

How experiences with trading a company's stock influence customer attitudes and purchasing behavior

Customer attitudes and purchasing behavior

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Abstract

Purpose – The purpose of this paper is to investigate the potential spill-over effects from negative (and positive) experiences with trading a company's stock on shareowner-customers' emotions and subsequent customer attitudes and behavior.

Design/methodology/approach – A conceptual framework that links selling a stock for a loss (or gain), emotions, and customer attitudes and behaviors is developed. The framework is tested with data from a sample of Dutch investors that is analyzed with structural equation modeling through the partial least squares method in SmartPLS.

Findings – Selling a stock for a loss vs selling a stock for a gain have different effects on shareowner-customers' attitudes and behavior toward the company. Losses induce negative emotions which in turn result in lower satisfaction and behavioral loyalty as well as in increased propensity to complain about the company. Investment gains, however, result in more positive emotions which then lead to increased preference of the company whose stocks were traded over its competitors and increased engagement in positive word-of-mouth (WOM).

Research limitations/implications – The study is focussed on shareowner-customers' experiences with stocks of companies active in the consumer industry. Future research could address whether the results generalize to other industries.

Practical implications – The findings emphasize the importance of a close collaboration between the marketing and investor relation departments. Complaints of shareowner-customers should be taken seriously and incentives to stimulate repurchases as well as those that encourage positive WOM engagement are recommended.

Originality/value – This is the first study to examine possible negative spill-over effects from experiences obtained during stock trading on shareowner-customers' attitudes and behaviors toward the stock's company.

Keywords Emotions, Customer attitudes, Individual investors, Customer behaviour, Household finance, Marketing-finance interface

Paper type Research paper



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1. Introduction

Individual investors have attracted a lot of attention recently and numerous companies have shareowner marketing programs in place to address individual investors (Vogelheim *et al.*, 2001). Such programs aim at winning existing customers as shareholders or, conversely, encouraging shareowners to become customers. Many investors want to support the company they invest in by also buying its products and services (Aspara, 2009). On the other hand, individuals might be convinced of a company as a provider of high-quality goods and services and thus trust the company to be a profitable investment as well. Indeed, investors often reason that “good stocks are stocks of good companies” (Shefrin, 2001). This is also why chief financial officers (CFOs) prefer smooth instead of volatile earnings. As individual investors are also potential customers of the firm’s products, CFOs are worried that volatile earnings negatively affect perceptions on the company’s products and financial stability (Graham *et al.*, 2005). These observations are in line with findings that individual investors’ subjective perceptions play an important role when deciding which companies to invest in (Aspara, 2013).

There is growing evidence that customers that have a long-term relationship with a company are likely to also buy its shares and become long-term shareholders (Keloharju *et al.*, 2012; Schoenbachler *et al.*, 2004). Conversely, shareowners have a tendency to also become customers of the companies they invest in. Companies profit from these so-called “shareowner-customers” as they positively affect sales volumes and brand affection (Aspara *et al.*, 2008, 2009; Schoenbachler *et al.*, 2004). Existing work mainly focusses on the benefits that shareowner-customers provide to firms. Little research has been conducted about the potential negative aspects or downsides of this particular group. The present study extends the current literature by providing insights into how negative emotions related to trading a company’s stock can have consequences on shareowner-customers’ attitudes and behavior toward the particular firm. We will draw on the literature mentioned above and combine it with findings from a second research direction. This second research stream investigates how negative emotions, regret, naïve reinforcement learning, and the disposition effect interact with individual investors’ perception of the company’s stock.

In this regard, Strahilevitz *et al.* (2011) state that investors’ trading decisions are influenced by previous investment experiences with a stock. Investors are more likely to repurchase stocks they sold for a gain than stocks they sold for a loss. Selling an underperforming stock results in negative emotions. These negative feelings are induced by the regret of having bought the stock in the past and the disappointment of losing money by selling the stock. Instead of solely representing a paper loss, selling the stock makes the loss real (Fogel and Berry, 2006; Strahilevitz *et al.*, 2011; Summers and Duxbury, 2012). In fear of re-experiencing these negative emotions, loss-averse individual investors engage in naïve reinforcement learning and refrain from repurchasing this stock in the future.

Combining these two research streams completes our understanding of an important topic, namely the relationship between shareholders and the companies from which they hold stocks and that they frequent as customers. This study further contributes to the discussion of individual investors’ (irrational) behavior and how it affects not only stock prices but also brand perceptions and purchasing behavior. In addition, it adds to the customer behavior literature on the “halo” or spill-over effect (Bagozzi, 1996). Zboja and Voorhees (2006) find a positive spill-over effect from brand perceptions on customers’ repurchase intentions with retail service firms. Grullon *et al.* (2004) demonstrate the existence of a spill-over effect from a company’s product-market advertising to its

ownership structure and common stock liquidity. In this study, we examine whether an investors' negative (or positive) emotions induced by the stock's performance spills-over to his or her customer behavior in terms of satisfaction with the company, loyalty toward it, and the likelihood of referring the firm to others and complaining about it. Doing so provides valuable insights for marketing and investor relations departments that help to target shareowner-customers in an appropriate way and prevent the dual negative effect of losing shareowners and customers simultaneously.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature, Section 3 introduces the conceptual model and hypotheses, Section 4 presents the research design and methodology, Section 5 provides an empirical test of the model, Section 6 discusses the results, provides managerial implications and lists avenues for future research.

2. Literature review

2.1 Individual investors – shareholders and customers at the same time

Traditional finance theory suggests investors choose stocks to maximize risk-adjusted returns. However, Aspara *et al.* (2015) find that individual investors not only pursue the normative goal of return maximization but are also driven by background goals such as self-expression. Individual investors are prone to pick stocks that are attention-grabbing because they appear in the news, have abnormally high trading volume, or displayed extremely negative or positive returns (Barber and Odean, 2008). Further, stocks of companies with high levels of product-market advertising (Grullon *et al.*, 2004) and well-known brand names (Frieder and Subrahmanyam, 2005) draw individual investors' attention. Stocks of such companies reduce search costs for investors as information on these stocks is easily available.

Existing research finds ample evidence that investors buy stocks of companies they know and like (Aspara, 2013; Aspara and Tikkanen, 2010a, b; Keloharju *et al.*, 2012). Aspara and Tikkanen (2010b) state that investors' decisions are influenced by the personal relevance and the affective evaluation that investors attach to the companies' brands. A positive attitude toward a company often elicits the wish to own the company which is achieved by buying the company's shares (Aspara, 2013). Schoenbachler *et al.* (2004) find that individual investors may buy stock in a company because they have experience with the brand. Keloharju *et al.* (2012) document that individuals that have a relationship with a company as a customer are twice as likely to purchase the stock of the particular company compared to non-customers.

The reverse effect, that is, shareholders becoming customers, is also well documented (Aspara *et al.*, 2008; Schoenbachler *et al.*, 2004). As the individual investor maintains a monetary relationship with the company he holds shares of, there is an economic and financial bond that ties him to the company (Arantola, 2002). Hence, it is in the shareholder's interest to also be customer of the particular company and contribute to the company's profits rather than buying at the competition (Aspara, 2009; Aspara *et al.*, 2008). However, the actual impact that an individual's purchases have on the sales of a large company is small. Therefore, the relationship can be seen as a psychological bond (Arantola, 2002). Having the desire to support his "own" company by purchasing its products and services, the shareowner-customer avoids feelings of cognitive dissonance, which would arise if he or she bought from the competition (Aspara, 2009; Aspara *et al.*, 2008).

The benefits from these economic and psychological bonds are reflected in repeat purchases and brand loyalty, which translate in higher purchase volumes and lower

price sensitivity. Further, shareowner-customers are less likely to switch to the competition, and more likely to tell positive things about the company and encourage others to buy from the company they own shares of (Aspara *et al.*, 2008, 2009; Aspara, 2009).

2.2 Individual investors – emotions associated with stock trading

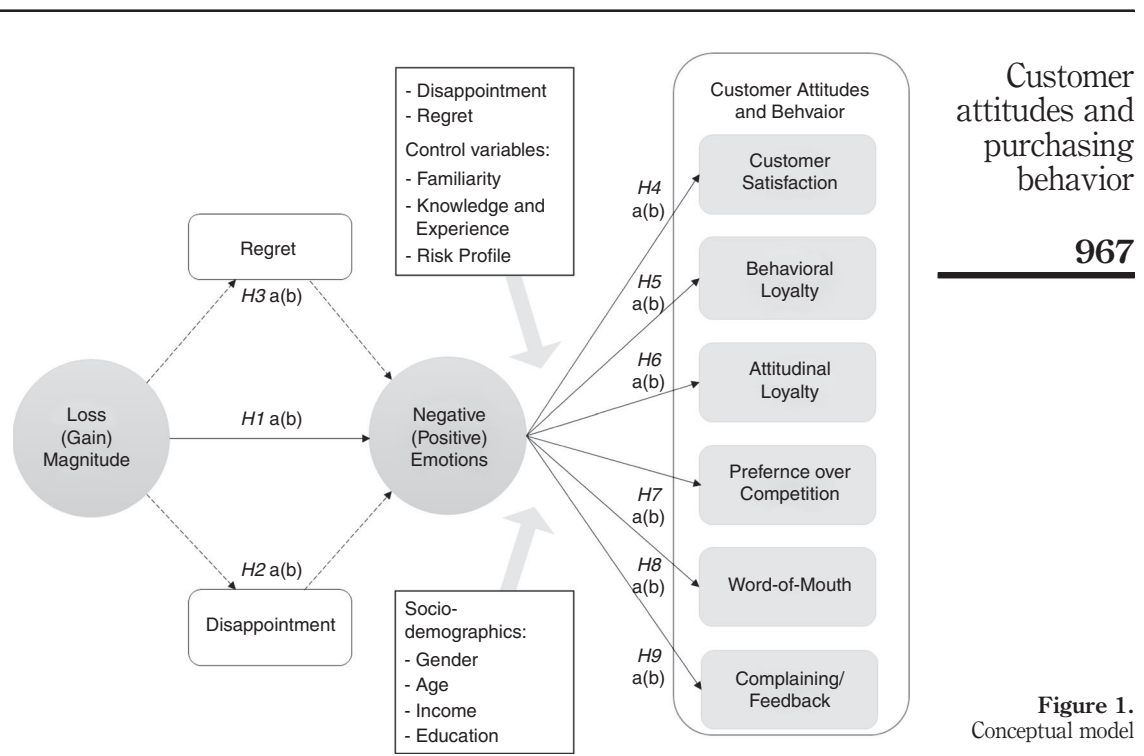
Emotions in stock trading decisions have been attracting academic attention recently. The term emotions can be described as a state of arousal activated by expectations about something (Elster, 1998). In this study, the focus is on emotions evoked by expectations about stock returns. Nofsinger (2008) states that emotions lead people to diverge from logical reasoning in their decision-making process. Especially individual investors tend to fall prey to the misattribution bias and incorrectly attribute their current mood to the (financial) decisions they face (Lucey and Dowling, 2005; Nofsinger, 2008).

Emotions play an important role in stock selling. While selling stocks for a gain induces positive emotions of excitement and joy, selling stocks for a loss elicits negative feelings of pain and distress (Strahilevitz *et al.*, 2011; Summers and Duxbury, 2012). Investors attempt to avoid the negative feelings associated with losses and to foster the positive feelings related to gains (Fogel and Berry, 2006; Summers and Duxbury, 2012). Accordingly, they display the disposition effect (Shefrin and Statman, 1985) and sell stocks that increased in value too quickly and hold on to losing stocks too long (Weber and Camerer, 1998; Odean, 1998). Selling a losing stock makes the loss salient and real, and impedes the investment from returning to its initial purchase price. Kahneman and Tversky's (1979) prospect theory proposes that losses reduce the individual's utility by more than twice as much as a gain of the same magnitude increases utility. That is, losses loom larger than gains.

Individual investors extrapolate past return experiences when updating their beliefs about stocks' future returns and risks (Hoffmann and Post, 2013). Having incurred a loss with a stock in the past, investors are reluctant to repurchase this particular stock (Strahilevitz *et al.*, 2011; Nofsinger and Varma, 2013). If repurchasing the stock, investors are reminded of the unfavorable feelings associated with selling this particular stock before. People naturally avoid the recurrence of actions that previously caused pain. For stocks that were sold with a loss, the probability of a repurchase decreased almost linearly with the magnitude of the loss (Strahilevitz *et al.*, 2011). These findings support the notion that repurchase decisions are influenced by emotions and a naïve reinforcement learning process rather than by superior information of the investors (Nofsinger and Varma, 2013; Strahilevitz *et al.*, 2011).

3. Conceptual model and hypothesis development

The conceptual model for this study is presented in Figure 1. The conceptual model proposes that selling a stock for a loss (gain) leads the shareowner to experience negative (positive) emotions. Negative emotions are being distressed, upset and nervous, while positive emotions are being enthusiastic, excited and determined (Watson *et al.*, 1988). We assume the shareowner to be a customer of the respective company simultaneously. Based on Bagozzi's (1996) findings on spill-over effects, we expect that the shareowner-customer transfers the negative (positive) experiences with the stock to his or her customer attitudes and behavior toward the company. Inspired by Heskett's (2002) hierarchy, we focus on the following customer attitudes and behavior: satisfaction and loyalty, switching intentions, tendency to engage in positive word-of-mouth (WOM), and the likelihood of filing complaints. We expect that negative (positive) experiences with trading a company's stock will lead to a greater tendency to



display destructive (supportive) customer attitudes and behavior related to a company. In particular, a customer's satisfaction with and loyalty to the company, as well as the tendency to engage in positive WOM, are negatively (positively) affected when selling a stock for a loss (gain), and a customer's switching intentions as well as the likelihood of filing complaints are positively (negatively) affected when selling a stock for a loss (gain).

3.1 Selling a stock and the associated emotions

There are six features that characterize emotions (Elster, 1998; Ackert *et al.*, 2003). First, emotions are induced by beliefs. Consequently, if a stock is anticipated to perform well, positive emotions arise if it actually does perform well and negative emotions are triggered when it does not. Second, emotions have an intentional object, a cause. In the study at hand, the cause for the emotions is the investment loss (or gain). The third and fourth features are the physiological arousal and body expressions that accompany emotions. The fifth aspect is valence, meaning that emotions can be placed on a pleasure-pain scale with a neutral zero-point indicating emotional indifference. Sixth, emotions trigger the urge to act. In the context of this study, a loss might trigger individuals to refrain from rebuying the underperforming stock (Strahilevitz *et al.*, 2011) or even cease the customer relationship with the company.

The following hypothesis predicts the relationship between the negative (positive) experience with trading a company's stock and the resulting emotions:

- H1a (b).* Unfavorable (favorable) experiences with trading a company's stock, like selling a stock for a loss (gain), evoke negative (positive) emotions of being upset, distressed and nervous (excited, enthusiastic, and determined) in an investor.

The question arises why precisely selling at a loss induces negative emotions. Regret and disappointment are frequently associated with causing the negative emotions (Fogel and Berry, 2006; Strahilevitz *et al.*, 2011; Summers and Duxbury, 2012). Regret is induced by the awareness that a different choice would have led to a better outcome (Fogel and Berry, 2006; Shefrin and Statman, 1985). Disappointment can be described as an “emotional response to a bad outcome experienced as a result of the state of the world” (Summers and Duxbury, 2012).

Researchers emphasize the distinction between regret and disappointment (Summers and Duxbury, 2012; Zeelenberg *et al.*, 1998a, b). Regret results from bad outcomes that one could have prevented if one had made a different initial decision. Thus, regret incorporates the desire to have a second chance and change the outcome. It involves blaming oneself and taking the responsibility for the outcome. Regret triggers the wish to act and make better future decisions (Zeelenberg *et al.*, 1998a, b).

Disappointment, on the other hand, is rather caused by unmet expectations. The crucial difference to regret is that disappointment implies that one did not have the choice or responsibility to influence the outcome. Hence, disappointment is associated with feeling powerless and a wish to turn away from the situation. While regret has a more profound and prolonged effect on future decisions, disappointment can be overcome more quickly (Summers and Duxbury, 2012; Zeelenberg *et al.*, 1998a, b).

When investigating why selling a stock for a loss induces negative feelings, the allocation of responsibility can play an important role (Fogel and Berry, 2006). An investor might blame himself for having chosen a stock that now underperforms and thus experiences negative emotions due to regret (Zeelenberg *et al.*, 1998b). On the other hand, the investor might blame the stock's company for the loss incurred. In this case, emotions are caused by the investor's disappointment at the firm (Zeelenberg and Pieters, 2004). Hence, we suggest that regret and disappointment have mediating effects (Baron and Kenny, 1986). However, as regret and disappointment have negative connotations, we do not expect mediating effects on the relation between making a gain and positive emotions:

H2a (b). Disappointment mediates the relationship between making a loss when trading a company's stock and negative emotions. (Disappointment does not mediate the relationship between making a gain when trading a company's stock and positive emotions).

H3a (b). Regret mediates the relationship between making a loss when trading a company's stock and negative emotions. (Regret does not mediate the relationship between making a gain when trading a company's stock and positive emotions).

3.2 Emotions and customer behavior

Zeelenberg and Pieters (2004) propose a specific emotions approach to model the influence of emotions on consecutive satisfaction and customer behavior. Not only negative (positive) emotions, but also regret and disappointment can have differing influences on the various customer behaviors. While Zeelenberg and Pieters (2004) test the effect of failed service encounters on customers' behavioral responses, we investigate the impact of unfavorable (favorable) experiences when trading a company's stock on shareowner-customers' behavior.

Heskett (2002) distinguishes between five levels of customer behavior. From the lowest to the highest level of the hierarchy these levels are respectively: customer

satisfaction; customer loyalty; commitment; apostle-like behavior; and ownership. Our hypotheses are inspired by Heskett's levels of customer behavior, but are no exact match.

3.2.1 Customer satisfaction. Anderson *et al.* (1994) propose that there are two types of customer satisfaction, namely transaction-specific and cumulative customer satisfaction. While the transaction-specific customer satisfaction is the post-choice evaluation of a particular purchase occasion, cumulative satisfaction is about the evaluation of long-term product and service consumption. In this study, the focus is on cumulative customer satisfaction, as we study the effects of emotions from stock return experiences on the long-term engagement with the company.

Negative emotions result in more effortful, detail-oriented and analytical information processing than positive emotions (Lucey and Dowling, 2005). Consequently, in case of a loss (gain), the shareowner-investor might become overly (less) critical and less (more) satisfied with the company. Zeelenberg and Pieters (2004) point out that next to negative emotions, disappointment and regret can reduce satisfaction. In this study, a shareowner-customer is disappointed that his or her stock did not perform as expected and regrets not having chosen another, better performing, stock:

H4a (b). The shareowner-customer's negative (positive) emotions cause a decrease (increase) in customer satisfaction with the company. Disappointment and regret are expected to strengthen the effect of negative emotions.

3.2.2 Customer loyalty. Heskett (2002) specifies loyalty as repeat purchases from a single supplier where a customer spends a big part of his "share of wallet." Schoenbachler *et al.* (2004), however, argue that brand loyalty not only constitutes a customer's propensity to repurchase items but also a psychological commitment toward the brand. Thus, loyalty can be defined as having two aspects, a behavioral and an attitudinal aspect (Chaudhuri and Holbrook, 2001; Dick and Basu, 1994). The behavioral aspect involves repeat purchases of a brand, which can also result from high switching costs, lack of alternatives, locational, time and money constraints (Colgate and Lang, 2001; Uncles *et al.*, 2003). The attitudinal aspect of loyalty, however, consists of a dispositional commitment and preference for the particular brand (Chaudhuri and Holbrook, 2001; Dick and Basu, 1994). This study uses measures for both aspects of loyalty.

Aspara *et al.* (2008), Schoenbachler *et al.* (2004), and Vogelheim *et al.* (2001) find evidence for behavioral loyalty of shareowner-customers as they find that shareowners frequently buy from the companies from which they hold shares. Analyzing purchase volumes, Aspara *et al.* (2009) find that shareowner-customers also buy higher volumes of goods than regular customers. Finally, Aspara (2009) shows that shareowner-customers are more willing to pay a price premium for the products of the company they invest in. This illustrates that stock ownership has a positive effect on attitudinal loyalty as it is associated with the acceptance of price premiums (Aspara, 2009; Chaudhuri and Holbrook, 2001).

For true loyalty to occur, it has to be accompanied by emotions (Dick and Basu, 1994). That is, customers have to feel psychological loyalty toward the company and experience positive emotions toward it. The shareowner-customers in this study that experienced a loss (gain) are likely to experience negative (positive) emotions toward the company. Consequently, a negative (positive) effect on the economic and

psychological bonds (Arantola, 2002; Aspara *et al.*, 2008) and thus on both forms of loyalty is expected:

H5a (b). The shareowner-customer's negative (positive) emotions cause a decrease (increase) in behavioral loyalty toward the company. Regret and disappointment are expected to strengthen the negative effect.

H6a (b). The shareowner-customer's negative (positive) emotions cause a decrease (increase) in attitudinal loyalty toward the company. Regret and disappointment are expected to strengthen the negative effect.

3.2.3 Switching behavior/preference over competition. Switching denotes the termination of a relationship with a product or service provider which might result in a shift to a competing provider (Zeelenberg and Pieters, 2004). Aspara *et al.* (2008) and Keloharju *et al.* (2012) find evidence that share ownership reduces the likelihood that an individual switches to a competing provider of the product in question. Shareowner-customers that own the stocks of a company, but foster the revenues of a competitor firm by purchasing its products, are likely to experience cognitive dissonance (Aspara *et al.*, 2008). Interestingly, however, Schoenbachler *et al.* (2004) and Aspara (2009) posit that while shareowner-investors do prefer to buy from the company they own shares in, they do not necessarily refrain from buying at the competition completely. In a survey, 85 percent of respondents said that they also purchase from competing firms (Schoenbachler *et al.*, 2004).

Being in a negative (positive) emotional state could encourage investors to seek out products from the competition more (less) often. Zeelenberg and Pieters (2004) find that especially regret is associated with switching behavior. By switching to a competitor, one can "make up" for the previous bad outcome and "correct" the mistake. The investor does not want to be reminded of his loss (Strahilevitz *et al.*, 2011) and reduces contact with the company:

H7a (b). The shareowner-customer's negative (positive) emotions decrease (increase) his or her likelihood of preferring products from the company he or she owns stock of compared to products from competitors. Regret is expected to strengthen the effect of negative emotions.

3.2.4 WOM. WOM includes all communications that customers engage in with people in their social and professional network (Anderson, 1998). Truly committed customers not only engage with the company in terms of purchases, but also speak about it with other people and thus exercise apostle-like behavior (Heskett, 2002). Many individuals rely on advice and recommendations of other customers, since product information search is costly (Kumar and Petersen, 2005).

Simple repeat purchases rarely lead to WOM activities. Emotions and moods play an important role in encouraging customers to engage in WOM behavior (Dick and Basu, 1994). Aspara (2009) argues that next to the emotional bond with the company that causes shareowner-customers' to report about their positive experiences, there is also an economic bond. By not only buying from the company they own shares in themselves but by also encouraging others to become customers, the company's sales revenues are enhanced.

After selling a company's stock for a loss (gain), the investors are likely to experience negative (positive) emotions. Hence, it is expected that the psychological and economic

bonds (Aspara *et al.*, 2008) are weakened (strengthened) when the stocks are sold. Shareowner-customers are then expected to be less (more) likely to recommend the company to others:

H8a (b). The shareowner-customer's negative (positive) emotions decrease (increase) his or her likelihood of engaging in positive WOM. Regret and disappointment strengthen the effect of negative emotions.

3.2.5 Propensity to complain. The ultimate level of Heskett's (2002) hierarchy of customer behavior is ownership. A shareowner-customer "owns" the company through the stock (Schoenbachler *et al.*, 2004). This implies that the customer relationship goes far enough that the customer feels encouraged to actively engage with the company. This can be done by means of providing positive or negative feedback to the company. Negative feedback is related to complaining which happens when customers' dissatisfaction is directly communicated to the company or a third party (Zeelenberg and Pieters, 2004).

WOM and complaining enable individuals to cope with their emotions and express their dissatisfaction. Disappointed customers are likely to complain directly to the company. They are not happy with an outcome which did not match their expectation and thus, blame the company for it. Regretful customers on the other hand, rather blame the result on themselves and are less prone to complain to the company (Zeelenberg and Pieters, 2004):

H9a (b). The shareowner-customer's negative (positive) emotions increase (decrease) their tendency to file complaints against the company. Disappointment is expected to strengthen the effect of negative emotions.

4. Research design

4.1 Data collection

The hypotheses related to the conceptual framework were tested with data from a web-based survey. In particular, we distributed the survey through an investment-related newsletter directed at Dutch investors. The invitation to participate described the study's purpose, announced that participants could win a prize, and contained a link to the survey. Duplicates were checked for and removed by using the respondents' IP addresses.

4.2 Sample characteristics

During the data collection, 77 complete responses were obtained. The respondents' average age is 60 years ($SD = 13.525$) and 94.8 percent are male. Monthly net income is rather high, as 44.2 percent have a net income of 3,000€ or higher. In terms of education, 70.2 percent of the respondents possess a bachelor degree or higher. Most of the respondents are financially literate, as 82 percent answered all three financial literacy questions of Lusardi and Mitchell (2011) correctly. On a scale from one to five, respondents regard themselves as fairly knowledgeable ($M = 3.47$) and experienced ($M = 3.58$) investors with rather speculative risk profiles ($M = 3.84$). Compared to the overall population of Dutch individual investors (Bauer *et al.*, 2009), we oversample older, male, and higher income individuals. We checked for non-response bias by comparing the characteristics of early vs late respondents (Armstrong and Overton, 1977). Late respondents are a bit younger and perceive themselves as slightly more

experienced than early respondents. However, as the other characteristics do not differ significantly and the whole sample is rather elderly and experienced, non-response bias should not be a concern.

4.3 Questionnaire design

The questionnaire consists of five parts. In the first part, participants are “warmed up” with general socio-demographic questions. The second part contains an experimental manipulation which is similar to the method of Zeelenberg *et al.* (1998b) and to critical incident research, where participants are asked to recall an emotional event. In the study at hand, respondents reflected on an occasion where they sold (part of) the shares of a company (in the following “company X”) in the consumer product, consumer technology, consumer service or retail industry which they also frequent as a customer. Companies in these industries are most likely to attract shareowner-customers (Schoenbachler *et al.*, 2004). Respondents were randomly assigned to one of two conditions. The first condition ($N = 42$) asked respondents to recall a large loss they incurred with a stock, while the second condition asked them to remember a large gain ($N = 35$). Asking respondents to remember an actual event increases the validity of this study. That is, in hypothetical scenarios, the financial stake at risk is mostly not real, and participants usually do not incur large losses or gains of their own wealth (Fogel and Berry, 2006). Therefore, self-reports about real investment decisions are expected to induce stronger affective reactions (Aspara and Tikkanen, 2010b; Smith and Bolton, 2002). There may be a time delay between trading a stock and answering the survey which varies across respondents and which could affect their answers about their emotions as related to incurring a large loss or gain. Previous work (Zeelenberg *et al.*, 1998b), however, has demonstrated the validity of our method of experimental manipulation under such circumstances. In the third part, participants were asked about the emotions they experienced after having sold the stock. In the fourth part, the customer attitudes and behaviors of the respondents toward the company of which they sold the stock were investigated. In the fifth part, respondents that wanted to participate in a prize raffle could give their e-mail addresses.

4.4 Measures

Most of the measurement scales relevant to the conceptual framework are adapted from existing literature and modified in terms of wording and appearance to fit the context of this study. For an overview of all measures, see Table I. To measure the magnitude of the loss (gain) respondents incurred when recalling their stock trading experience, one quantitative and one subjective measure is used. The first question asks to quantify the percentage drop (increase) of the stock’s value compared to the purchase price, while the second question examines as how severe the loss (gain) was perceived on a seven-point Likert scale.

Emotions of participants from both conditions are measured by asking them to indicate how seeing the outcome of the performance of company X’s stock made them feel (1 = very good, 7 = very bad) (Zeelenberg *et al.*, 1998a). To specifically investigate the extent of negative or positive emotions experienced by the respondents, items from the PANAS scale by Watson *et al.* (1988) are used. Three items related to positive emotions (excitement, enthusiasm, determination) and three items associated with negative emotions (distress, upset, nervousness) were selected. These items were chosen based on the suitability for this study’s context and on the relatively high factor loadings in the original study. Regret and disappointment are each measured by

Construct and item wording	Authors
<i>Loss/gain magnitude</i>	
Act_Loss/Gain	About how much percentage did the stock of company X drop/increase in value compared to the initial purchase price?
Perc_Loss/Gain	As how severe do you consider the loss/gain? (1 = not severe at all, 7 = very severe)
<i>Emotions</i>	
Emo_1	Please indicate how seeing the outcome of the performance of company X's stock made you feel (1 = very good, 7 = very bad)
<i>Negative emotions</i>	
Emo_Neg 1	Please indicate to what extent you felt this way when selling the stock of company X – distressed
Emo_Neg 2	Please indicate to what extent you felt this way when selling the stock of company X – upset
Emo_Neg 3	Please indicate to what extent you felt this way when selling the stock of company X – nervous
<i>Positive emotions</i>	
Emo_Pos 1	Please indicate to what extent you felt this way when selling the stock of company X – enthusiastic
Emo_Pos 2	Please indicate to what extent you felt this way when selling the stock of company X – excited
Emo_Pos 3	Please indicate to what extent you felt this way when selling the stock of company X – determined (1 = not at all, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely)
<i>Regret</i>	
Reg_1	I thought I made a mistake by having bought the stock of company X in the first place
Reg_2	I felt that I should have known better
Reg_3	I regret having bought the stock of company X in the first place
<i>Disappointment</i>	
Dis_1	I felt powerless when I saw the stock's performance
Dis_2	I felt the tendency to get far away from the situation and not think about it anymore
Dis_3	I am disappointed at the performance of company X's stock
<i>Customer satisfaction</i>	
Sat_1	Based on all your experience with company X, how satisfied are you overall? (1 = very dissatisfied, 7 = very satisfied)
Sat_2	To what extent does Company X meet your expectations? (1 = not at all, 7 = to a very great extent)
Sat_3	Try to imagine the perfect company. How far from or close to this ideal is Company X? (1 = very far, 7 = cannot get any closer)

(continued)

Table I.
Construct and item wording

Construct and item wording		Authors
<i>Behavioral loyalty</i>		
Loyal_1	Being a stockowner of company X, I purchase its products in larger quantities than before	Aspara (2009)
Loyal_2	Being a stockowner of company X, I purchase its products more frequently than before	
<i>Attitudinal loyalty</i>		
Loyal_3	Being a stockowner of company X, I am prepared to pay more for products of company X than for products of its competition	
Loyal_4	Being a stockowner of company X, I am prepared to buy products from company X even if the price had increased a bit	
<i>Preference over competition</i>		
Switch_1	Being a stockowner of company X, I purchase its products rather than products from the competition	Aspara (2009)
Switch_2	Being a stockowner of company X, I stop buying products from company X's competition	
<i>Word-of-mouth</i>		
WOM_1	Being a stockowner of company X, I start telling positive things about company X's products to other people	Aspara (2009)
WOM_2	Being a stockowner of company X, I start encouraging my friends and family to buy company X's products	
<i>Complain</i>		
Comp_1	When dissatisfied with company X, I complain to other customers about company X	Zeelenberg and Pieters (2004)
Comp_2	When dissatisfied with company X, I complain to employees of company X	
Comp_3	When dissatisfied with company X, I file a written complaint	
<i>Familiarity</i>		
Fam_1	How well do you think you know company X as a company? (1 = not at all, 7 = very well)	Aspara <i>et al.</i> (2009)
Fam_2	How well do you think you know the products of company X? (1 = not at all, 7 = very well)	
<i>Socio-demographic</i>		
Gender	Please indicate your gender	
Age	Please indicate your year of birth	
Income	What is your monthly net income? (1: < 1.000€, 5: > 4,000, 6: no answer)	
Education	Please indicate your highest education level (1 = elementary school, 10 = doctor/PhD)	
Financial_Lit_1	Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: (1 = more than 102€, 2 = exact 102€, 3 = less than 102€)	Lusardi and Mitchell (2011)

Table I.

(continued)

Construct and item wording	Authors
Financial_Lit_2	Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?
Financial_Lit_3	Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund"
Fin_Knowledge	How would others characterize you with regard to the level of knowledge you have about investing? (1 = very little knowledge, 5 = very much knowledge) Hoffmann and Broekhuizen (2010)
Fin_Experience	How would others characterize you with regard to the level of experience you have with investing? (1 = very limited experience, 5 = very extended experience)
Risk profile	Please indicate your risk profile (1 = very defensive, 5 = highly speculative) Hoffmann and Broekhuizen (2010)

Note: If not stated otherwise, item are measured using a seven-point Likert scale (1 = totally disagree, 7 = totally agree)

Table I.

a three-item scale based on a combination of the work of Zeelenberg *et al.* (1998b) and Summers and Duxbury (2012). These scales measure the extent to which an investor subscribes the performance of "company X's" stock to him- or herself or attributes the performance to the company in question or situational circumstances.

Concerning customer behaviors, the following measures are used. Customer satisfaction with "company X" is investigated by means of a three-item scale used by Aspara *et al.* (2008). These items measure general customer satisfaction, whether expectations are met, and how far "company X" is from being the ideal firm. Four items adapted from Aspara (2009) measure loyalty, where two items, purchase volume and purchase frequency, test behavioral loyalty, and two items, related to willingness of paying a price premium, are associated with attitudinal loyalty. Another two items adapted from Aspara (2009) measure shareowner-customers' tendency to prefer "company X" over switching to the competition. Respondents' willingness to engage in positive WOM is investigated using two items related to the likelihood of telling positive things about "company X" and of encouraging friends and family to purchase at "company X" (Aspara, 2009). The scale to measure complaining behavior is based on the work of Zeelenberg and Pieters (2004) and consists of three items.

We also include control and socio-demographic variables. Familiarity with "company X" and its products or services is measured based on a two-item scale by Aspara and Tikkanen (2010b). Financial literacy is assessed by a three-item scale adopted from Lusardi and Mitchell (2011). Additionally, perceived financial knowledge and experience are measured by a two-item scale based on the work of Hoffmann and Broekhuizen (2010). Investors' risk profile is investigated using a scale from Hoffmann and Broekhuizen (2010), asking investors to rank their portfolio from very defensive (90 percent fixed income, 10 percent stocks) to highly speculative (10 percent fixed income, 90 percent stocks). Further, respondents were asked to indicate their gender and their year of birth. Respondents reported to which income bracket they belong (1: < 1,000€, 2: 1,001€-2,000€, 3: 2,001€-3,000€, 4: 3,001€-4,000€, 5: > 4,000€, 6: No answer) and indicated their highest level of education (1: primary school, 10: PhD).

4.5 Scale validity and reliability

After specifying the measurement model, the validity and reliability of the measures are assessed. The results are provided in Table II. We test convergent validity of the reflective constructs by evaluating the factor loadings and the average variance extracted (AVE). We remove one item from the “loss magnitude,” “gain magnitude,” “positive emotions,” “switching” and “complain” constructs, respectively, due to low factor loadings or high cross-loadings. Afterwards, all items load significantly (> 0.70) on their respective underlying constructs (Hulland, 1999). Further, all constructs have an AVE that exceeds the threshold of 0.50 (Bagozzi and Yi, 1988). The constructs’ internal consistency is assessed by Cronbach’s α and additionally by a measure of composite reliability which is regarded as more suitable as it does not assume that all indicators are equally reliable (Hair *et al.*, 2012). All scales are reliable and meet the threshold of 0.70 for both measures (Bagozzi and Yi, 1988). Discriminant validity is given as each constructs’ AVE is higher than its squared correlation with any other construct (Fornell and Larcker, 1981) and each indicator loads highest on the construct it is supposed to measure (Chin, 1998). The weights of the formative construct “behavioral loyalty” are also reported in Table II. Multicollinearity is no issue for this construct as the variance inflation factor (VIF) is smaller than five (Hair *et al.*, 2011).

5. Data analysis and results

To test the conceptual model, it is first examined whether the manipulation of investors’ emotions worked as intended. Then, to analyze the impact of selling a stock for a loss (gain) on negative (positive) emotions and subsequently on shareowner-customers’ attitudes and behavior, we develop and test separate models for the loss and gain manipulation groups. Structural equation modeling (SEM), and in particular the partial least squared (PLS) method, is used. The models are relatively complex and the sample sizes rather small and thus a PLS method such as in SmartPLS (Ringle *et al.*, 2005) is preferred over a covariance-based SEM technique (Hair *et al.*, 2011). We apply the PLS approach with a 5,000 subsamples bootstrapping procedure and individual sign changes (Hair *et al.*, 2012). Table III summarizes the results of the hypotheses tests.

5.1 Manipulation check

Based on the findings of Strahilevitz *et al.* (2011), the respondents who had to recall a loss caused by trading a company’s stock were expected to incur more negative feelings than the respondents of the gain group. These respondents are expected to incur positive feelings. Independent samples *t*-tests were conducted to explore the impact of the two manipulation groups on the constructs of negative and positive emotions, regret and disappointment.

There are significant differences between the groups on negative emotions ($t(62.3) = 5.06, p = 0.000$). According to Cohen (1988), the η^2 of 0.25 is considered a large effect size. The mean for the loss group ($M = 1.98, SD = 0.86$) is significantly higher than for the gain group ($M = 1.21, SD = 0.43$). Another independent samples *t*-test with a large effect size ($\eta^2 = 0.37$) shows the groups differ significantly from each other regarding positive emotions. Participants from the loss group show significantly less positive emotions than participants of the gain group ($t(44.0) = -6.62, p = 0.000; M_{\text{loss}} = 1.15, SD = 0.46; M_{\text{gain}} = 2.47, SD = 1.10$).

Consistent with the studies of Summers and Duxbury (2012) and Strahilevitz *et al.* (2011), respondents who recalled a loss ($M = 3.94, SD = 1.43$) showed significantly more

Construct and item wording	Cronbach's α	Factor loadings/ weights	t-Value	Composite reliability	AVE	VIF
<i>Loss/gain magnitude</i>	<i>n/a</i>			<i>n/a</i>	<i>n/a</i>	
Act_Loss/Gain About how much percentage did the stock of company X drop/increase in value compared to the initial purchase price?		<i>n/a</i>	<i>n/a</i>			
<i>Negative emotions</i>	<i>0.8</i>			<i>0.89</i>	<i>0.74</i>	
Emo_Neg 1 Please indicate to what extent you felt this way when selling the stock of company X – distressed		0.83	9.25			
Emo_Neg 2 Please indicate to what extent you felt this way when selling the stock of company X – upset		0.92	42.17			
Emo_Neg 3 Please indicate to what extent you felt this way when selling the stock of company X – nervous		0.83	13.94			
<i>Positive emotions</i>	<i>0.86</i>			<i>0.93</i>	<i>0.88</i>	
Emo_Pos 1 Please indicate to what extent you felt this way when selling the stock of company X – enthusiastic		0.95	34.55			
Emo_Pos 2 Please indicate to what extent you felt this way when selling the stock of company X – excited		0.92	25.44			
<i>Regret</i>	<i>0.83</i>			<i>0.90</i>	<i>0.76</i>	
Reg_1 I thought I made a mistake by having bought the stock of company X in the first place		0.90	30.15			
Reg_2 I felt that I should have known better		0.83	13.87			
Reg_3 I regret having bought the stock of company X in the first place		0.85	14.77			
<i>Disappointment</i>	<i>0.85</i>			<i>0.91</i>	<i>0.74</i>	
Dis_1 I felt powerless when I saw the stock's performance		0.91	44.43			
Dis_2 I felt the tendency to get far away from the situation and not think about it anymore		0.89	29.10			
Dis_3 I am disappointed at the performance of company X's stock		0.83	15.17			
<i>Customer satisfaction</i>	<i>0.84</i>			<i>0.90</i>	<i>0.75</i>	
Sat_1 Based on all your experience with company X, how satisfied are you overall?		0.86	7.77			

(continued)

Customer attitudes and purchasing behavior

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Table II.
Construct validity and reliability

Table II.

Construct and item wording	Cronbach's α	Factor loadings/ weights	t-Value	Composite reliability	AVE	VIF
Sat_2 To what extent does Company X meet your expectations?		0.88	8.44			
Sat_3 Try to imagine the perfect company. How far from or close to this ideal is Company X?		0.86	7.14			
<i>Behavioral loyalty</i>	<i>n/a</i>			<i>n/a</i>	<i>n/a</i>	
Loyal_1 Being a stockowner of company X, I purchase its products in larger quantities than before		2.02*	3.39			3.07
Loyal_2 Being a stockowner of company X, I purchase its products more frequently than before		-1.71*	2.59			3.07
<i>Attitudinal loyalty</i>	0.90			0.95		0.91
Loyal_3 Being a stockowner of company X, I am prepared to pay more for products of company X than for products of its competition		0.95	11.64			
Loyal_4 Being a stockowner of company X, I am prepared to buy products from company X even if the price had increased a bit		0.96	13.38			
<i>Preference over competition</i>	<i>n/a</i>			<i>n/a</i>	<i>n/a</i>	
Switch_1 Being a stockowner of company X, I purchase its products rather than products from the competition		<i>n/a</i>	<i>n/a</i>			
<i>Word-of-mouth</i>	0.91			0.96		0.92
WOM_1 Being a stockowner of company X, I start telling positive things about company X's products to other people		0.97	24.59			
WOM_2 Being a stockowner of company X, I start encouraging my friends and family to buy company X's products		0.95	21.57			
<i>Complain</i>	0.77			0.85		0.75
Comp_1 When dissatisfied with company X, I complain to other customers about company X		0.71	3.05			
Comp_2 When dissatisfied with company X, I complain to employees of company X		0.99	4.34			

Notes: n/a: Not available because construct is a single-item or a formative measure; *Weights of formal construct

Overview of hypotheses	Supported (Yes/No)	Customer attitudes and purchasing behavior
<i>H1a (b)</i> . Unfavorable (favorable) experiences with trading a company's stock, like selling a stock for a loss (gain), evoke negative (positive) emotions of being upset, distressed and nervous (excited, enthusiastic, and determined) in an investor	<i>H1a</i> : Yes, <i>H1b</i> : No	979
<i>H2a (b)</i> . Disappointment mediates the relationship between making a loss when trading a company's stock and negative emotions. (Disappointment does not mediate the relationship between making a gain when trading a company's stock and positive emotions)	<i>H2a</i> : Yes, <i>H2b</i> : Yes	
<i>H3a (b)</i> . Regret mediates the relationship between making a loss when trading a company's stock and negative emotions. (Regret does not mediate the relationship between making a gain when trading a company's stock and positive emotions)	<i>H3a</i> : No, <i>H3b</i> : Yes	
<i>H4a (b)</i> . The shareowner-customer's negative (positive) emotions cause a decrease (increase) in customer satisfaction with the company. Disappointment and regret are expected to strengthen the effect of negative emotions	<i>H4a</i> : Yes, <i>H4b</i> : No	
<i>H5a (b)</i> . The shareowner-customer's negative (positive) emotions cause a decrease (increase) in behavioral loyalty towards the company. Regret and disappointment are expected to strengthen the negative effect	<i>H5a</i> : Yes, <i>H5b</i> : No	
<i>H6a (b)</i> . The shareowner-customer's negative (positive) emotions cause a decrease (increase) in attitudinal loyalty towards the company. Regret and disappointment are expected to strengthen the negative effect	<i>H6a</i> : No, <i>H6b</i> : No	
<i>H7a (b)</i> . The shareowner-customer's negative (positive) emotions decrease (increase) his or her likelihood of preferring products from the company he or she owns stock of compared to products from competitors. Regret is expected to strengthen the effect of negative emotions	<i>H7a</i> : No, <i>H7b</i> : Yes	
<i>H8a (b)</i> . The shareowner-customer's negative (positive) emotions decrease (increase) his or her likelihood of engaging in positive WOM. Regret and disappointment strengthen the effect of negative emotions	<i>H8a</i> : No, <i>H8b</i> : Yes	
<i>H9a (b)</i> . The shareowner-customer's negative (positive) emotions increase (decrease) their tendency to file complaints against the company. Disappointment is expected to strengthen the effect of negative emotions	<i>H9a</i> : Yes, <i>H9b</i> : No	

Table III.
Summary of hypotheses tests

regret than respondents from the gain group ($M = 2.24$, $SD = 1.42$; $t(75) = 5.2$, $p = 0.000$, $\eta^2 = 0.26$). An independent samples t-test comparing the means of the groups concerning disappointment, reveals that the groups again differ significantly ($t(75) = 5.54$, $p = 0.000$, $\eta^2 = 0.29$). Participants in the gain group ($M = 2.35$, $SD = 1.49$) were significantly less disappointed about their stocks' performance than in the loss group ($M = 4.21$, $SD = 1.45$).

The manipulation worked as intended and all main effects are in the predicted directions. Thus, the separate loss and gain models can be assessed in the following sections.

5.2 Results of the loss model

5.2.1 Assessment of the main effects loss model.

The PLS approach as employed in SmartPLS does not provide a statistic of overall model fit (Chin, 1998). The model is evaluated by calculating the constructs' R^2 -values which indicate the explanatory power of the predictor variable(s) on the respective construct (Figure 2). Further, we use a diagnostic tool, the goodness of fit (GoF) index, by Tenenhaus *et al.* (2005).

Figure 2 reports that selling a stock for a loss explains 8 percent of the negative emotions. These emotions, in turn, affect the buying behavior of shareowner-customers.

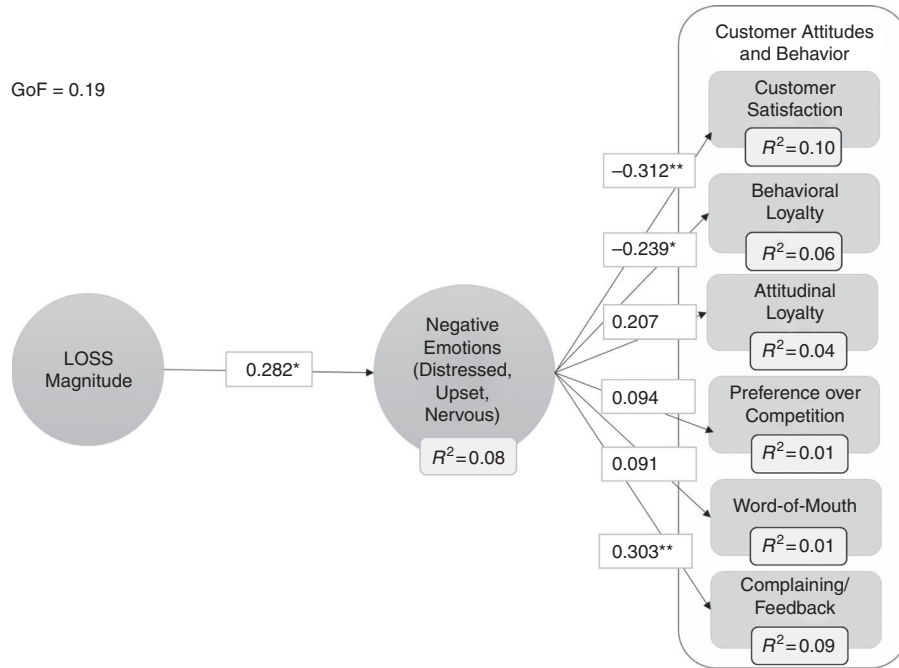


Figure 2.
Results main effects
of loss model

Notes: *, **, ***Statistically significant at 10, 5, and 1 percent levels, respectively

Negative emotions explain 10.1 percent of customer satisfaction, 5.7 percent of behavioral loyalty, 4.3 percent of attitudinal loyalty, 0.7 percent of switching behavior, 0.7 percent of engagement into positive WOM and 9.2 percent of the propensity to complain.

The GoF measure to evaluate the global model fit is calculated as in Tenenhaus *et al.* (2005): $GoF = \sqrt{Communality \times \overline{R^2}}$. It computes the geometric mean of the average communality and the average R^2 of the endogenous constructs. The loss model with main effects only has a GoF of 0.19 which indicates a small global model fit according to the cut-off values proposed by Wetzels *et al.* (2009): $GoF_{small} = 0.1$; $GoF_{medium} = 0.25$; $GoF_{large} = 0.36$.

In the following, we estimate the path coefficients and significance levels of the main effects model (Figure 2). Further, effect sizes (f^2) are calculated as suggested by Henseler and Chin (2010) to measure the impact of a specific predictor construct on an endogenous construct: $f^2 = R^2_{included} - R^2_{excluded} / 1 - R^2_{included}$.

Selling a company's stock for a loss has a direct significant impact on negative emotions. A one-standard deviation increase in the "loss magnitude" construct increases negative emotions by a 28.2 percent standard deviation ($f^2 = 0.08$, $p < 0.05$), which is consistent with *H1a*.

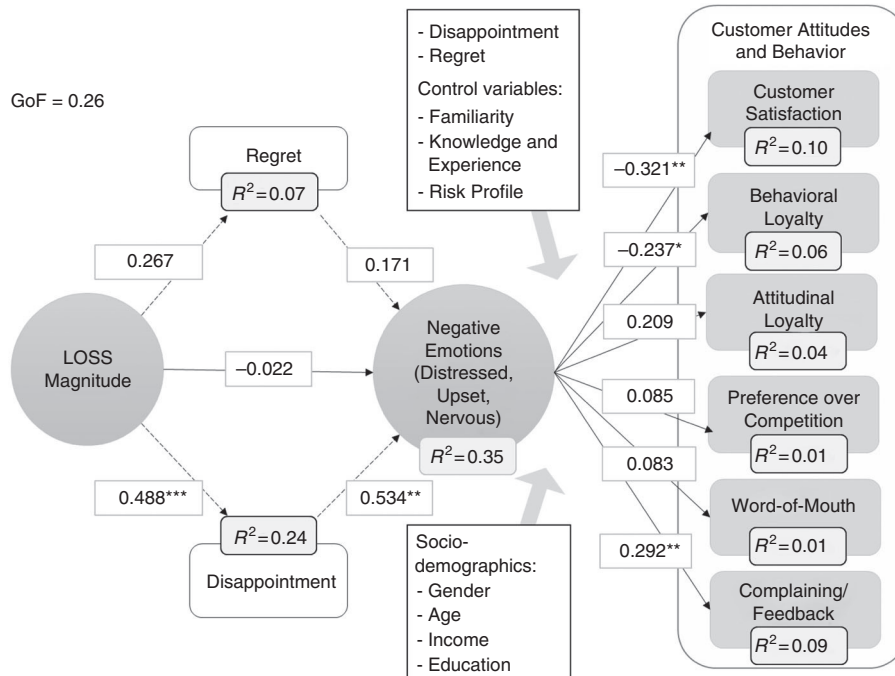
Next, the impact of shareowner-customers' negative emotions on their customer attitudes and behavior is assessed. A one-standard deviation increase in negative emotions reduces customer satisfaction by a 31.2 percent standard deviation ($f^2 = 0.11$, $p < 0.01$), thus confirming *H4a*. In line with *H5a*, a one standard deviation increase in negative emotions leads to a 23.9 percent standard deviation decrease in behavioral

loyalty ($f^2 = 0.03, p < 0.05$). Further, consistent with *H9a*, a one standard deviation increase in negative emotions results in a 30.3 percent standard deviation increase in the likelihood to complain ($f^2 = 0.10, p < 0.01$). The effects of negative emotions on attitudinal loyalty (*H6a*: $\beta = 0.21, p = 0.1$), switching behavior (*H7a*: $\beta = 0.09, p = 0.41$), and WOM (*H8a*: $\beta = 0.09, p = 0.41$) are not significant. Thus *H6a*, *H7a* and *H8a* are not supported. The effect sizes (f^2) in this model can be categorized as small to moderate following Cohen's (1988) cut-off values: $f^2_{\text{small}} = 0.02, f^2_{\text{medium}} = 0.15, f^2_{\text{large}} = 0.35$.

5.2.2 Assessment of the loss model with mediating and moderating effects. While in the previous section the main effects of the loss model were explored, this section tests the model with the inclusion of mediating and moderating effects. First, we assess whether the "regret" and "disappointment" constructs mediate the relationship between selling a stock for a loss and negative emotions. Then, several variables are included in the model and tested for moderating effects. The results are shown in Figure 3.

Mediation effects. In order to test *H2a* and *H3a*, formal mediation analyses are conducted. Including regret and disappointment in the loss model renders the direct effect from selling a stock for a loss to negative emotions insignificant and changes the sign of the coefficient ($\beta = -0.02, p = 0.81$). We find positive and significant path coefficients from selling a stock for a loss to disappointment ($\beta = 0.488, f^2 = 0.31, p < 0.001$) and from disappointment to negative emotions ($\beta = 0.534, f^2 = 0.32, p < 0.01$). A Sobel test (Sobel, 1982) indicates that disappointment mediates the relationship between selling a stock for a loss and negative emotions ($Z = 2.44, p < 0.05$). The fact that the direct effect from selling at a loss to negative emotions becomes insignificant demonstrates full

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Notes: *, **, *** Statistically significant at 10, 5, and 1 percent levels, respectively

Figure 3. Results loss model including mediation and moderation

mediation and hence, *H2a* is confirmed. The coefficients from selling at a loss to regret ($\beta = 0.26$, $p = 0.06$) and from regret to negative emotions ($\beta = 0.17$, $p = 0.23$) are insignificant and no mediation effect is found ($Z = 1.01$, $p = 0.31$). Consequently, *H3a* is not supported. The extension of the model leads to a change in the GoF from 0.19 to 0.26 which indicates a moderate global model fit (Wetzels *et al.*, 2009).

Moderation effects. Next, we test several variables for moderation effects. Coming back to *H4a*, *H5a* and *H9a*, we first test whether disappointment and regret moderate the significant effects of negative emotions on satisfaction, behavioral loyalty and complaining behavior. Subsequently, we assess the impact of several socio-demographic and control variables as possible moderators on the relationships between loss magnitude and negative emotions, and on the relationship between negative emotions and customer behavior. Interval variables are tested by creating interaction terms which are automatically calculated in SmartPLS (Ringle *et al.*, 2005), while categorical variables are checked for potential moderator effects by means of group comparisons (Henseler and Fassott, 2010).

Moderation effects of disappointment and regret. Zeelenberg and Pieters (2004) state that regret and disappointment can have different effects on customer behavior. *H4a* proposes that disappointment and regret strengthen the effect of emotions on satisfaction. Shareowner-customers are disappointed because their expectations of a company with a well-performing stock and good-quality products are not met. At the same time, they regret not having invested their money and purchasing power in a different company (Zeelenberg and Pieters, 2004). While *H5a* also states that both regret and disappointment reduce the impact of negative feelings on behavioral loyalty, *H9a* proposes that especially disappointment causes an increase in the effect of negative emotions on the propensity to complain. Disappointed shareowner-customers are expected to blame the company for the incurred loss and therefore they are more likely to complain at the firm. Regretful investors, however, allocate the responsibility for the loss to themselves and complaining does not help them at coping with their feelings (Zeelenberg and Pieters, 2004). Including regret and disappointment as moderators, we find that both variables negatively moderate the relation between negative emotions and satisfaction ($\beta_{\text{regret}} = -0.27$, $f^2 = 0.09$, $p < 0.05$; $\beta_{\text{disappointment}} = -0.34$, $f^2 = 0.01$, $p < 0.05$). Contrary to our expectations, the effect of negative emotions on satisfaction is less strong for regretful and disappointed shareowner-customers. Disappointment and regret do not have moderating effects on the relation between negative emotions and behavioral loyalty. However, disappointment positively moderates the relation from negative emotions on complaining ($\beta = 0.29$, $f^2 = 0.07$, $p < 0.05$). Regret on the other hand, reduces the impact on complaining behavior ($\beta = 0.3$, $f^2 = 0.07$, $p < 0.05$). Hence, as anticipated, disappointed shareowner-investors that experience negative emotions complain more than regretful shareowner-customers, which is in line with the findings of Zeelenberg and Pieters (2004).

Moderation effects of control variables. Familiarity with the company and its products, investors' experience and knowledge, as well as investors' risk profile may affect their emotional reaction to stock trading outcomes and their subsequent decision-making processes. Being familiar with the company makes investors believe they can better predict future returns of the company (Frieder and Subrahmanyam, 2005). Realizing that they were not able to better predict these returns might evoke extra strong emotions. Seo and Barrett (2007) propose that experienced investors are better able to regulate their emotions in relation with (negative) trading outcomes and perform

better in subsequent (investment) decisions. Olsen and Cox (2001) point out that differences in investors' risk preferences and reference points influence their responses to investment outcomes. Hence, these variables are included as control variables. First, their direct effect on negative emotions is tested and then they are included as moderators of the relationships between loss magnitude and negative emotions, and between negative emotions and customer behavior.

Familiarity, investors' knowledge and experience, and the risk profile do not have direct effects on negative emotions. Further, they do not moderate the relation between loss magnitude and negative emotions. However, the control variables have moderating impacts on the relationship between negative emotions and some of the customer behaviors. A shareowner-customer's familiarity with company X positively moderates the relation from negative emotions to behavioral loyalty ($\beta = 0.42$, $f^2 = 0.14$, $p < 0.05$) and attitudinal loyalty ($\beta = 0.37$, $f^2 = 0.12$, $p < 0.05$). This means that for customers who are familiar with the stock's company and its products, negative emotions have an even more deteriorating effect on behavioral and attitudinal loyalty. Investors' knowledge and experience on the other hand, decrease the strength of negative emotions on behavioral loyalty ($\beta = -0.49$, $f^2 = 0.22$, $p < 0.05$) but increase the effect on switching behavior ($\beta = 0.29$, $f^2 = 0.11$, $p < 0.05$). Further, the more speculative investors' risk profiles are, the weaker the impact negative emotions have on behavioral loyalty ($\beta = -0.5$, $f^2 = 0.18$, $p < 0.01$) and satisfaction ($\beta = -0.31$, $f^2 = 0.18$, $p < 0.05$). Hence, experienced and knowledgeable investors are less affected by their negative emotions when it comes to their behavior as a customer.

Moderation effects of socio-demographic variables. For these variables, first the direct effects on negative emotions and on the various customer behaviors are tested, and second, potential moderator effects are investigated. The metric variable age is split into three roughly equally sized groups by means of visual binning (Pallant, 2010); the youngest group serves as a comparison group. Age does not have any direct or moderating effect on negative emotions. While age does not have a direct effect on satisfaction, it does have a moderating effect on the relation between negative emotions and satisfaction. Higher age reduces the effect of negative emotions on satisfaction ($\beta = -0.31$, $f^2 = 0.18$, $p < 0.05$). Further, age has a direct effect on the propensity to complain. Respondents of the oldest age group (> 68 years, $M = 3.50$) are more likely to complain than the second oldest (57-67 years, $M = 1.91$, $p < 0.05$) and youngest group (< 56 years, $M = 1.97$, $p < 0.01$, $F(2, 39) = 6.27$, $p = 0.004$). Age acts as a moderator and strengthens the effect of negative emotions on complaining behavior ($\beta = 0.38$, $f^2 = 0.31$, $p < 0.05$).

We use independent sample t-tests to investigate whether gender has an impact on negative emotions or customer behavior. While gender has no effect on negative emotions and on most of the customer behavior variables, it does have an impact on complaining behavior. Male shareowner-customers ($M = 2.63$) are more likely to complain than female shareowner-customers ($M = 1.25$, $p < 0.01$, $t(11.1) = 3.90$). This finding is in line with the observation that men are often more self-confident and complain quicker when feeling dissatisfied in comparison to women (Grougiou and Pettigrew, 2009; Stephens and Gwinner, 1998). Due to the small number of females in the loss group ($N = 4$), however, including gender as a moderation variable in SmartPLS is not feasible. Generally, due to little variation in such socio-demographic variables as gender, controlling for their impact is rather difficult.

For the socio-demographic variables income and education, no direct or moderating effects on negative emotions or on the customer behavior variables can be found.

5.3 Results of the gain model

To have a comparison to the loss model, in this section the effects of selling a stock for a gain on positive emotions and the resulting customer attitudes and behavior are investigated. Again, we test two models, one with the main effects and one with mediating and moderating effects, with the same settings in SmartPLS as employed for the loss models reported above.

5.3.1 Assessment of the main effects gain model. In the following, we report the R^2 of the constructs as well as the GoF measure for this model (Figure 4). Selling a stock for a gain explains 5.02 percent of the positive emotions construct. Positive emotions in turn, explain 3.2 percent of satisfaction, 3.1 percent of behavioral loyalty, and 4.9 percent of attitudinal loyalty. However, positive emotions have more explanatory power on switching behavior and WOM. They explain 11.4 percent of shareowner-customers' propensity to prefer the company over its competitors and 7.2 percent of respondents' likelihood to engage in positive WOM. The direct effect gain models' GoF is 0.22 and thus can be regarded as a low to medium global model fit (Wetzels *et al.*, 2009).

In the following, the path coefficients and main effects are investigated. While the coefficient of gain magnitude to positive emotions is in the predicted direction, suggesting that selling a stock for a gain results in positive emotion, it is not statistically significant ($\beta = 0.227$, $p = 0.2$), and *H1b* is thus not supported.

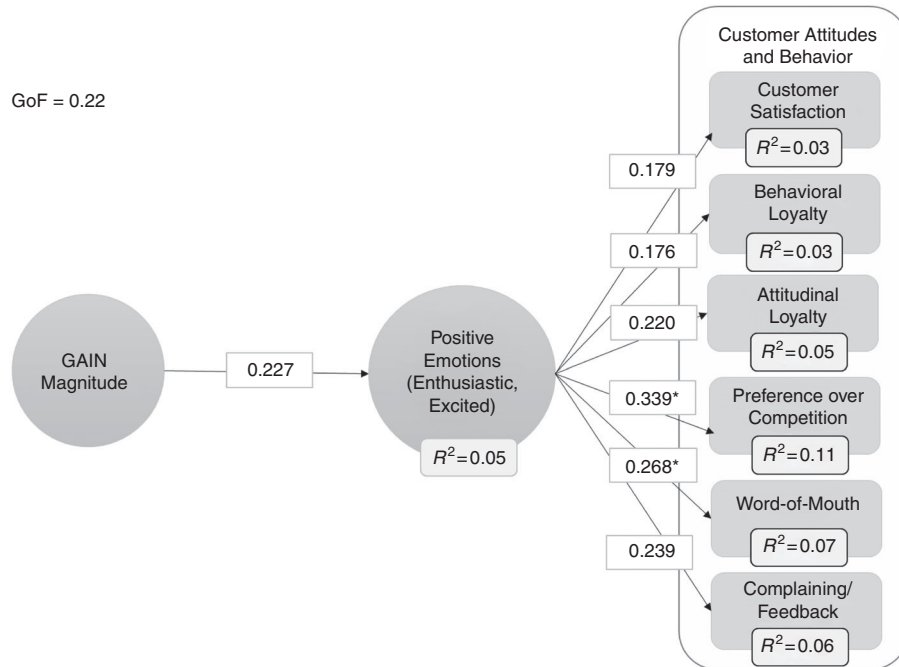


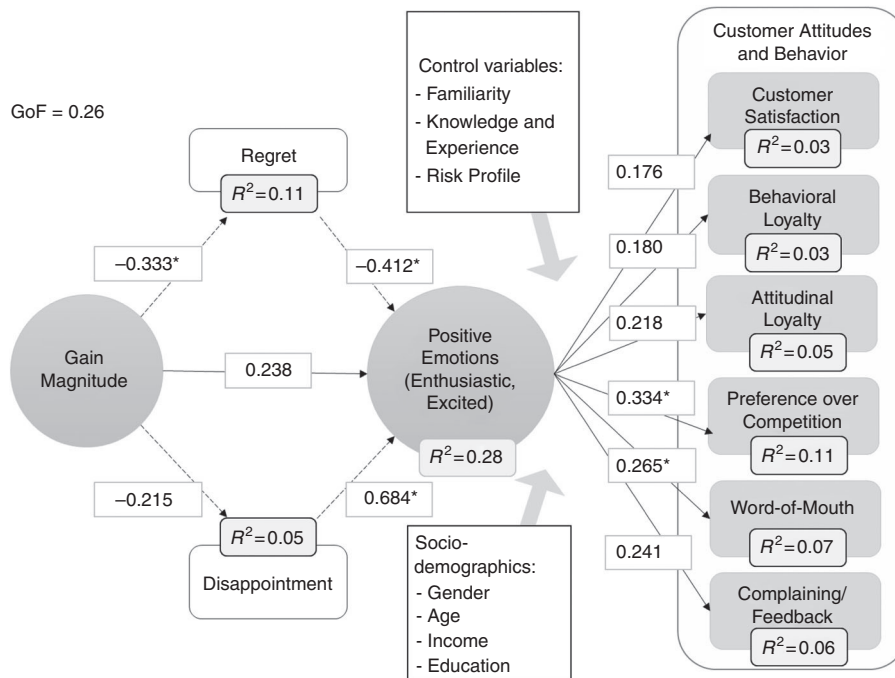
Figure 4. Results main effects of gain model

Notes: *, **, ***Statistically significant at 10, 5, and 1 percent levels, respectively

However, shareowner-customers' behavior is affected by positive emotions. Specifically, a one-standard deviation increase in shareowner-customers' positive emotions is associated with a 33.8 percent standard deviation increase in the likelihood of preferring company X over its competitors ($f^2 = 0.13$, $p < 0.05$) which is in line with *H7b*. In addition, *H8b* is confirmed since an increase in positive emotions of one-standard deviation increases a shareowner-customers' willingness to engage in positive WOM by a 26.9 percent standard deviation ($f^2 = 0.08$, $p < 0.05$). We do not find significant main effects from positive emotions to satisfaction ($\beta = 0.18$, $p = 0.12$), behavioral loyalty ($\beta = 0.18$, $p = 0.13$), attitudinal loyalty ($\beta = 0.22$, $p = 0.09$) and complaining behavior ($\beta = 0.24$, $p = 0.08$). Hence, *H4b*, *H5b*, *H6b* and *H9b* cannot be supported. According to Cohen's (1988) criteria, the effect sizes (f^2) of the gain models' relationships are small.

5.3.2 *Assessment of the gain model with moderating and mediating effects.* We also extend the gain model for potential mediation and moderation effects (Figure 5). First, we test for mediating effects of regret and disappointment. Afterwards, the control and socio-demographic variables are tested for potential moderating effects.

Mediation effects. Although we find significant negative path coefficients from selling a stock for a gain to regret ($\beta = -0.33$, $f^2 = 0.12$, $p < 0.05$) and from regret to positive emotions ($\beta = -0.41$, $f^2 = 0.10$, $p < 0.05$), we do not find a mediating effect of regret for the relation between selling for a gain and positive emotions ($Z = 1.54$, $p = 0.12$). We neither find a mediating effect of disappointment on the relationship between selling for a gain and positive emotions. This is line with our assumptions in



Notes: *, **, *** Statistically significant at 10, 5, and 1 percent levels, respectively

Figure 5. Results gain model including mediation and moderation

H2b and *H3b*. However, we find a positive coefficient from disappointment to positive emotions ($\beta = 0.68, f^2 = 0.30, p < 0.05$), which is contrary to our expectations and needs further investigation in future research.

Moderation effects of control variables. In this model, we test the same control variables as in the loss model. Moderation effects of these variables on the relation between positive emotions and customer behavior are tested. We find that none of the control variables have a direct effect on positive emotions, nor on the relation between gain magnitude and positive emotions. However, investment knowledge increases the effect of positive emotions on satisfaction ($\beta = 0.45, f^2 = 0.19, p < 0.05$), while experience strengthens the relation of positive emotions and WOM ($\beta = 0.27, f^2 = 0.09, p < 0.05$). Familiarity with the company and its products acts as a positive moderator on the relation from positive emotions to behavioral attitude ($\beta = 0.35, f^2 = 0.16, p < 0.01$), attitudinal loyalty ($\beta = 0.38, f^2 = 0.19, p < 0.01$) and switching behavior ($\beta = 0.27, f^2 = 0.11, p < 0.05$). This means that shareowner-customers who experience positive emotions and are very familiar with the company exhibit even stronger behavioral and attitudinal loyalty and are more likely to buy from “company X” than switching to its competition.

Moderation of socio-demographic variables. We investigate whether gender, age, education and income have direct or moderating effects on positive emotions or on the customer attitude and behavior variables. Using statistical tests to compare the means of these socio-demographic variables, no significant differences between the groups can be found for any of the variables. Including the variables in the model and conducting group comparisons is not feasible due to the relatively small number of respondents in the gain group.

6. Discussion and conclusion

6.1 Discussion of results

To our best knowledge, this study is the first to establish a link between negative experiences with trading a company’s stock, the resulting emotions, and their effect on customer attitudes and behaviors. Accordingly, the results make several extensions to previous research on shareowner-customers regarding positive experiences and an increased likelihood of preferring products of the stock’s company over products from the competition and engaging in positive WOM (Aspara *et al.*, 2008; Keloharju *et al.*, 2012; Schoenbachler *et al.*, 2004).

First, the results contribute to the literature on prospect theory (Kahneman and Tversky, 1979), which posits that losses loom larger than gains. In particular, we find that losses lead to negative emotions, which is mediated by disappointment. While gains induce positive feelings, this relationship is statistically not significant. Experiencing negative emotions reduces satisfaction and behavioral loyalty, as measured by purchase frequency and volume, and increases the propensity of shareowner-customers to file complaints.

Second, moderation analyses show that disappointment, rather than regret, increases the effect of negative emotions on complaining behavior. Regretful shareowner-investors would blame themselves for having made a bad decision instead of complaining at the company (Zeelenberg and Pieters, 2004). Further, the results show that familiarity with the company and its products strengthens the negative effect of emotions on behavioral loyalty. Individual investors often pick stocks of companies they know as they possess more information about them and consequently, perceive it as easier to predict their

stocks' returns (Frieder and Subrahmanyam, 2005). Realizing that the stock, although familiar, did not perform as expected, the investor feels "betrayed" and thus reduces his immediate purchasing behavior. In the long-term, however, especially customers with high affective commitment toward the company are likely to show "forgiveness" and "stickiness" in terms of loyalty (Mattila, 2004). This might explain why the customer behaviors that are higher in Heskett's (2002) loyalty/commitment hierarchy like attitudinal loyalty, WOM, and preference over the competition, are not affected by negative emotions in our study.

Third, this study demonstrates that investment knowledge and experience reduce the impact of negative emotions on behavioral loyalty. The same is true for investors who are more risk tolerant. More sophisticated and risk-tolerant investors seem to distinguish between their trading activities and customer habits. Knowing that stocks are risky assets, they do not equate an underperforming stock to the company or its products being of bad quality *per se*.

Fourth, the experienced positive emotions in the gain model increase shareowner-customers' preference for company X rather than switching to the competitor and the propensity to engage in positive WOM. Familiarity with company X strengthens the effect on switching behavior. While knowledge and experience had a weakening effect on the relation between negative emotions and customer behavior, they have a strengthening impact on the relationship between positive emotions and WOM. In contrast to the shareowner-customers that suffered a loss, the sophisticated shareowner-customers that made a gain seem not to distinguish between the feelings induced through trading and their behavior as a customer. This extends the work of Seo and Barrett (2007), who find that skilled individuals can better regulate and differentiate their negative emotions compared to their positive emotions.

6.2 Managerial implications

The findings emphasize the importance of a closer collaboration between companies' marketing and investor relations departments to effectively communicate with the specific target group of shareowner-customers (cf. Hoffmann *et al.*, 2011). Jointly, these departments can adequately respond to the feedback and complaints of shareowner-customers, especially in periods of a declining stock price when investors are likely to lose money. Special attention should be paid to the older target segments, because they are especially prone to complain. As customers are especially responsive to distributive gains like vouchers and discounts (Smith and Bolton, 2002), these incentives can be provided exclusively to shareowner-customers to prevent them from reducing their purchasing frequency and volume (behavioral loyalty). Advertising a company's consistent quality of products and services might prevent that less sophisticated investors infer a company's product performance from its stock performance.

In periods where investors are likely to make gains with a company's stock, their enthusiasm should be fostered and positive WOM further encouraged. Offering incentives like dividend reinvestment plans (DRIPs) or direct stock purchase plans without broker fees (Vogelheim *et al.*, 2001) to shareowner-customers that talk about their positive experiences with friends and family, constitutes a viable strategy to gain new shareholders and new customers. The study shows that shareowner-customers are a valuable target group for companies as they have a specific commitment toward the company which is also maintained if (parts) of the shares they hold of a company have to be sold at a loss.

Interestingly, disappointed shareowner-customers that experience negative emotions complain more than regretful shareowner-customers. Thus, if customers feel that the company is to blame for their loss, they complain more than when they feel personally responsible for the loss. Accordingly, companies may try to make sure that shareowner-customers do not blame the company for investment losses, which are due to their own behavior instead of company performance. Such situations could occur when shareowner-customers buy and sell company stocks at the wrong moment, trying to time the stock market, instead of pursuing a long-term buy-and-hold strategy. In these instances, firms can inform their shareowner-customers about the long-term returns on their stocks as well as the dividend yield offered.

Although experiences of customers with trading a company's stock are a relevant factor driving their attitudes and behavior as a customer, we note that the effect sizes in this study are moderate. Accordingly, although positive investment experiences certainly help to keep customers satisfied and loyal, such stock-market experiences are only a complementary factor to customers' product-market experiences: Providing competitive products and services that offer valuable benefits to customers remains vital for long-term business success.

6.3 Limitations and future research

This study has several limitations which require acknowledgement, but also provide interesting directions for future research. First, we asked respondents to recall a past event and indicate their opinion which is prone to recall bias and subjectivity. Having actual data on shareowner-customers' purchasing behavior would allow future researchers to obtain even more valuable findings. Additionally, if the stock was traded a long time ago, it could be hard for respondents to value their experience on a five-point scale, and to distinguish between emotions such as distress and upset. Future research is advised to include measures for how long ago the stock was traded by a customer and perform sensitivity analyses with that data. Second, in this study we asked respondents about their subjective financial knowledge, following Hoffmann and Broekhuizen (2010). However, differences may exist between consumers' objective and subjective knowledge, i.e., knowledge miscalibration (Alba and Hutchinson, 2000). In particular, respondents may be overconfident, and report a higher level of subjective knowledge than is warranted by their level of objective knowledge. Future research could try to measure both objective and subjective financial knowledge to assess whether overconfidence and knowledge miscalibration plays a role of importance in the setting of this study. Third, the negative moderation of disappointment and regret on the relation between negative emotions and satisfaction, and the positive path coefficient of disappointment on positive emotions were unanticipated. Future research should investigate the causes for and the robustness of these findings. Related, future research could examine the mediating and moderating role of positive emotions, such as delight and relief, in a similar fashion as the current study examined the mediating and moderating role of negative emotions. Fourth, investigating whether the results differ among industries provides another potential research avenue. Individuals are especially prone to be stockowners and clients simultaneously of consumer products and retail companies with popular brand names (Aspara, 2009; Schoenbachler *et al.*, 2004). Clients of companies in these industries usually make purchasing decisions very frequently and therefore, have many occasions to adjust their buying behavior. Further, these companies' product-brands are very familiar to customers. In this study, familiarity strengthened the effects of negative and positive emotions on several

customer behaviors. Hence, we predict that the effects of negative and positive emotions are more pronounced in the consumer product and retail industries than in other industries. Fifth, compared to the overall population of Dutch individual investors (Bauer *et al.*, 2009), we oversample older, male, and higher income individuals. Future research could collect a more representative sample and assess whether the results vary across age, gender, and income. Sixth, although PLS-SEM models are able to cope with small samples, future research is advised to collect a larger sample to assess the robustness of the findings of the present study.

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