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The impact of positive and negative emotions on loyalty intentions and their interactions with customer equity drivers

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Abstract

Customer equity drivers (CEDs) include value, brand, and relationship equity, which have a strong link with loyalty intentions. This study aims to examine the incremental effects of positive and negative emotions on loyalty intentions and to determine whether these emotions moderate the positive link between CEDs and loyalty intentions. We use customer data with 102 leading firms across eighteen services industries in the Netherlands. The results show that (1) positive and negative emotions have incremental effects on loyalty intentions, (2) positive emotions weaken the positive link (negative interaction), and (3) negative emotions strengthen the positive link, but only for brand and relationship equity (positive interaction). Thus, positive and negative emotions also explain loyalty intentions. However, managers should be cautious when combining CEDs with positive and negative emotions. We provide a strategic matrix to help managers arrive at effective combinations.

Keywords: Loyalty intentions; Emotions; Brands; Relationships

1. Introduction

Loyalty intentions are an important outcome that helps firms protect their bottom lines and grow top-lines (Kumar, Pozza, & Ganesh, 2013). The loyalty literature finds three customer equity drivers (CEDs) that significantly influence loyalty intentions (e.g., Rust, Lemon, & Zeithaml, 2004): value equity (VE), brand equity (BE), and relationship equity (RE).[1] CEDs are customers' assessments of value received, brand image perceived, and relationships established. In addition to CEDs, customer emotion is also a pervasive part of customer experiences and might heavily influence customer loyalty (e.g., WARC_1_2016). However, while prior studies have extensively studied CEDs (e.g., Vogel, Evanschitzky, & Ramaseshan, 2009; Ou, de Vries, Wiesel, & Verhoef, 2014; Ou, Verhoef, & Wiesel, 2017; Rust et al., 2004), they ignore how CEDs and customer emotion jointly influence loyalty intentions and hence it is unknown whether emotions affect loyalty beyond the established effects of CEDs. In addition, does a combination of CEDs and customer emotion effectively influence loyalty intentions?

We will take Amazon.com as an example to illustrate the importance of these two questions. To expand its customer base, the e-retailer uses both functional and emotional advertising to promote Fire TV and Prime (Whiteside, 2016). However, as Andy Donkin, Amazon's former head of worldwide brand and mass marketing, points out, "The farther we push from functional into emotional, the more skepticism there is about whether that can deliver" (Whiteside, 2016). This statement indicates that managers still question whether

[1] In line with Lemon, Rust, and Zeithaml's (2001) and Rust et al.'s (2004) definitions, VE refers to customers' objective assessment of what is given up for what is received. BE refers to customers' subjective assessment of brand image in terms of brand strength and brand innovation. RE refers to customers' assessment of their interaction quality with firms. When perceiving higher VE, customers might receive high utility and stay with the firm; when perceiving higher BE, customers might believe that the brand has high credibility or tend to have high self–brand connections, which leads to higher loyalty intentions; when perceiving higher RE, reciprocity might play a role in loyalty decisions (Lemon et al., 2001; Park, MacInnis, Priester, Eisingerich, & Iacobucci, 2010).

managing customer emotion is the right thing to do. This doubt may stem from two reasons. First, companies strive to create positive emotional experiences, as creating memorable and personalized customer experiences is crucial for competitive advantages in the experience economy (Pine & Gilmore, 1998), which assumes that customer emotion has an enduring effect on retaining customers. However, emotions are short lived and context specific and can be positive or negative (Andrade & Ariely, 2009). Can the effects of positive and negative emotions be proved when we account for regular strategies, such as improving CEDs? That is, while CEDs have a strong link with loyalty intentions, the extent to which customer emotion can incrementally contribute to loyalty intentions remains unclear. Second, services, brands, relationships, and emotions are important ingredients for creating customer experience (Verhoef, Lemon, Parasuraman, Roggeveen, Tsiros, & Schlesinger, 2009; Lemon & Verhoef, 2016). One unresolved question is whether the combination of CEDs and customer emotion creates strategic synergies or results in dis-synergies. The current study aims to empirically answer these two questions.

2. Theoretical background

Customer emotion is an important topic in consumer behavior and marketing (e.g., Holbrook & Hirschman, 1982; Pham, 2004; Westbrook & Oliver, 1991). Although emotions are short lived (Andrade & Ariely, 2009), several studies claim that emotions provide customers information and help explain how customers make decisions, in addition to cognitive information (Oliver, 1993; Pham, 2004; Westbrook, 1987). The marketing studies in Table 1 empirically find that customer emotion has a direct impact on customer satisfaction and loyalty, implying that customers likely incorporate short-lived emotions into their evaluation and decisions and showing that customer emotion might have an enduring effect.

Customer emotion involves two broadly studied types in the consumer behavior literature: integral and incidental emotions. The former type is relevant to the decision object, such as consumption emotion and advertising-evoked emotion (Holbrook & Hirschman, 1982; Westbrook, 1987); the latter is relevant to things other than the decision object, such as weather-evoked mood (Pham, 2007). In this study, we focus on integral emotions because we aim to examine how firms can effectively use customer emotion to influence loyalty intentions. Incidental emotions are a mood status that is hardly in firms' control.

<Table 1 here>

From a customer experience perspective, experiences come from the interactions across different touchpoints at the pre-purchase, purchase, and/ or post-purchase stage (Lemon & Verhoef, 2016). Different touchpoints at the stages may evoke different integral emotions. For example, a customer may experience enthusiasm when reading online reviews about the iPhone 7 at the pre-purchase stage, experience anger when he or she has to wait for two weeks to receive the product when placing an order in the Apple store at the purchase stage, and experience joy when using the phone at the post-purchase stage. One question is whether multiple, short-lived integral emotions (both positive and negative) influence later decisions. We define positive and negative valence of integral emotions as customers' emotional experiences retrieved from prior interactions with the focal firm at the pre-purchase, purchase, and/or post-purchase stage. To simplify and avoid confusion of the usage of emotion terms, we refer to positive and negative emotions as positive and negative valence of integral emotions, respectively. We also use the term "emotions" to combine the positive and negative valence of integral emotions. Against this background and building on the model of Rust et al. (2004), we thus include positive and negative emotions as additional loyalty drivers and moderators (see Fig. 1). We use a customer data set that includes 102 leading firms across eighteen service industries in the Netherlands.

<Fig. 1 here>

The study contributes to the literature on customer loyalty and customer emotion in three ways. First, we expand Rust et al.'s (2004) model by examining the incremental effects of positive and negative emotions on loyalty intentions when taking VE, BE, and RE into account. Furthermore, to reduce omitted-variable bias and avoid over-estimating the effects of positive and negative emotions, we include other theoretically argued loyalty drivers, such as demographic variables, relationship length, switching costs, customer involvement, and consumer confidence (see Table 1). Note that we are not claiming to have a more complete model than the studies listed in Table 1. For example, Han, Kwortnik, and Wang (2008) provide an integrative model that empirically includes comprehensive loyalty drivers and four types of loyalty as proposed by Oliver (1999).

Second, we provide an initial and in-depth exploration of the moderating impacts of positive and negative emotions on the CEDs–loyalty link. Managing both CEDs and customer emotion is the outcomes of marketing strategies to improve loyalty intentions. CEDs and customer emotion are tightly interconnected with each other. Ignoring the interactions of multiple strategies may lead to the wrong allocation of resources in specific strategies (Siggelkow, 2002). Thus, gleaning more insight into whether managing CEDs and emotions creates strategic synergies or dis-synergies when fostering loyalty is crucial. For example, does Amazon benefit or suffer from creating emotional experiences when investing in CEDs simultaneously? We further examine whether the effectiveness of the combination varies across firms and industries and initially explore which industry characteristics explain the industrial variance.

Third, we examine both positive and negative emotions, which are rarely tested simultaneously in customer loyalty (see Table 1). Examining both positive and negative emotions has theoretical and managerial benefits. Theoretically, positive and negative

emotions are independent dimensions. However, the absence of positive emotions does not always mean the presence of negative emotions (Warr, Barter, & Brownbridge, 1983). Managerially, taking both positive and negative emotions into account gives managers a more complete understanding of whether increasing positive emotions and decreasing negative emotions independently and effectively increase loyalty intentions. After all, strategies of increasing positive emotions (e.g., small gifts) and decreasing negative emotions (e.g., remedies for service failures) differ from each other. In summary, the study sheds light on the extent to which positive and negative emotions influence loyalty intentions by taking CEDs into account. The study also provides more insight into how managers can effectively integrate CEDs and emotions to influence loyalty intentions.

3. Hypotheses

3.1. Positive and negative emotions as loyalty drivers

CEDs are the outcomes of firms' investment in marketing strategies and the benefits customers perceive (Lemon et al., 2001; Rust et al., 2004). The investment and benefits can also be growing positive emotions or minimizing negative emotions, as firms strive to create genuine and idiosyncratic emotional experiences (Park et al., 2010). However, are CEDs and emotions conceptually distinct constructs? If so, how do emotions influence loyalty intentions? VE is an objective assessment of the utility of a firm's price, quality, and convenience; BE is a subjective assessment of a firm's brand strength and innovation; and RE is a subjective assessment of the customer's perceived quality of the relationship with the firm. Rust et al. (2004) also assume that BE and RE involve subjective emotional evaluations and are less likely to depend on objective assessments. For example, BE creates brand

attachment through emotional ties and connections (Lemon et al., 2001), while RE creates affective commitment through reciprocity (Han et al., 2008). However, we argue that the emotional experiences of BE and RE are different from customer emotion in valence, scope, time dependence, and mechanisms.

The first difference lies in valence. The emotional experiences of BE and RE rarely consider negative emotions. For example, high (low) levels of brand attachment or affective commitment indicate strong (weak) positive emotions. Weak positive emotions are not necessarily strong negative emotions. Thus, measuring both positive and negative emotions is crucial to gain a better understanding of customers' emotional experiences.

The second difference lies in scope. Emotions are not limited to brands and relationships. For example, Holbrook and Hirschman (1982, p. 136) argue that hedonic responses to brands (e.g., liking/disliking, preference) "represent only a tiny subset of the emotions and feelings of interest." Compared with BE and RE, emotions capture emotional experiences in a broader sense, including multiple discrete emotions at the pre-purchase, purchase, and/or post-purchase stage.

The third difference lies in time dependence. The emotional experiences of BE and RE are likely the outcomes of a process of long-term exchanges between firms and customers—that is, customers' cumulative evaluations of focal firms (e.g., Park et al., 2010). By contrast, emotions are context specific; they are often genuinely experienced from idiosyncratic events (Pham, 2004) and might not be cumulative evaluations.

The fourth difference lies in the mechanisms of decision making. Different emotional experiences may influence loyalty intentions differently. For example, development of self–brand connections and brand prominence can explain the effect of brand attachment on loyalty intentions (Lemon et al., 2001; Park et al., 2010); customers' desire to maintain relationships with firms can explain the effect of affective commitment on loyalty intentions

(Evanschitzky, Iyer, Plassmann, Niessing, & Meffert, 2006). Unlike brand attachment and affective commitment, emotions influence decision making through approach–avoidance reactions in a goal-directed perspective (Pham, 2004). Specifically, the impact of emotions on decision making is mainly through "feeling-is-for-doing" (Zeelenberg & Pieters, 2004). "Feeling-is-for-doing" indicates that emotions have informational (i.e., how do I feel about the current choice?) and motivational (i.e., what do my emotions tell me to do next?) functions, which in turn help people make decisions (Pham, 2004). Positive emotions are favorable and facilitate approach tendencies; negative emotions are unfavorable and facilitate avoidance tendencies (Zeelenberg & Pieters, 2004). That is, customers with positive emotions perceive the attainment of the consumption goal in the current choice; as a result, they tend to continue the current choice (i.e., high loyalty intentions). Conversely, customers with negative emotions perceive the failure in consumption goal attainment in the current choice; thus, they tend to avoid the current choice (i.e., low loyalty intentions). We thus formulate hypotheses for the main effects of positive and negative emotions on loyalty intentions:

H1a. Positive emotions have a positive impact on loyalty intentions when accounting for the effects of CEDs.

H1b. Negative emotions have a negative impact on loyalty intentions when accounting for the effects of CEDs.

3.2. Moderating effects of positive and negative emotions on the CEDs–loyalty link[2]

While prior studies generally find positive links between CEDs and loyalty intentions (Rust et al., 2004; Vogel et al., 2009; Ou et al., 2017), we expect that positive (negative) emotions weaken (strengthen) the positive links. Two theories explain the potential

[2] We thank two reviewers for suggesting the cognitive loop theory and broaden-and-built theory.

moderating effects of positive and negative emotions: the emotion-primacy approach and the broaden-and-built theory. These two theories explain how customers asymmetrically react to positive and negative emotions in different perspectives. The former focuses on the accessibility of emotions in action tendencies and the latter on the scope of thought-action repertoire.

Emotions are human beings' phylogenetic reaction through a bio-regulation process (Pham, 2004). The emotion-primacy approach proposes that positive (negative) emotions directly and clearly tell customers that they like (dislike) the experiences with focal firms (Kwortnik and Ross, 2007). This implies that when making decisions, customers tend to rely on their emotions, which may decrease the impact of other decision factors (Pham, 2004). A potential reason is that reliance on emotions can easily reduce confusion and speed up decision making. As a result, the emotion-primacy approach suggests that emotions decrease the effects of CEDs on loyalty intentions. However, the emotion-primacy approach might be more applicable to positive than negative emotions, which could be explained by the cognitive loop. The cognitive loop identifies a positive and negative cognitive loop (Isen, Shalker, Clark, & Karp, 1978). A positive cognitive loop refers that individuals with positive emotions retrieve more positive than negative memories and these positive memories will affect action tendencies. The tendencies are usually relevant to maintaining positive emotions, which will lead to another positive loop (Isen et al., 1978). For example, the tendencies include self-generous, have expectations of positive events in the future, and help others (Isen et al., 1978). A negative cognitive loop refers that individuals with negative emotions retrieve more negative than positive memories. However, different from a positive loop, these negative memories do not have the corresponding impact on action tendencies. Most people have an attempt to break the negative loop and enhance their emotional well-being; one way of breaking the loop is relying on relevant positive memories (Isen et al., 1978). We therefore

propose that customers with negative emotions may give more weight to any positive experiences retrieved. This suggests a strengthened positive link between CEDs and loyalty intentions, given perceived positive CEDs. However, do customers with negative emotions evaluate CEDs properly? Don't they have more negative evaluations of CEDs? Isen and Shalker (1982) find that individuals with negative emotions do not behave "defensive inattention to the stimulus material itself (p. 61)." Negative emotions do not blind individuals when they evaluate the characteristics of the objects, suggesting that customers are less likely to negatively evaluate good performance of CEDs.

In addition to the emotion-primacy approach, the broaden-and-built theory also supports the moderating effects of emotions. The theory focuses mainly on positive emotions and proposes that positive emotions widen individuals' thought-action repertoire (Fredrickson, 1998; 2001). Individuals with positive emotions likely capture extensive stimuli, create the urge to explore and integrate, and prefer variety-seeking (Fredrickson, 2001). The theory implies that customers with positive emotions widen their thoughts and consider extensive factors in loyalty decisions. In this regard, loyalty factors may include not only CEDs but also other experiences during the consumption stages. The role of CEDs thus is relatively less prominent in loyalty decisions when extensive factors are taken into account. In addition, customers with positive emotions tend to retrieve more positive than negative experiences (Isen et al., 1978). While there are extensive positive experiences in mind, the accumulation of these experiences might not proportionally influence loyalty decisions (Das Gupta, Karmarkar, & Reols, 2016). That is, these positive experiences may not create synergies. One positive experience might be exciting and could be easily transferred to loyalty decisions. However, this positive experience may render additional positive experiences less exciting (Das Gupta et al., 2016), suggesting a negative interaction of these positive experiences on loyalty decisions.

Contrast to positive emotions, negative emotions narrow individuals' thought-action repertoire (Fredrickson, 1998; 2001; Fredrickson & Joiner, 2002). However, as the negative cognitive loop points out, most people want to break the loop. We mentioned that one way of breaking the loop is paying more attention to positive experiences. We additionally assume that the other way of breaking the loop is undoing negative emotions, which will help enhance emotional well-being (Fredrickson, 1998). Positive emotions undo negative emotions because positive emotions "loosen the hold that a negative emotion has gained on that person's mind and body by dismantling or undoing preparation for specific action (Fredrickson, 2001, p. 222)." This may indirectly suggest that positive experiences are also able to undo or mitigate the aftereffects of negative emotions, implying that CEDs (if perceived positively) and negative emotions create a positive interaction on loyalty decisions. Thus, we derive the following hypotheses on the basis of the broaden-and-built theory for positive emotions and the cognitive loop for negative emotions:

H2a. Positive emotions weaken the effect of VE, BE, and RE on loyalty intentions (a negative interaction).

H2b. Negative emotions strengthen the effect of VE, BE, and RE on loyalty intentions (a positive interaction).

4. Method

To examine emotions, we collected a customer data set in 2012,[3] including 10,527 customer responses of 102 leading firms (based on revenues) from eighteen service industries

[3] We collected the data of the Dutch Customer Performance Index in 2010, 2011, and 2012. We used the 2012 data. Ou et al., (2014) and Ou et al. (2017) use 2010 and 2011 data, respectively. We used the same measures (i.e., loyalty intentions, VE, BE, and RE) as these other two studies. Part of the text on the methodology used is thus based on Ou et al. (2014, 2017).

in the Netherlands. These industries include insurance (thirteen firms), health insurance (nine firms), banking (five firms), mobile phone (five firms), landline phone (six firms), energy providers (five firms), gasoline providers (five firms), travel agencies (nine firms), holiday resorts (four firms), airlines (four firms), supermarkets (seven firms), health/beauty retailing (four firms), department stores (four firms), electronic retailing (five firms), do-it-yourself retailing (four firms), furnishing retailing (five firms), e-booking (four firms), and online retailing (four firms). We randomly chose respondents and asked them to rate multiple firms per industry. That is, for each industry, we provided a list of firms (between four and thirteen) to the respondents, who chose the firms (maximum three) of which they are currently customers. Given that some respondents are current customers of two or three firms in one industry, they repeatedly answered the same questions about different firms. The data contain 7,596 total eligible customers with 10,527 responses. Women comprise 53.2% of the sample. Regarding age, 17.0% of the respondents are between 18 and 29 years of age, 22.7% between 30 and 39 years, 16.9% between 40 and 49 years, 26.2% between 50 and 64 years, and 17.1% more than 65 years. Finally, 38.7% of the respondents have household incomes between €30,000 and €60,000 per year.

4.1 Measurement of variables

4.1.1. Loyalty intentions

Following Rust et al. (2004), we adopted self-reported probabilities of engaging in the next purchase to measure loyalty intentions. Table 2 provides the question. The respondents allocated 100 points across the firms of each industry. Because the respondents needed to allocate all 100 points across their chosen firms, if they chose only one firm for the next purchase, they displayed monogamous loyalty and gave 100 points to the firm. If they had

more than two firms in their consideration set for the next purchase, they displayed polygamous loyalty and allocated 100 points across the considered firms.

<Table 2 here>

4.1.2. CEDs and customer emotion

The development of the measures for CEDs is the same as in Ou et al.'s (2017) study. They use four steps to develop the measures (see Appendix 3 in their article). To measure CEDs, we used 7-point scales (1 = "totally disagree"; 7 = "totally agree") with multiple items (see Table 2). VE focuses on the price–quality ratio and convenience (Rust et al., 2004; Verhoef, Langerak, & Donkers, 2007). BE measures the perceived strength and innovative abilities of the brand (Verhoef et al., 2007). RE consists of items focusing on perceived commitment, feeling "at home," and feeling connected with the firm (Verhoef, 2003; Verhoef et al., 2007).

To measure positive and negative emotions, we asked respondents the extent to which they felt six specific emotions as a customer of the firms based on their past experiences: happiness, joy, and enthusiasm for positive emotions and anger, regret, and distrust for negative emotions (see Table 2). Kwortnik and Ross (2007) note that commonly experienced positive emotions include happiness, joy, and excitement. As excitement tends to be experienced only during consumption, we selected enthusiasm, which can happen at the pre-purchase, purchase, and/or post-purchase stage. Regarding negative emotions, anger is an often studied emotion (see Table 1). We further selected regret and distrust as the other negative emotions because some studies indicate that these are often experienced emotions in the service context (e.g., Johnson & Grayson, 2005; Zeelenberg & Pieters, 2004). We measured these six emotions with 7-point scales (1 = "not at all"; 7 = "strongly").

4.1.3. Control variables

Studies extensively specify and explain that age, gender, income, relationship length, switching costs, involvement, and consumer confidence can influence loyalty intentions. We thus controlled for these variables in the model. For example, Ou et al. (2014, 2107) theorize that age, gender, and income influence loyalty decisions. Customers with longer relationship length tend to trust focal firms and have higher loyalty intentions (Reinartz & Kumar, 2003); customers perceiving higher switching costs tend to be locked in and thus forced to stay with the firms (Dick & Basu, 1994); more involved customers tend to perceive the importance of the services received and have higher loyalty intentions (Bloemer & De Ruyter, 1999); customers with higher consumer confidence tend to be less skeptical about focal firms and have higher loyalty intentions (Hunneman, Verhoef, & Sloot, 2015; Ou et al., 2014).

4.1.4. Psychometric characteristics of CEDs and customer emotion

We asked questions about CEDs and emotions in the following order: (1) VE, (2) BE, (3) happiness, (3) joy, (4) anger, (5) regret, (6) enthusiasm, (7) distrust, and (8) RE. Table 3 shows that the reliability (Cronbach's α) is .76, .73, .85, .94, and .89 for VE, BE, RE, positive emotions, and negative emotions, respectively. Regarding convergent validity, Table 3 shows that the average variances extracted (AVE) of CEDs and emotions exceed the accepted critical value of .5. In addition, the AVEs of CEDs and emotions (.53–.79) are higher in general than the shared variance of any two constructs (.01–.40). Regarding discriminant validity, the principal component analysis (PCA) clearly shows the presence of the five dimensions VE, BE, RE, positive emotions, and negative emotions. The total variance is explained by 80.0%. Confirmatory factor analysis (CFA) also shows the presence of the five dimensions VE, BE, RE, positive emotions, and negative emotions with adequate model fit (RMSEA = 0.062; CFI = 0.97; SRMR = 0.04). We further included two control variables (customer involvement and consumer confidence) in the CFA. The results show seven

dimensions with better model fit (RMSEA = 0.048; CFI = 0.97; SRMR = 0.03). Thus, PCA and CFA confirm discriminant validity of the main constructs. These results indicate that VE, BE, RE, positive emotions, and negative emotions are not unidimensional. In other words, CEDs, positive emotions, and negative emotions are distinct constructs, justifying the examination of positive and negative emotions as additional loyalty drivers and moderators of the CEDs–loyalty link.

<Table 3 here>

4.1.5. Common method bias tests

To reduce common method bias (CMB), we measured the dependent and independent variables with different scales (Frank, Torrico, Enkawa, & Schvaneveldt, 2014). We used comparative scaling to measure loyalty intentions (i.e., relative intentions [loyalty shares] among competitors in one industry) and non-comparative scaling to measure CEDs and emotions (i.e., absolute perceptions of CEDs and emotions toward one firm). In addition, we used the partial correlation with a marker variable (Lindell & Whitney, 2001) to test for potential CMB. A marker variable is not theoretically relevant to the dependent variable. However, we do not have such a marker variable in the data. Following Verhoef and Leeflang (2009), we selected consumer confidence as a marker variable because it has little correlation with customer loyalty in the data ($r = –0.01$, $p > .1$), even though it could be related to customer loyalty intentions. The change of the correlation coefficients of the main indicators and loyalty intentions is small, between 0.2 and 0.4%. As a result, CMB is not a serious concern in the data.

5. Model specification and results

5.1. Hypotheses testing

We used a multi-level model to analyze the data because the data structure includes three levels (customers as the first level, who are nested within firms; firms as the second level, which are nested within industries). The following equations represent the multi-level model. We log-transformed loyalty intentions to assume a linear relationship between loyalty intentions and the relevant predictors. To facilitate interpretation of the interaction effects, we mean-centered CEDs and emotions. We detail the equations in Web Appendix A.

Table 4 shows the results of the multi-level analysis. Model 1 includes only CEDs as the main effects; model 2 adds positive and negative emotions as additional loyalty drivers; model 3 adds the interactions between CEDs and positive and negative emotions. Model 2 is significantly better than model 1 (–36752.66 – (–37021.14) = 268.48, df = 2, $p < .01$), and model 3 is significantly better than model 2 (–36718.54 – (–36752.66) = 34.12, df = 6, $p < .01$). Thus, we use model 3 to discuss the results. The main effects of CEDs and emotions on loyalty intentions across eighteen industries are significant ($p < .01$): 1.03 for VE, .98 for BE, 1.80 for RE, 1.50 for positive emotions, and –1.19 for negative emotions. These results provide support for H1a and H1b, showing that positive and negative emotions independently and significantly influence loyalty intentions when taking CEDs into account.

<Table 4 here>

In terms of the moderating effects of emotions, consistent with H2a, the interactions between positive emotions (PE) and CEDs are significantly and negatively related to loyalty intentions (–.39 for VE × PE, –.15 for BE × PE, –.15 for RE × PE; $p < .01$). The interaction between negative emotions and BE and that between negative emotions (NE) and RE are significant (.22 for BE × NE, .23 for RE × NE; $p < .01$); however, the interaction between

negative emotions and VE is not significant (.10 for VE × NE; $p > .10$). Thus, H2b is partially supported.

5.2. Exploring the cross-industry variance

This study does not intend to theoretically explain the potential cross-firm and cross-industry variance of the interactions between CEDs and emotions. However, we examined whether this variance exists. Table 4 shows that the cross-firm variance of VE × PE (.37; $p < .01$), RE × PE (.30; $p < .05$), VE × NE (.47; $p < .01$), and RE × NE (.62; $p < .01$) is significant, showing that the effects of these interactions vary across firms. The cross-industry variance of BE × PE (.28; $p < .05$) and RE × PE (.24; $p < .05$) is also significant, showing that the effects of these interactions vary across industries. These results indicate that the moderating effect of positive emotions seems more likely to vary across firms and industries than that of negative emotions.

To explore the source of the cross-industry variance, we used data from an expert survey, where we asked experts to evaluate some industry/product characteristics of the eighteen industries, including competitive intensity, innovative markets, contractual settings, visibility to others, complexity of purchase decisions, and difficulty of evaluating quality. These have also been used in Ou et al. (2017) and for more details we refer to this study. Our exploratory analysis revealed that difficulty of evaluating quality (-.14, $p < .05$) strengthens the negative interaction of BE and positive emotions. When it is difficult to evaluate quality prior to consumption, customers have to make a decision using a proxy that indicates the future performance of goods/ services (Lemon et al., 2001). The proxy could be either BE or positive emotions. In addition, competitive intensity (-.13, $p < .05$) and contractual settings (-.29, $p < .05$) strengthen the negative interaction of RE and positive emotions. Companies in

competitive industries likely provide homogeneous rather than heterogeneous goods/services (Menguc and Auh, 2006). In contractual settings, customers sign a contract with firms, of which agreement is valid for a period of time (Gulati, 1995). In sum, the initial findings show that strategic dis-synergies of CEDs and positive emotions are more prevalent in the industries with difficulty to evaluate quality prior consumption (e.g., insurance, banking, DIY retailing), high competitive intensity (e.g., health insurance, supermarkets, electronic retailing, airline), or contractual settings (e.g., energy providers). This finding suggests that these industries need to pay more attention to specific loyalty factors, which are crucial to enhance loyalty intentions. We will elaborate this discussion in the section of managerial implications.

5.3. Robustness checks

We conducted three robustness checks to test whether the obtained results are robust. First, we estimated the models on a randomly chosen 90% and 80% of the sample to prevent type I errors. Second, we used another multi-level analysis to analyze each industry's data and then conducted meta-analysis to summarize the eighteen results. Because we asked the respondents to give multiple responses if they were current customers of multiple firms, the data structure includes responses nested within subjects. Web Appendix B shows that the average number of responses per respondent ranges from 1.02 (energy providers) to 2.58 (banking), resulting in 1.39 across eighteen industries. This number is small for within-subject effects. We therefore ignored these effects in the above multi-level analysis. However, to examine whether the within-subject effects (i.e., customer responses for level 1 and customers for level 2) influence the results, we analyzed each industry's data and summarized the eighteen results by meta-analysis. Third, we used the lottery industry to replicate the findings of the eighteen-industry data. The lottery industry is a service industry in which customers experience significant

emotions. We collected the data in 2013, and the sampling process was the same as the eighteen-industry data. We provided a list of nine firms to the respondents, who chose the firms (maximum of three) of which they are currently customers. If a respondent was a current customer of two or three firms, he or she repeatedly answered the same questions about different firms. The data included 834 customers with 2,165 responses. In general, the three robustness checks confirm the results of the eighteen-industry data, while the non-significance of VE × NE is still inconclusive. The detail of the three robustness checks is in Web Appendix C.

6. Discussion

6.1. Theoretical implications

This study investigates the incremental effects of positive and negative emotions on loyalty intentions and their moderating effects on the links between CEDs and loyalty intentions. The results show that (1) positive and negative emotions incrementally influence loyalty intentions when accounting for the effects of CEDs, (2) positive emotions weaken the effects of CEDs (negative interaction), and (3) negative emotions strengthen the effects of BE and RE (positive interaction).

6.1.1. Incremental effects of customer emotion

Integral emotions are relevant to the focal firm because they are generated by the focal firm and more likely to be perceived as a valid source of customer decisions (Pham, 2007). Consistent with the studies in Table 1, we found that short-lived emotions evoked from recent experiences influence loyalty intentions. The data further confirm that positive and negative

emotions are two independent loyalty drivers, which are also distinct constructs from CEDs. This is consistent with the notion that positive and negative emotions are independent dimensions (e.g., Diener & Emmons, 1985). Emotions should be measured in unipolar scales to better capture how positive and negative emotions influence customers' loyalty decisions. However, research knows little about why positive and negative emotions are independent (Warr et al., 1983). A potential explanation lies in desired and undesired events generating positive and negative emotions, respectively, which may not be related to each other (e.g., Warr et al., 1983). For example, a customer can be annoyed by a firm's noisy store but impressed by its frontline employees who patiently help customers, thus showing that the undesired (noisy store) and desired (helpful frontline employees) events are not exactly correlated. In the end, generated positive and negative emotions may independently co-exist within this customer and jointly explain the variance of loyalty decisions. This explanation needs to be empirically tested to provide further insights into and solid evidence of the independence of positive and negative emotions.

6.1.2. Moderating effects of customer emotion

We found that customers with positive and negative emotions react differently to CEDs when making loyalty decisions. No strategic synergies to allocating resources to positive emotions and CEDs simultaneously exist to create loyalty intentions. The findings further support the emotion-primacy approach and broaden-and-built theory. The former (Kwortnik et al., 2007) proposes that customers tend to rely on emotions, as reliance on emotions can easily reduce confusion and speed up decision making. The latter implies that the accumulation of extensive positive experiences might not proportionally influence loyalty decisions (Fredrickson, 1998; Das Gupta et al., 2016). However, different from positive emotions, to break a negative loop and enhance emotional well-being (Isen et al., 1978),

customers with negative emotional experiences pay more attention to positively perceived CEDs. Alternatively, the finding also shows that positively perceived CEDs mitigate the aftereffects of negative emotions, consistent with the notion that customers tend to look on the bright side to lessen negative emotional experiences (Ruth, Brunel, & Otnes, 2002). These findings indicate that emotions influence the effectiveness of loyalty drivers. From a strategic perspective, the positive interactions between negative emotions and CEDs imply that while negative emotions are harmful to loyalty intentions, positively perceived CEDs may buffer this negativity. We elaborate on this issue next.

6.2. Managerial implications

Managers are often concerned about two issues in the allocation of limited resources: (1) effective trade-offs of competing marketing strategies (Rust et al., 2004) and (2) a better understanding of the combinations of marketing strategies (Siggelkow, 2002). Regarding the first issue, the results show that managers should include not only CEDs but also emotions in the consideration set of loyalty strategies. In addition, positive and negative emotions are two independent loyalty drivers. From this, managers can infer that generating strong positive emotions is not the only way to enhance loyalty intentions, as avoiding strong negative emotions can also be effective. For example, managers should remedy bad services by succeeding in service recovery, which may increase loyalty intentions.

For the second issue, Fig. 2 provides guidance on a strategic combination of CEDs and emotions. In quadrant I, because strategic synergies are missing between CEDs and positive emotions, we suggest focusing on either CEDs or positive emotions, depending on which has a stronger impact on loyalty intentions. For example, Web Appendix B shows that electronic retailing (e.g., Currys in the United Kingdom, MediaMarkt in Germany) should focus on VE

and RE, rather than positive emotions. Currys was in a weak position at the beginning of 2014 compared with its competitors (e.g., Amazon, Argos, John Lewis) (Sternberg & Edwards, 2015). To survive, Currys created a "Start with us because we start with you" campaign in May 2014. The purpose of the campaign was to create value for customers by providing good prices and promotions (i.e., VE). However, improving VE by using promotions is not sufficient (Sternberg & Edwards, 2015). To be consistent with the campaign, Currys incorporated "assistance" through price promotions. For example, Currys' advertising flyers not only gave discounts but also compared the benefits of different brands in the same product category. The additional work (i.e., comparison) in price promotion may improve both VE and RE because it helps customers have a better understanding of which brand fits their needs. The campaign helped Currys survive and resulted in increased sales (£895m) and profits (£205m) (Claridge, Edwards, & Sellars, 2016).

<Fig. 2 here>

In quadrant II, if customers negatively perceive CEDs of firms, managing positive emotions could protect firms from what they have not done well, because customers with positive emotions pay less attention to perceived CEDs. Thus, positive emotions are a useful loyalty tool for brands losing brand strength or for new and unfamiliar brands. For example, Netflix, a U.S.-based Internet-streaming media, introduced itself to the Dutch market in 2013 by showing funny YouTube videos. The results suggest that this strategy was effective for Netflix, as generating customers' positive emotions helped decrease their attention to Netflix's CEDs, which customers still had little knowledge of when Netflix was a new player in the market.

Quadrant III is a warning for firms when their customers perceive negative CEDs and have negative emotions. To avoid the potential death spiral in such a situation, the results indicate that firms should take action: expend effort to either enhance perceived CEDs or decrease

negative emotions. Similar to quadrant I, firms need to take into account which loyalty driver is effective in their industries. We thus do not repeat the discussion again.

In quadrant IV, customers perceive positive CEDs and also have negative emotions, a situation that retailing likely often encounters. In retailing, customers likely experience heterogeneous services, meaning that service quality and service encounters frequently vary across different frontline employees and from day to day (Bitner, Booms, & Tetreault, 1990). To buffer the negativity resulting from uncontrollable bad services, we suggest that managers should maintain or even improve their CEDs. For example, MediaMarkt in Germany has massive stores with many shop-floor employees, a surrounding in which customers likely experience different emotions by different levels of service quality and crowdedness when visiting the stores. To buffer the impact of negative emotions elicited across different touchpoints on loyalty decisions, we suggest that MediaMarkt ensure that customers perceive positive CEDs, particularly VE or RE, because these two strategies are effective in this industry. For example, to improve VE, MediaMarkt used "banner shake" in 2011. Here, MediaMarkt cooperated with the newspaper leader, Bild, in Germany and used innovative online price-discount banners to increase the click rate to its discount page (WARC_2, 2012). Specifically, when visiting the Bild website (bild.de), customers saw a standard discount banner. After a few seconds, they saw a hand pulling away and shaking the Bild website. During the shaking, a special offer from the banner was shaken out, which led customers to the discount page. This innovative campaign produced 1.5 million clicks in three days and a click rate of 7.85% (WARC_2, 2012).

6.3. Limitations and further research

This study has several limitations that require further investigation. First, future research

might improve the items for BE and include other discrete emotions. We used two items (i.e., strong and innovative brand) that tend to be objective rather than subjective assessments. Subjective assessments are, for example, the extent to which the brand is attractive and likable (Vogel et al., 2009). In addition, discrete emotions are not limited to happiness, joy, enthusiasm, anger, regret, and distrust. Future research could include different emotions based on the appraisal pattern, such as motive-(in)consistent, circumstance-caused, other-caused, and self-caused (Roseman, 1984). Second, the data are cross-sectional. Homburg et al. (2006) find that the judgment pattern of the main effect of emotions on satisfaction decreases over time. Thus, one unresolved question is whether the main and moderating effects of emotions on loyalty intentions decrease over time when customers have sufficient informative knowledge. Third, this study initially examines the moderating role of emotions on the CEDs–loyalty link. While we found that positive emotions generally have a negative moderating impact and negative emotions have a positive impact, we also found that some of these moderating impacts vary across firms and industries. Thus, explanations of such variation could provide more insight into the moderating impact of emotions and managerial implications. Finally, as previously discussed, research knows little about why positive and negative emotions are independent constructs. One research direction would be to examine whether idiosyncratic events generating positive and negative emotions, respectively, are independent of each other and, in turn, lead to the independence of positive and negative emotions. Such an examination is crucial for obtaining more solid evidence of the supposed independence in the emotion literature.

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Table 1
Prior empirical studies examining emotions in customer satisfaction and customer loyalty

Studies	Emotions as main drivers		Including other drivers	Emotions as moderators	
	Positive	Negative		Positive	Negative
Customer satisfaction as dependent variable					
Westbrook, 1987	✓(interest, joy, surprise)	✓(sadness, anger, disgust, contempt, fear, shame, guilt)	×	×	×
Oliver, 1993	✓(interest, joy)	✓(anger, disgust, contempt, shame, guilt, sadness, fear)	attribute performance, expectations	×	×
Babin & Darden, 1996	✓ (happy, pleased, satisfied, content)	✓ (unhappy, despair, unsatisfied, annoyed)	×	×	×
Kempf, 1999	✓ (happy, pleased, satisfied)	✓ (unhappy, annoyed, unsatisfied)	perceived diagnosticity, brand measures	×	×
Mattila & Enz, 2002	✓ (cheerful, good mood)	✓ (not comfortable, edgy/irritable)	×	×	×
Smith & Bolton, 2002	×	✓ (anger, discontent, disappointment, self-pity, anxiety)	expectations, disconfirmation, justice	×	✓
Homburg, Koschate, & Hoyer, 2006	✓ (elation, delight, joy)	×	disconfirmation	×	×
Customer loyalty as dependent variable					
Oliver, Rust, & Varki, 1997	✓ (surprised, happy, delight)	×	disconfirmation	×	×
Chaudhuri & Holbrook, 2001	✓ (good, happy, pleasure)	×	brand trust	×	×
Zeelenberg & Pieters, 2004	×	✓ (regret, disappointment)			
Han et al., 2008	✓ (happy, belonging, likable)	×	quality, fairness, trust, friendship, satisfaction, commitment	×	×
Batra, Ahuvia, & Bagozzi, 2012	✓ (content, relaxed, fun, exciting, calming, helps relax, pleasurable)	×	quality	×	×
Romani, Grappi, & Dalli, 2012	×	✓ (dislike, sadness, discontent, anger, worry, embarrassment)	×	×	×
Current study (loyalty intentions)	**✓ (happy, joyful, enthusiasm)**	**✓ (anger, regret, distrust)**	**VE, BE, RE[a]**	✓	✓

[a]: This study includes age, gender, income, relationship length, customer involvement, and consumer confidence as control variables.

Note: Mattila & Enz (2002) used overall evaluation which combines satisfaction and loyalty intentions. Emotions in this study could be either integral or incidental emotion, which was not clearly defined. They measured "mood" directly after customers' interactions with the employees. They included ethnicity, gender, and interaction duration as control variables.

Note: Chaudhuri & Holbrook (2001) also measured the link between loyalty and market share and relative price.

Note: Han et al. (2008) included cognitive, affective, intention, and behavioral loyalty.

Table 2
Measurement and latent variables in eighteen industries and lottery industry

Measurement variable	Latent variable
Dependent variable	
LI. Imagine you should buy this product/service again. How big will be the chance that you will buy from (one of) the following firms? Please divide 100 points over the firm below. The more points, the more likely it is you will buy next time from that firm. Firm A …. points Firm B …. points Firm C …. points Other firm …points	Loyalty intentions
Independent variables	
VE1. The price-quality ratio of the product/service the firm is offering is good. VE2. I can buy this product/service at places that are convenient for me. VE3. I can make use of the product/service of this firm at any time and place I want.	VE
BE1. This firm has a strong brand. BE2. This firm has an innovative brand.	BE
RE1. I have the feeling that the firm knows exactly what I want. RE2. I feel at home with this firm. RE3. I feel committed to this firm.	RE
Please indicate whether you feel the following emotions as a customer of firm Y based on past experiences. (1) happiness (2) joy (3) enthusiasm (4) anger (5) regret (6) distrust	Emotions
Control variables	
INV1. How important are the services in this industry to you? INV2. How interested are you in the services in this industry?	Involvement
RL. For how many years are you a customer of this firm?	Relationship length
SC. It takes me much effort, in the sense of time and money, to switch to another firm.	Switching costs
CC1. Has the financial situation of your household become better, stayed the same or become worse in the last 12 months? CC2. How will the financial situation of your household develop in the coming 12 months? CC3. What will occur with the economic situation overall in the coming 12 months in the Netherlands?	Consumer confidence

Table 3
Summary of descriptive statistics, correlations, and psychometric characteristics in eighteen industries and the lottery industry

Eighteen industries										
Construct	M	SD	AVE	1	2	3	4	5	6	7
Loyalty intentions	39.84	30.38	-	.30**	.35**	.41**	.28**	-.20**	.08**	-.01
1. VE	5.03	1.11	.53	.76[a]	.63** (.40)	.56** (.31)	.42** (.18)	-.39** (.15)	.27**	-.00
2. BE	4.83	1.11	.58		.73[a]	.63** (.40)	.47** (.22)	-.34** (.12)	.26**	.02*
3. RE	4.17	1.23	.58			.85[a]	.60** (.36)	-.33** (.11)	.31**	.06**
4. Positive emotions	3.93	1.42	.79				.94[a]	-.11** (.01)	.32**	.08**
5. Negative emotions	2.39	1.33	.79					.89[a]	.10**	.02
6. Involvement	5.01	1.20	-						.76[a]	-.00
7. Consumer confidence	3.39	.88	-							.72[a]
Lottery industry										
Construct	M	SD	AVE	1	2	3	4	5	6	7
Loyalty intentions	30.00	26.25	-	.17**	.27**	.29**	.22**	-.10**	-.06*	-.03
1. VE	4.94	.92	.53	.60[a]	.26** (.07)	.10** (.01)	.07** (.01)	-.07** (.01)	.10**	-.12**
2. BE	4.45	1.11	.54		.53[a]	.55** (.30)	.40** (.16)	-.23** (.05)	.23**	.08**
3. RE	3.56	1.32	.60			.84[a]	.60** (.36)	-.24** (.06)	.35**	.20**
4. Positive emotions	3.37	1.41	.77				.93[a]	.004(.00)	.32**	.18**
5. Negative emotions	2.99	1.53	.75					.87[a]	.04	-.04
6. Involvement	4.06	1.32	-						.85[a]	.12**
7. Consumer confidence	3.40	.96	-							.78[a]

[a]: The value of this diagonal is Cronbach's α.
Parenthesis (): shared variance between two constructs
* p < .05; ** p < .01 (two-tailed)

Table 4
Results of the multi-level analysis of 102 firms across eighteen industries

	Model 1		Model 2		Model 3		Cross-firm variance		Cross-industry variance	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Main effect										
VE	.93**	.08	1.05**	.08	1.03**	.08	-	-	-	-
BE	.95**	.08	.98**	.08	.98**	.08	-	-	-	-
RE	1.75**	.08	1.82**	.08	1.80**	.08	-	-	-	-
PE			1.52**	.08	1.50**	.08	-	-	-	-
NE			-1.23**	.08	-1.19**	.08	-	-	-	-
Interactions										
VE × PE					-.39**	.07	.37**	.13	.22	.14
BE × PE					-.15*	.07	.23	.20	.28*	.11
RE × PE					-.15*	.07	.30*	.13	.24*	.11
VE × NE					.10	.07	.47**	.11	.12	.09
BE × NE					.22**	.07	.08	.08	.09	.13
RE × NE					.23**	.07	.62**	.10	.12	.11
Control variables										
Female (1, vs. male: 0)	.36*	.16	.14	.16	.13	.16	-	-	-	-
Age	.03	.06	.03	.06	.04	.06	-	-	-	-
Income	-.28**	.09	-.17^{+}	.09	-.15^{+}	.09	-	-	-	-
Relationship length	.27**	.05	.29**	.05	.28**	.05	-	-	-	-
Switching costs	-.06	.05	.01	.05	.03	.05	-	-	-	-
Involvement	-.21**	.07	-.50**	.05	-.47**	.07	-	-	-	-
Consumer confidence	.07	.09	-.02	.07	-.07	.09	-	-	-	-
Intercept	-1.50^{+}	.78	-.07	.09	-.08	-.78	-	-	-	-
Log-likelihood	-37021.14		-36752.66		-36718.54		-		-	

**p-value < .01; *p-value < .05; $^{+}$p-value < .1 (two-tailed)
PE: positive emotions
NE: negative emotions

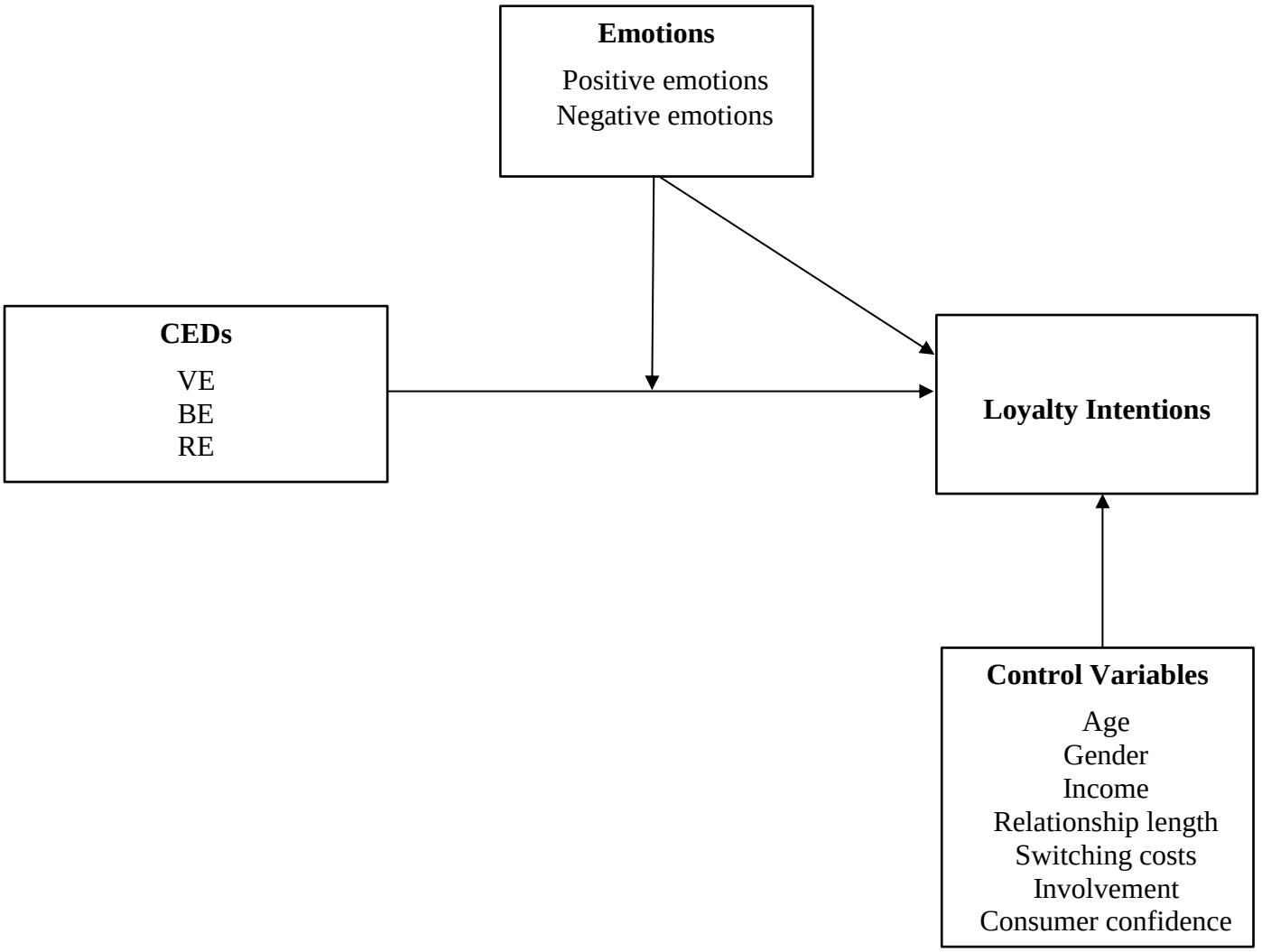

Fig. 1. Conceptual framework

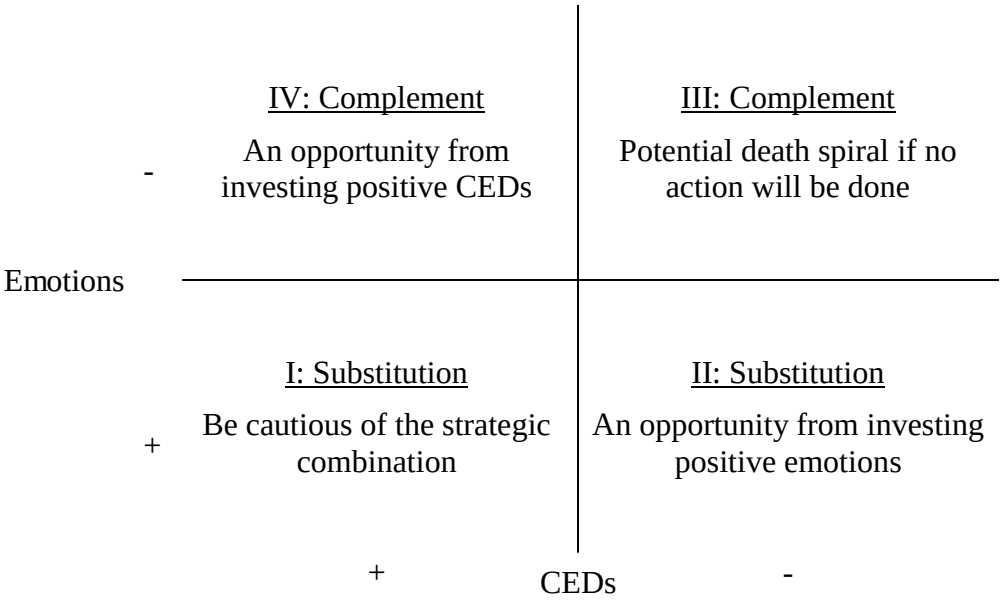

Fig. 2. Integration of CEDs and emotions to create loyalty intentions