and non-contractual settings with 0. Contractual settings include insurance, health insurance, banking, mobile phone, landline phone, and energy providers. The remaining industries belong to non-contractual settings. We use the PCA to examine whether these industry characteristics are unidimensional since industry characteristics may theoretically correlate with each other and cause estimation problems due to multicollinearity (e.g., Evans 1991). Table 3.3 shows that the four industry characteristics[9] end up in expected separate components, meaning that they are not unidimensional and the multicollinearity problem is not a concern.

[8]30.6% of respondents did not give information of income and 8.7% did not know the relationship length. When analyzing the multilevel model, we used (1) the most frequent mentioned value and (2) multiple imputation to replace these missing values. Both methods give similar results. Therefore, we chose the first method to analyze Equation 1, which will be elaborated in the later section.

[9] We initially used five industry characteristics (environmental turbulence, product visibility, industry advertising intensity, contractual settings, and difficulty in the quality assessment) and three firm characteristics (innovativeness, market position, and relative advertising expenditures) to explain the cross-industry and cross-firm variance. However, the PCA shows that these characteristics are not completely unidimensional, such

Firm characteristics. Firm characteristics are collected from the expert survey and the external sources. Innovativeness is measured by asking experts about how often firms come up with innovative products, services, and ideas (Verhoef and Leeflang 2009). This question is measured with seven-point Likert scales (1: very seldom; 7: very often). Firms' market position is measured as firms' revenue ranking in the correspondent industries. The information about revenues is collected from firms' annual reports. The market position is coded by the ascending sequence of firms' revenues. Namely, firms with the highest revenues in the corresponding industries are coded as 1 and are considered to be the market leader, whereas the other firms are considered as market followers. These firms are coded in an ascending sequence (i.e., 1, 2, 3, 4, etc.). The descriptive statistics and correlation matrix of CEDs, industry characteristics, and firm characteristics are provided in Table 3.4.

3.3.3 Model specification

We estimate a multilevel model to test our conceptual model. A multilevel model is adopted for two reasons. First, the data are hierarchical with three levels, i.e., customers nested within firms and further within industries. Second, a multilevel model is able to estimate variance of CEDs effects across firms and industries (i.e., β_{1jk}, β_{2jk}, and β_{3jk} in the following Equation 1). Based on the same reason stated on page 27, we transform the dependent variable with a logarithm, $Ln(^{LI}/_{1-LI})$, to assume a linear relationship of loyalty intentions and the relevant independent variables.

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that (1) contractual settings and difficulty in the quality assessment and (2) firm innovativeness and relative advertising expenditures end up in one factor respectively. Because contractual settings and difficulty in the quality assessment, for example, have distinct moderating impacts, we decided to drop difficulty in quality assessment in order to derive good interpretable results (e.g., Atuahene-Gima 1996; Lemon, White, and Winer 2002). The same reason is for dropping relative advertising expenditures. The robustness check shows that the results remain similar before and after dropping these two characteristics. These results can be requested from the authors.

$$LI_{ijk}=\beta_{0ijk} + \beta_{1jk}VE_{ijk} + \beta_{2jk}BE_{ijk} + \beta_{3jk}RE_{ijk} + \beta_{4jk}CV_{ijk} + e_{ijk} \quad (1)$$

$$\beta_{0jk} = \gamma_{00k} + \gamma_{010}FV_{0jk} + \mu_{0jk} \quad (2.1)$$

$$\beta_{1jk} = \gamma_{10k} + \gamma_{110}FV_{0jk} + \mu_{1jk} \quad (2.2)$$

$$\beta_{2jk} = \gamma_{20k} + \gamma_{210}FV_{0jk} + \mu_{2jk} \quad (2.3)$$

$$\beta_{3jk} = \gamma_{30k} + \gamma_{310}FV_{0jk} + \mu_{3jk} \quad (2.4)$$

$$\gamma_{00k} = \alpha_{000} + \alpha_{001}IV_{00k} + \nu_{00k} \quad (3.1)$$

$$\gamma_{10k} = \alpha_{100} + \alpha_{101}IV_{00k} + \nu_{10k} \quad (3.2)$$

$$\gamma_{20k} = \alpha_{200} + \alpha_{201}IV_{00k} + \nu_{20k} \quad (3.3)$$

$$\gamma_{30k} = \alpha_{300} + \alpha_{301}IV_{00k} + \nu_{30k} \quad (3.4)$$

where,

LI_{ijk}: loyalty intentions for firm *j* evaluated by customer *i* in industry *k*

VE_{ijk}: value equity for firm *j* evaluated by customer *i* in industry *k*

BE_{ijk}: brand equity for firm *j* evaluated by customer *i* in industry *k*

RE_{ijk}: relationship equity for firm *j* evaluated by customer *i* in industry *k*

CV_{ijk}: customer-level control variables, a row vector of age, gender, income, relationship length, switching costs, involvement, and consumer confidence

FV_{0jk}: firm characteristics, a row vector of firms' innovativeness and market position

IV_{00}: industry characteristics, a row vector of environmental turbulence, industry advertising intensity, product visibility, and contractual settings

e_{ijk}: level-one residuals

μ_{mjk}: level-two residuals, m=0,1, 2, 3

ν_{n0k}: level-three residuals, n=0,1, 2, 3

β_{0jk} is the random level-one intercept. β_{1jk}, β_{2jk}, and β_{3jk} are the effects of value equity, brand equity, and relationship equity respectively. β_{4jk} is a vector of coefficients corresponding to customer-level control variables. γ_{00k}, γ_{10k}, γ_{20k}, and γ_{30k} are level-two intercepts. γ_{010} is a vector

of the effects of firm characteristics on loyalty intentions. γ_{110}, γ_{210}, and γ_{310} are a vector of coefficients for the interaction terms at the firm level. α_{000}, α_{100}, α_{200}, and α_{300} are level-three intercepts. α_{001} is a vector of the effects of industry characteristics on loyalty intentions. α_{101}, α_{201}, and α_{301} are a vector of coefficients for the interaction terms at the industry level.

3.4 Results

Table 3.5 contains the parameter estimates of four different multilevel models. Model 1 includes the main effects of CEDs, controlling for relevant customer-, firm-, and industry-level variables. Model 1 also shows the variance of CEDs effects on loyalty intentions across firms and industries. Model 2 and 3 include firm- and industry characteristics respectively to explain the variance of CEDs effects estimated in Model 1. Model 4 (full model) estimates the joint moderating effects of firm- and industry characteristics on the CEDs-loyalty link.

3.4.1 Overall results

Consistent with previous research (Rust, Lemon, and Zeithaml 2004; Vogel, Evanschitzky, and Ramaseshan 2008), all four models in Table 3.5 show a positive link between CEDs and loyalty intentions (e.g., in Model 1: VE = .92, $p < .01$; BE = .89, $p < .01$; RE = 1.59, $p < .01$). This provides an important empirical generalization of the positive CEDs-loyalty link across various firms and industries. In addition, these results show that the effect of relationship equity is stronger than the effect of value equity and brand equity, supporting the argument concerning the crucial role of relationship marketing in service industries (Berry 1995; Gwinner, Gremler, and Bitner 1998; Hennig-Thurau, Gwinner, and Gremler 2002).

TABLE 3.3 Results of Principal Component Analysis

Constructs	Measures	Components				Variance Explained
Customer Equity Drivers		**1**	**2**	**3**		
Value equity	1. The price-quality ratio of the product/service the company is offering is good.	**.52**	.31	.43		73.58%
	2. I can buy this product/service at places that are convenient for me.	**.85**	.13	.14		
	3. I can make use of the product/service of this company at any time and place I want.	**.78**	.19	.18		
Brand equity	1. This company has a strong brand.	.39	**.85**	.23		
	2. This company has an innovative brand.	.11	**.74**	.32		
Relationship equity	1. I have the feeling that the company knows exactly what I want.	.21	.18	**.82**		
	2. I feel at home with this company.	.31	.29	**.78**		
	3. I feel committed to this company.	.10	.23	**.85**		
Industry Characteristics		**1**	**2**	**3**	**4**	
Environmental turbulence	1. How intensive is the competition in industry Y?	**.92**	.15	-.23	.15	95.91%
	2. Companies of industry Y compete with each other to attract new customers and retain current customers.	**.88**	-.05	.37	-.09	
	3. To what extent does industry Y have a dynamic market?	**.82**	.49	-.13	.03	
Industry advertising intensity	Average annual advertising expenses	.04	.07	.04	**.99**	
Product visibility	When the services/ products of industry Y are used, they are visible by people who are around the customers.	.17	**.95**	-.22	.08	
Contractual setting	Contractual and non-contractual settings	-.02	-.2	**.96**	.05	

TABLE 3.4 Descriptive Statistics and Correlation Matrix

Main variables	M	SD	Sample size	1	2	3	4	5	6	7	8	9
1. Value equity	4.98	1.09	8924	1	.58	.55	.09	-.04	.08	.01	.08	-.16
2. Brand equity	4.75	1.09	8924		1	.60	.22	-.07	.04	-.04	.04	-.03
3. Relationship equity	4.11	1.24	8924			1	.10	-.02	.02	-.03	.03	-.06
4. Innovativeness	3.47	.71	95				1	-.16	.15	.15	.21	-.07
5. Market position[1]	N.A.	N.A.	75[1]					1	.13	.39	-.03	.04
6. Environmental turbulence	4.68	.53	18						1	.19	.44	-.11
7. Industry advertising intensity	16.37	10.88	18							1	.19	-.45
8. Product visibility	3.53	1.10	18								1	-.02
9. Contractual setting	N.A.	N.A.	18									1

[1]: An ordinal variable. There is no available information of 20 firms' revenues in the data[10].
N.A: Not applicable.

[10] For data analysis, we create a variable for missing value (1=missing revenues; 0=no missing revenues). We include this variable in Equation 1 to remain the same sample size. This is so-called a dummy variable adjustment for missing values (Cohen and Cohen 1985).

The results of Model 1 also indicate that the positive CEDs-loyalty link significantly vary across firms and industries. For instance, the effect of value equity has a cross-firm variance of .40 ($p < .01$) and a cross-industry variance of .29 ($p < .01$). Similarly, for brand equity, the cross-firm variance is .30 ($p < .01$) and cross-industry variance is .30 ($p < .01$). For relationship equity, the cross-firm variance is .94 ($p < .01$) and the cross-industry variance is .74 ($p < .01$). The significant variance indicates that the importance of CEDs differs substantially between firms as well as between industries. As such, shown in Appendix 3, while relationship equity is on average the strongest across 18 industries, the heterogeneity leads to the fact that value equity is also an important driver of loyalty in such industries as insurance (β= .88, $p < .01$), gasoline providers (β= 1.11, $p < .01$), travel agencies (β= .88, $p < .01$), holiday resorts (β= 55, $p < .1$), supermarkets (β= .66, $p < .01$), department stores (β= .32, $p < .05$), Do-It-Yourself retailing (β= .97, $p < .01$), and furnishing retailing (β= .63, $p < .01$). Similarly, brand equity plays an important role, such as health insurance (β= 1.27, $p < .05$), energy providers (β= .61, $p < .1$), airlines (β= .49, $p < .05$), health/beauty retailing (β= .49, $p < .05$), department stores (β= .33, $p < .01$), furnishing retailing (β= .31, $p < .1$), and e-booking (β= .72, $p < .1$).

In addition to the main effects of CEDs, we find that some control variables (i.e., gender, age, relationship length, innovativeness, environmental turbulence, contractual settings) have a significantly positive relationship with loyalty intentions, some (i.e., involvement, consumer confidence, and industry advertising intensity) have negative relationships, and others (i.e., income, switching costs, firms' market position, and product visibility) do not have significant relationships in the full model.

The subsequent discussion concerns the moderating effects of firm- and industry characteristics. The interactions of CEDs and firm- as well as industry characteristics are among

the mean-centered variables. We will focus on Model 4 for three reasons. First, by jointly including firm- and industry characteristics as moderators, Model 4 has significantly improved the model fit (χ^2 = -27953.77– (-28070.50) = 116.73, *df* = 18, $p < .01$) compared to Model 1. Model 2 has, however, not significantly improved compared to Model 1 by including only firm characteristics as moderators (χ^2 = 9.15, *df* = 6, $p > .1$). Second, although Model 3 has also significantly improved compared to Model 1 by including only industry characteristics as moderators (χ^2 = 109.64, *df* = 12, $p < .01$), the aim of this study is to examine the joint impact of firm- and industry characteristics on the variance of CEDs effects. Third, the results of the moderating effects are stable and consistent across Model 2 – 4. In Model 4, the VIF (variance inflation factor) values for the variables included are between 1.07 and 2.18. Therefore, multicollinearity is not a concern in the data. In the following discussion, we use a *p*-value of .10 as evidence for a significant interaction effect because the number of observations at both the industry- (n=18) and firm (n=95) level is relatively low (Bolton 1989).

3.4.2 Moderating effects

Concerning the cross-industry variance, we are able to explain 62% of variance for value equity, 87% for brand equity, and 85% for relationship equity. We find seven significant interactions that reduce the variance across industries. Environmental turbulence has a marginal, significantly positive interaction with brand equity (.11, $p < .10$), meaning that the effect of brand equity on loyalty intentions is strengthened in a turbulent environment. Further, industry advertising intensity has a significantly negative moderating effect on the effect of brand equity (-.01, $p < .05$). This means that brand equity becomes less important in industries with highly intensive advertising expenditures. Product visibility negatively interacts with value equity (-.14, $p < .01$) and relationship equity (-.16, $p < .01$), showing that the effect of value equity and relationship

equity is weakened when the usage of products is visible to others. Finally, contractual settings have a significantly positive interaction with value equity (.17, $p < .01$), brand equity (.29, $p < .01$), and relationship equity (.72, $p < .01$). This means that the effects of CEDs on loyalty intentions are stronger for contractual settings than for non-contractual settings. We note that cross-industry variance of CEDs effects becomes insignificant (value equity: .11, $p > .10$; brand equity: .04, $p > .10$; relationship equity: .11, $p > .10$). This implies that the included industry characteristics almost fully explain the cross-industry variance.

Concerning the cross-firm variance, the explained variance is 27.5% for value equity, 80% for brand equity, and 47% for relationship equity. We find two significant interactions that reduce the variance across firms: firms' innovativeness negatively interacts with relationship equity (-.19, $p < .05$) and firms' market position positively interacts with brand equity (.10, $p < .05$). Since the coding of the market position is an ascending sequence (i.e., firms with the strongest position are coded as 1 and the followers as 2, 3, 4, etc.), the result shows that the effects of brand equity on loyalty intentions decrease for top-ranked firms/big brands. After controlling for industry- and firm characteristics, the cross-firm variance remains significant for value equity (.29, $p < .05$) and relationship equity (.50, $p < .01$).

3.4.3 Robustness checks

To test whether these results are robust, we conducted several robustness checks: First, we took commonly used customer-level moderators into account, such as gender, age, income, relationship length, switching costs, and customer involvement. Previous studies find a significant impact among several customer characteristics on the links of loyalty drivers (e.g., satisfaction) and customer loyalty (see Table 3.1). These moderators are included in Equation 1 and result in 36 interactions in Model 4 (i.e., three main effects of CEDs with the moderators of

six customer characteristics, two firm characteristics, and four industry characteristics). Second, we randomly left out 5% (exclude 443 respondents) or 10% (exclude 892 respondents) of the total sample. We do this three times for 5% and 10 % left out respectively (i.e., six smaller sample sizes in total) and re-estimate Model 4. Finally, we excluded the industry of energy providers and re-estimate Model 4 with only 17 industries. We did so since the value equity question "I can buy this products/ services at places that are convenient for me" was not appropriate in this context and, hence, we measured value equity with only two opposed to three questions in this industry.

With regard to the main effects of CEDs, the significant positive effects of CEDs on loyalty intentions are consistent across all these checks. The effect of relationship equity is also consistently stronger than the effects of value equity and brand equity. With regard to the moderating effects, the results show that most significant interaction effects remain stable. Only the marginal significant interaction (i.e., brand equity and environmental turbulence) becomes insignificant in some of the checks. However, the sign of the interaction always remains the same (i.e., positive). As such, we should cautiously interpret the interaction between brand equity and environmental turbulence.

3.5 Discussion

This study contributes to the literature on customer loyalty and the customer equity model threefold. First, we empirically test whether and how much the effects of CEDs on loyalty vary at the industry- and firm level for 95 firms across 18 industries. Second, we integrate existing speculations (e.g., Rust, Zeithaml, and Lemon 2000) and previous empirical findings summarized in Table 3.1 in one framework and test which characteristics moderate the CEDs-loyalty link. We hence identify extensive theoretical industry- and firm characteristics for the

explanation of the supported variance. We find that the cross-industry variance is largely explained and cross-firm variance is moderately explained. Finally, we provide strong evidence for the positive effects of CEDs on loyalty across a large number of industries and firms. In doing so, we further confirm the argument that relationship management is crucial in service industries. Service industries are assumed to be more likely to induce uncertainties and complexities for customers (e.g., Berry 1995). Relationship management in this sense becomes crucial because it increases customers' belief and trust that firms will keep promises and engage in a win-win partnership with customers (Gwinner, Gremler, and Bitner 1998; Hennig-Thurau, Gwinner, and Gremler 2002; Morgan and Hunt 1994).Taken together, we assist in making more generalizable and nuanced statements with respect to the CEDs-loyalty link. Furthermore, these contributions provide important strategic insights into how different firms in different industries are able to effectively increase customer loyalty. In the following, we will discuss the theoretical and managerial implications in detail.

3.5.1 Theoretical implications

Our study provides generalizable evidence on the positive effects of CEDs on loyalty intentions. Furthermore, we also clearly show that these effects substantially differ between industries and firms. For example, an additional analysis shows that value equity is the most important strategy for increasing customer loyalty for gasoline providers, supermarkets, Do-It-Yourself retailing, and furnishing retailing. Brand equity is the most crucial for health/beauty retailing and e-booking. Relationship equity plays the most important role in all studied contractual businesses, airlines, department stores, electronic retailing, and online retailing. Those findings indicate that we need to consider different contexts to obtain the precise effects of CEDs.

TABLE 3.5 Multilevel Modeling Results for Customer Loyalty

Variable	Model 1	Model 2	Model 3	Model 4
Intercept	.76(.40)*	.77(.40)*	.92(.39)**	.92(.39)**
Customer Equity Drivers (CEDs)				
Value equity (VE)	.92(.06)***	.92(.06)***	.93(.06)***	.93(.06)***
Brand equity (BE)	.89(.06)***	.88(.06)***	.86(.06)***	.85(.06)***
Relationshipequity (RE)	1.59(.06)***	1.58(.06)***	1.52(.06)***	1.51(.06)***
Customer-Level Control Variables				
Gender	.22(.12)*	.23(.12)*	.24(.12)**	.24(.12)*
Age	.08(.05)	.08(.05)	.09(.05)*	.09(.05)*
Income	-.10(.07)	-.09(.07)	-.09(.07)	-.09(.07)
Relationshiplength	.20(.04)***	.19(.04)***	.19(.04)***	.18(.04)***
Switching costs	-.16(.04)***	-.16(.04)***	-.04(.04)	-.04(.04)
Involvement	-.38(.05)***	-.38(.05)***	-.34(.05)***	-.33(.05)***
Consumer confidence	-.11(.07)	-.11(.07)	-.14(.07)*	-.14(.07)*
Firm-Level Variables				
Innovativeness	.32(.26)	.34(.26)	.42(.25)*	.43(.25)*
Market position	-.07(.13)	-.07(.14)	-.08(.12)	-.08(.12)
Industry-Level Variables				
Environmental turbulence	.72(.25)***	.71(.25)***	.71(.24)***	.71(.24)***
Industry advertising intensity	-.07(.02)***	-.07(.02)***	-.07(.02)***	-.07(.02)***
Product visibility	-.30(.24)	-.31(.24)	-.31(.23)	-.31(.23)
Contractual setting	.78(.26)***	.77(.25)***	.78(.24)***	.78(.24)***
Firm-Level Interactions				
VE × innovativeness		-.07(.07)		-.04(.09)
VE × market position		.01(.04)		.02(.04)
BE × innovativeness		-.01(.08)		.03(.09)
BE × market position		.08(.04)**		.10(.04)**
RE × innovativeness		-.22(.08)***		-.19(.09)**
RE × market position		.06(.03)*		.04(.04)
Industry-Level Interaction				
VE × environmental turbulence			-.06(.06)	-.05(.06)
VE × industry advertising intensity			.00(.01)	-.00(.01)
VE × product visibility			-.16(.06)***	-.16(.06)***
VE × contractual setting			.17(.07)***	.17(.07)***
BE × environmental turbulence			.13(.06)**	.11(.06)*
BE × industry advertising intensity			-.01(.01)	-.01(.00)**
BE × product visibility			-.06(.06)	-.04(.06)
BE × contractual setting			.30(.06)***	.29(.06)***
RE × environmental turbulence			.08(.06)	.07(.06)
RE × industry advertising intensity			-.00(.01)	-.00(.01)
RE × product visibility			-.19(.06)***	-.16(.06)***
RE × contractual setting			.72(.06)***	.72(.06)***
(Explained) Variance of CEDs Effects across Firms				
Variance of VE effects across companies	.40(.10)***	.40(.10)***		.29(.12)**
Explained variance of VE effects across companies[1]				*27.5%*
Variance of BE effects across companies	.30(.10)***	.24(.12)**		.06(.06)
Explained variance of BE effects across companies[1]				*80%*
Variance of RE effects across companies	.94(.10)***	.92(.09)***		.50(.09)***
Explained variance of RE effects across companies[1]				*47%*
(Explained) Variance of CEDs Effects across Industries				
Variance of VE effects across industries	.29(.09)***		.11(.12)	.11(.10)
Explained variance of VE effects across industries[1]				*62%*
Variance of BE effects across industries	.30(.08)***		.09(.07)	.04 (.03)
Explained variance of BE effects across industries[1]				*87%*
Variance of RE effects across industries	.74(.15)***		.12(.07)*	.11(.09)
Explained variance of RE effects across industries[1]				*85%*
Model Deviance	-28070.50	-28061.35	-27960.86	-27953.77

*P<.1; **p<.05; ***p<.01

[1]: The percentage refers to the extent to which variance of the CEDs effects in Model 1 is explained. For instance, the explained cross-firm variance of the VE effect in model 4= {(0.40-0.29)/0.40}×100%=27.5%.

Note: The number in the parentheses () refers to standard errors.

Cross-industry variance. First, contractual settings explain the majority of the cross-industry variance. We find that the role of CEDs in contractual settings is more important than their role in non-contractual settings. The potential reason is based on the stability of services quality between contractual and non-contractual settings. Since contractual settings are more likely to provide stable service quality than non-contractual settings, customers in contractual settings are assumed to increase confidence in their own evaluation (e.g., Garbarino and Johnson 1999). Confidence in the evaluation is a crucial factor in increasing customers' willingness to translate perceived CEDs into loyalty (Park et al. 2010). Specifically, confidence in value equity is important in contractual settings because customers often face long-run decisions. Hence, they tend to carefully calculate what is given up and what is received to increase utilities in the long-run (Rust, Zeithaml, and Lemon 2000). Confidence in brand equity is important in contractual settings because customers are more likely to have difficulty judging the quality of contractual products. In this sense, customers may use brands as a cue of credibility to decrease any uncertainties of product performance in the future (Rust, Zeithaml, and Lemon 2000). Finally, confidence in relationship equity is important in contractual settings. Relationships increase perceived trust, which is crucial for customers to sign long-term contracts (Palmatier, Gopalakrishna, and Houston 2006), which they need to do in contractual settings. In conclusion, while Rust, Zeithaml, and Lemon (2000) stress that relationship equity is important in contractual settings, value equity and brand equity also play an important role.

Beyond contractual settings, brand equity stands out as an effective marketing strategy in a turbulent environment. However, we should be cautious about the result since it has a marginal significance and is less stable in the robustness checks. In addition, we do not find that value equity plays a less important role and relationship equity becomes more important in a turbulent

environment. These results might not be too surprising because prior studies show mixed evidence on the interaction between satisfaction and environmental turbulence. For example, Seiders et al. (2005) do not find the moderating effect of competition on the link between satisfaction and loyalty intentions. However, Anderson, Fornell, and Mazvancheryl (2004) find that rivalry in competition decreases the effect of satisfaction on shareholder value. Hence, it might be necessary to further decompose environmental turbulence into the extent to which customers perceive empowerment and/or confusion in a turbulent market. This is because some customer satisfaction studies argue that environmental turbulence empowers customers (i.e., feel free in expressing their own evaluation) and strengthens the link of marketing strategies and loyalty (e.g., Seiders et al. 2005). However, others argue that turbulence confuses customers (i.e., feel confused about information) and weakens the link (e.g., Anderson, Fornell, and Mazvancheryl 2004).

We find that the effect of brand equity decreases in industries with intensive advertising expenditures. One may expect that brand equity should become more important in intensive-advertising industries, since advertising aims to increase the brand image (Vakratsas and Ambler 1999). However, advertising-intensive industries have built up reputation barriers to entry (Powell 1996), implying that most of the existing firms are high advertisers and should have already reputable brands. Customers in this sense may be less sensitive to advertising investment and perceive less differentiation between brands.

Finally, we find that the effects of value equity and relationship equity decrease when the usage of products is more visible to others. The finding is consistent with social comparison theory (Beardon and Rose 1990; Fisher and Price 1992). This theory proposes that customers consider others' reactions when the usage of products is visible to others. Unlike brands, value

equity and relationship equity are less noticeable in public. Customers therefore may be less likely to consider these two loyalty drivers when the usage of products is visible to others. However, we do not find the significant interaction between product visibility and brand equity. This does not support the speculation of Rust, Zeithaml, and Lemon (2000). However, this result's conclusiveness may be limited by cultural differences. According to Hofstede (2011), the Dutch culture scores much lower in power distance and masculinity than most of the other studied countries. This implies that Dutch customers are less likely to use brands as status symbols (De Mooij and Hofstede 2010).

Cross-firm variance. Our results show that the effect of relationship equity is weakened for innovative firms, meaning that innovative firms are less able to turn relationship equity into synergy. At the supply side, innovative firms aim to provide superior new products or a better price-quality ratio (e.g., Zhou, Yim, and Tse 2005). At the demand side, customers of innovative firms tend to have a stronger need for uniqueness (Tian, Beardon, and Hunter 2001). As a result, these customers may pay less attention to other marketing activities, such as maintaining good relationships with firms. However, we do not find that value equity becomes more important for innovative firms. One potential explanation may be the extent of creativity of innovation. Value equity may be more likely to stand out for explorative innovativeness (more creativity, such as Apple) than for exploitative innovation (Zhou, Yim, and Tse 2005). Therefore, clarifying the extent of creativity of innovativeness may uncover its moderating role.

Our findings show that firms in a strong market position benefit less from brand equity to enhance customer loyalty than those in a weaker position. This finding supports the view of the double jeopardy phenomenon and the glass-ceiling effect when bigger firms invest in marketing strategies, in particular when enhancing brand equity (e.g., Dowling and Uncle 1997; Ehrenberg,

Goodhardt, and Barwise 1990). Bigger firms have already built up famous brands and they do not have much to win when investing in activities intended to enhance brand equity (Du, Bhattacharya, and Sen 2011). By contrast, consistent with the organizational strategy literature (Ebben and Johnson 2005; Raisch and Birkinshaw 2008), smaller firms are less likely to encounter the glass-ceiling problem and therefore are advised to exploit specific strategies (e.g., building stronger brands) to effectively enhance customer loyalty.

3.5.2 Managerial implications

Our study suggests that the three marketing strategies (i.e., value equity, brand equity, and relationship equity) generally enhance customer loyalty across industries and firms. On average, relationship equity is more capable of influencing customer loyalty than value equity and brand equity in service industries. In addition, managers may be interested in how they gauge the effectiveness of these three marketing strategies in their particular context. In doing so, we follow the idea of Luo and Bhattacharya (2009) and visualize the effectiveness of these strategies. Figure 3.2 shows that by increasing one SD (standard deviation) more than average in relationship equity, firms can increases loyalty intentions by 30 %[11]. Similarly, the impact of value equity and brand equity on customer loyalty is 15.2% and 14.7%, respectively. However, not all industries and firms uniformly benefit from these numbers. Without taking the context (i.e., industry- and firm characteristics) into account, managers may be mistaken about the idiosyncratic effects of CEDs in their industries and firms. The potential consequence may be a suboptimal allocation of resources and failure in desired performance. Panel A, B, and C in Figure 3.2 describe the contextual impact on the effect of CEDs on customer loyalty, which give

[11] Relationship equity increases loyalty intentions by 1.972 units (1.59×1.24). 1.59 is the effect of relationship equity shown in Table 3.5. 1.24 is one standard deviation of relationship equity. 1.972 units mean that a one-standard-deviation increasing in relationship equity increases the dependent variable by 1.972 units. Relative to the variability of the dependent variable (i.e., 6.60), this also suggests that a 0.3 standard deviation change in the dependent variable (1.972/6.60). Namely, this change represents a 30% influence. If a firm is able to increase relationship equity with one standard deviation above its average, the firm is able to increase customer loyalty by 30%.

an empirical overview for managers in different industries and firms to develop effective context-specific loyalty strategies. As an illustrative example, Panel A visualizes that some contexts (i.e., environmental turbulence and industry advertising intensity as well as firms' innovativeness and market position) do not influence the impact of value equity on customer loyalty, while others (i.e., product visibility and contractual settings) do. Specifically, product visibility decreases the effect of value equity on the formation of loyalty by 3.0%. This indicates that the effect of value equity on customer loyalty decreases to approximately 12.2% (15.2%-3.0%) for more visible products (e.g., furnishing retailing, electronic retailing, and holiday resorts) and increases to 18.2% (15.2%+3.0%) for less visible products (e.g., insurance, landline phones, energy providers, and gasoline providers). This implies that value equity is less effective at increasing customer loyalty for firms selling more visible products. By contrast, Panel A also indicates that contractual settings strengthen the impact of value equity to 18.2% (15.2%+3.0%), but non-contractual settings benefit from value equity only by 12.2% (15.2%-3.0%). Similarly, Panel B shows that environmental turbulence increases the impact of brand equity to 15.7% and contractual settings to 19.7%. The industries with high environmental turbulence include mobile phones and airlines, for example. However, intensive-advertising industries decrease the impact of brand equity to 14.5%. For smaller firms, the impact of brand equity is 16.3%, but only 12.9% for bigger firms. Panel C shows that contractual settings increase the impact of relationship equity to 44%. However, visible products and firms' innovativeness decrease the impact to 26.6% and 27.4%, respectively.

3.6 Limitations and Future Research

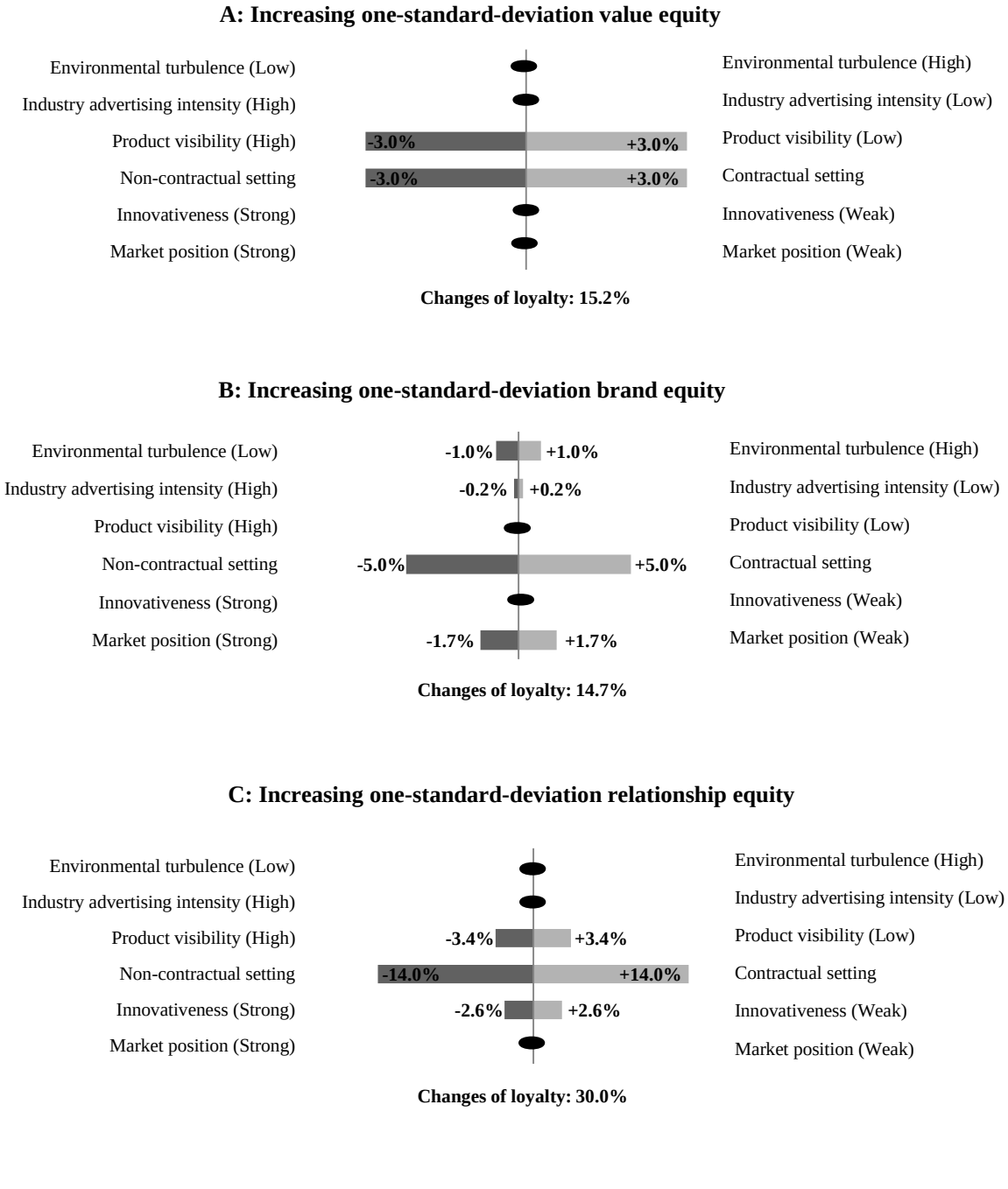
Similar to other empirical studies, our study has some limitations which provide avenues for future research. For example, with regard to the scope of the research setting, the dataset is

limited to B2C firms in service industries in the Netherlands. To further generalize our findings, researchers could study whether the results of the moderating role of industry- and firm characteristics can be found in other industries (e.g., B2B) and in other countries. For example, some argue that B2B customers emphasize partnership cooperation because a partnership builds up trust, reciprocity, and benevolence (e.g., Palmatier et al. 2006). This argument strengthens the link of relationship equity and customer loyalty, implying that the variance of this link is probably less in the B2B context than in the B2C contexts. That is, the moderating role of industry- and firm characteristics may have less impact on this link.

Second, although the variance of the effects of CEDs is significantly explained in this study, unexplained variance (in particular cross-firm) still remains. This means that additional or more elaborative industry- and firm characteristics are needed. For example, at the firm level, does market orientation influence the effectiveness of CEDs on loyalty because market orientation is firms' core competitive advantages in the market?

Finally, our large-scale dataset is limited to cross-sectional variation and cannot examine changes of the moderating role of industry- and firm characteristics over time. Given that the trend of the market environment is becoming more competitive and the investment in advertising is more intensive, an important question is whether the impact of these industry characteristics on the link of CEDs and customer loyalty becomes more prevalent over time.

FIGURE 3.2 Impact of Contexts on the Effects of CEDs on Customer Loyalty



Note: ⬬ refers to no moderating impact of industry- and firm characteristics.