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Rafiq M, Fulford H, Lu X. [Building customer loyalty in online retailing: The role of relationship quality](#). *Journal of Marketing Management* 2013, 29(3-4), 494-517.

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This is an Accepted Manuscript of an article published by Taylor & Francis in *Journal of Marketing Management* on 26-11-2012, available online:

<http://www.tandfonline.com/10.1080/0267257X.2012.737356>

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**Date deposited:** 22-07-2014



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# Building customer loyalty in online retailing: The role of relationship quality

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**Abstract** This paper examines the challenge of building customer loyalty in the e-tailing environment. It examines the role of relationship quality (RQ) in the formation of customer loyalty in Internet retailing. In a departure from existing research, RQ is treated as a disaggregated, multidimensional construct, rather than a global one, consisting of relationship satisfaction (RS), trust, and commitment. Based on an online survey of 491 Internet grocery shoppers, structural equation modelling is used to test the influence of the different dimensions of RQ on e-loyalty. Results show that RS, perceived relational investment, and affective commitment have a strong and positive impact on e-loyalty. Trust also has a strong effect but works via RS. The results suggest that the disaggregated model of RQ provides a better prediction of e-loyalty than the aggregated model of RQ.

**Keywords** relationship quality; e-loyalty; Internet retailing; perceived relationship investment

## Introduction

Internet retailing is growing rapidly in popularity among consumers in all sectors of retailing. A major challenge facing Internet retailers is in the area of customer loyalty or e-loyalty which, following R. Anderson and Srinivasan (2003), is defined as 'the customer's favorable attitude toward an electronic business, resulting in repeat purchasing behavior' (p. 125). Indeed, Wang, Head, and Archer (2000), for instance, argue that long-term sustainability and profitability in the online marketplace will only be achieved when Internet retailers embrace the challenge of fostering online customer loyalty. In fact, a number of authors have argued that understanding how to develop loyalty is fundamentally important to all online retailers (Goode & Harris, 2007; Reichheld, 2001; Reichheld & Schefter, 2000; Zeithaml, Parasuraman, & Malhotra, 2002).

Moreover, Harris and Goode (2004) argue that loyalty development for online retailers is 'both more difficult and more important than in offline retailing' (p. 139). The high importance placed on online loyalty is because of the competitive nature of the online market and the ever-increasing number of online retailers. The Internet also makes it relatively easy and less costly for consumers to search for alternative

suppliers and to comparison-shop, as well as giving them the ability to switch suppliers at the click of a button. This makes it even more important to build and maintain customer loyalty online. Furthermore, the high cost of acquiring online customers makes many customer relationships unprofitable during early stages of the customer life cycle (Reichheld & Schefer, 2000). Only during later stages of the cycle, when the cost of serving loyal customers falls, do relationships generate profits. Reichheld and Schefer (2000) estimated that, in e-grocery, the acquisition cost of a customer was US\$84 (compared with US\$56 for consumer electronics/appliances), with an estimated 1.7 years to break-even point, and an estimated 40% of customers defecting before the retailer breaks even.

Loyalty development is the primary concern of relationship marketing (Sheth, 1996). Relationship marketing theory suggests that it is more valuable for a retailer to invest effort in developing and maintaining close and long-lasting relationships with customers rather than attracting short-term, discrete transactions. Customers in such relationships are found to purchase more, to be willing to pay more for goods and/or services, to exhibit a high tendency to trust, to become emotionally attached to that firm, and to refer customers to the firm (V. Kumar, Bohling, & Ladda, 2003; Reichheld & Schefer, 2000). Loyalty is widely regarded in the literature as an important contributory factor to a firm's profitability. For instance, Reichheld and Schefer (2000) suggest that an increase of only 5% in customer retention rates can increase profits by 25% to 95%. Customer loyalty positively influences profitability both by helping to reduce marketing costs (particularly the cost of acquiring new customers) and by increasing sales per customer. An important result of relationship marketing research is that relationship quality (RQ) is a key antecedent of customer loyalty. According to a meta-analysis conducted by Palmatier, Dant, Grewal, and Evans (2006), the majority of relationship marketing studies conceptualise loyalty (and other relationship marketing outcomes) as resulting from one or more relational constructs of 'trust, commitment, relationship satisfaction, and/or relationship quality' (p. 136). Despite its wide acceptance and acknowledged importance in loyalty development in the offline context, there is relatively little research on RQ in the context of building e-loyalty in Internet retailing context. In particular, there is relatively little research into what the key dimensions of RQ in Internet retailing are, and their respective roles in the formation of e-loyalty. This paper addresses this gap in the literature.

Furthermore, previous research (De Wulf, Odekerken-Schröder, & Iacobucci, 2001; N. Kumar, Scheer, & Steenkamp, 1995) has largely operationalised RQ as a global/composite summary construct to measure the effects of the different components. We propose, however, that the construct should be disaggregated into its component parts. We contend that in disaggregating RQ into its components and testing the relationships will help to understand where online retailers need to place their efforts in order to improve RQ rather than putting equal efforts into all its components, as it is not obvious that all elements contribute equally, as a global/composite construct suggests. A better understanding of the relationships between the various dimensions of RQ and customer loyalty should enable managers of online stores to devise more effective strategies for increasing customer loyalty. Nevertheless, the study also compares the relative performance of the global construct of RQ model with the proposed disaggregated model of RQ. The paper also examines the role of perceived relationship investment (PRI). PRI represents how a company's relationship marketing (including customer relationship management)

efforts are perceived by its customers. The role of PRI is important, as it influences perceptions of RQ and hence loyalty (see, e.g., De Wulf et al., 2001).

In order to provide the background and context to this study of online loyalty formation in the grocery sector, a review of pertinent literature on loyalty and RQ is provided in the next section. The study's methodology is then explained. The key findings are then presented. Finally, the major implications of those findings are considered and discussed, and some conclusions drawn.

## **Theoretical background and research hypotheses**

RQ, the focal construct in this study, represents 'the overall nature of relationships between companies and consumers' (Hennig-Thurau, Gwinner, & Gremler, 2002, p. 234). Similarly, Smith (1998) describes RQ as an 'overall strength of a relationship and the extent to which it meets needs and expectations of parties' (p. 4). A large body of existing literature considers the dimensions that contribute to the creation of RQ (e.g. Athanasopoulou, 2009; Crosby, Evans, & Cowles, 1990; Dwyer, Schurr, & Oh, 1987; Grönroos, 1990; Gummesson, 1987; N. Kumar et al., 1995). Previous studies generally characterise RQ as a higher-order construct consisting of a number of related dimensions. Whilst there is not a consensus regarding which dimensions make up RQ, there is considerable overlap between the various conceptualisations that exist, and there is general agreement that customer satisfaction, trust, and commitment are key components of RQ (Athanasopoulou, 2009; Crosby et al., 1990; Dorsch, Swanson, & Kelley, 1998; Garbarino & Johnson, 1999; Palmer & Bejou, 1994; Smith, 1998). In fact, it is now quite common for empirical studies to operationalise RQ as a combination of some or all of these constructs (e.g. Hibbard, Kumar, & Stern, 2001; N. Kumar et al., 1995; Van Bruggen, Kacker, & Nieuwlaet, 2005). Therefore, we define RQ in the online context (E-RQ) as a construct comprising three dimensions: online trust (e-trust), online relationship satisfaction (e-relationship satisfaction; E-RS), and online commitment (e-commitment). E-RQ reflects the strength of the overall quality of the relationship between an Internet retailer and its customers.

However, existing empirical research (e.g. De Wulf et al., 2001; N. Kumar et al., 1995) has largely operationalised RQ as a global summary construct. This is done in the belief that, while the components of RQ are conceptually distinct, consumers find it difficult to make fine distinctions between them and therefore tend to lump them together (Crosby et al., 1990). In contrast, in our research, the E-RQ construct is disaggregated into its components. We believe that disaggregating E-RQ into its components and examining their interrelationships helps us to understand the relative importance that consumers place on different components of E-RQ. This also helps online retailers to target their efforts more precisely in order to improve E-RQ rather than putting equal efforts into all its components, as it is not obvious that all elements of RQ are equally important to consumers.

It is also becoming increasingly evident that PRI is important as a relationship-building strategy (De Wulf et al., 2001; N. Kumar et al., 1995; Palmatier et al., 2006), and in line with previous research (De Wulf et al., 2001; Palmatier et al., 2006), we include it as an antecedent of RQ in our research which in turn influences loyalty. This is based on reciprocity theory which states that actions taken by one party in an exchange relationship will be reciprocated by the other party to avoid feelings of guilt

that it would engender should reciprocity norms be violated (De Wulf et al., 2001; Z. G. Li & Dant, 1997). This suggests that relational efforts made by an e-tailer would be reciprocated in some way by the customers.

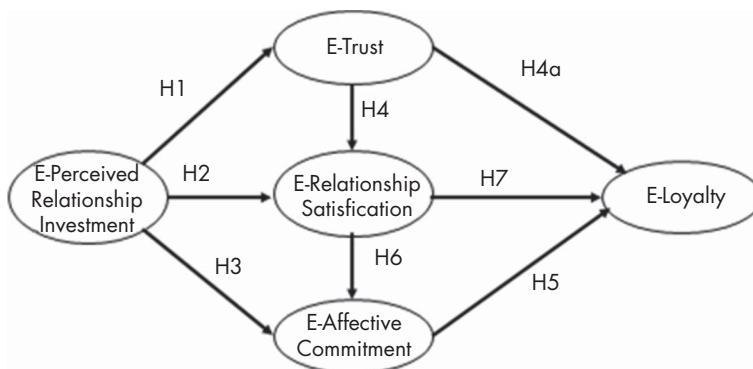
This research used the review of the literature in order to develop the hypothetical relationships between the different components of E-RQ. We reviewed the RQ literature from both the offline and online contexts. The vast majority of the existing literature on RQ emanates from the offline business-to-business (B2B) context. We believe that this literature is relevant, as it deals with relationships that are ongoing and includes situations where information asymmetries exist. There is high degree of uncertainty, making transacting parties vulnerable to opportunistic behaviour as well as involving frequent interactions, relatively significant levels of expenditure, and requiring some degree of customisation or personalisation (Vieira, Winklhofer, & Ennew, 2008). These characteristics are very relevant to RQ in Internet retailing and in particular to the e-grocery market where interactions are relatively frequent. Online shoppers do not know what condition the groceries will be in until the order arrives, and consumer expenditure on groceries is high compared with other retail spending, therefore making online shopping potentially uncertain and risky.

The components and the interrelationships between the different elements of E-RQ and their relationship with online customer loyalty are summarised in Figure 1 and discussed below.

***Perceived relational investment, relationship satisfaction, trust, and commitment***

PRI has been identified as affecting RQ and ultimately having a great impact on relational outcomes (De Wulf et al., 2001; Gruen, 1995; N. Kumar et al., 1995). De Wulf et al. (2001) define PRI as ‘a consumer’s perception of the extent to which a retailer devotes resources, efforts and attention aimed at maintaining or enhancing relationships with regular customers that do not have outside value and cannot be recovered if these relationships are terminated’ (p. 36). Such an investment of time, effort, and other resources that cannot be recovered in a relationship is recognised as creating psychological ties that motivate the parties to maintain the relationship, in the expectation that the other party will reciprocate (Blau, 1964; De Wulf et al.,

**Figure 1** Hypothesised model.



2001). Following De Wulf et al. (2001), we define online PRI (E-PRI) as a consumer's perception of the extent to which an online retailer devotes resources, efforts, and attention aimed at maintaining or enhancing relationships with regular customers.

PRI is particularly important in the online context given the inherent asymmetry of information between buyers and sellers and the consequent uncertainty, risk, and potential for opportunism. Specifically, information about the likely quality of an online transaction is unavailable to consumers before purchase (Schlosser, White, & Lloyd, 2006). Investments of time, effort, and money expended in relational efforts signal to the consumer the firm's intentions of goodwill and that their custom is valued. This should increase consumer trust in the website as well as increasing satisfaction. In the online context, relationship investment can take the form of value-adding features such as personalised web pages, tailored recommendations, and customised service. E-grocery retailers also offer their customers the ability to create customised shopping lists to save them time and effort on subsequent visits. Past buying behaviour is also used to offer customers tailored promotions. PRIs, such as in personalisation, not only increase customer benefits but should also lead to increased satisfaction with the ongoing relationship. In the consumer context, few studies have empirically examined the relationship between PRI and the dimensions of RQ. Two pioneering studies by De Wulf et al. (2001) and N. Kumar et al. (1995) tested the relationship between PRI and RQ. However, they treated RQ as a global concept. The interaction between PRI and the other dimensions of RQ is therefore not clear. Smith and Barclay (1997), in fact, suggest that relationship investment requires that partners to the relationship are trustworthy and that relationship investment increases the mutual satisfaction and trust between partners. The De Wulf et al. (2001) study shows that customers tend to be more satisfied with sellers who make efforts towards them. As a result, trust is increased when buyers receive deliberate investment (monetary or non-monetary) from sellers (Ganesan, 1994). Thus retailers invest in the relationship with customers that simultaneously increases customers' relational satisfaction and trust in them (Selnes, 1998). Also Schlosser et al. (2006) found that the perceived investment increased the trustworthiness of a website. Hence, we propose:

*H1: E-PRI has a positive impact on e-trust.*

*H2: E-PRI has positive impact on E-RS.*

Furthermore, Dwyer et al. (1987) suggest that there is a direct link between commitment and benefits accruing to partners in a relationship. Similarly, Bennett (1996) argues that the strength of a customer's commitment to a seller is related to the perceived effort made by the seller. Therefore, we propose that E-PRI investment has a positive impact on affective commitment (see section 2.4 below for an explanation of why affective commitment is used in this study) that a customer feels towards the e-retailer:

*H3: E-PRI has a positive impact on e-affective commitment (E-AC).*

### ***Trust and relationship satisfaction***

According to Selnes (1998), relationship satisfaction (RS) and trust are two of the key concepts in RQ. Both concepts are similar in that they represent an overall

evaluation, feeling, or attitude about the other party in the relationship. RS recognises that customers rely on their entire experience when forming intentions and making repurchase decisions, rather than any particular transaction. Thus RS is more likely to depend on factors that occur across transactions. Moreover, RS is an affective state resulting from an overall assessment of the relationship with the product or service supplier (De Wulf et al., 2001) representing the consumer's current overall attitude towards the relationship. Crosby et al. (1990) claim that customers' perceived uncertainty is reduced as their RS with a firm improves. Following De Wulf et al. (2001), E-RS, for the purposes of this paper, is defined as a consumer's current overall attitude towards an Internet retailer resulting from an overall assessment of the relationship with the Internet retailer.

The importance of initiating, building, and maintaining trust in an ongoing relationship between customers and the Internet retailer as key facilitators of successful online business is increasingly being recognised in academic as well as in practitioner communities (Grabner-Kräuter & Kaluscha, 2003; Schoenbachler & Gordon, 2002; Yoon, 2002). In fact, trust is regarded as one of the most critical constructs in RQ (Crosby et al., 1990; De Wulf et al., 2001; Dorsch et al., 1998; Dwyer et al., 1987; Garbarino & Johnson, 1999; Hennig-Thurau, 2000; Hennig-Thurau & Klee, 1997; N. Kumar et al., 1995; Palmer & Bejou, 1994). A number of studies show that trust is a significant antecedent of customers' willingness to engage in e-commerce (Gefen, 2000, 2002) Also, Sultan and Mooraj (2001) argue that trust is central to exchange 'whether the business is offline or online' (p. 42). In fact, as Harris and Goode (2004) point out, trust is even more important in the online environment than in conventional offline context. This is because of the increased perceived risk due to the absence of physical contact with online firms and the 'lack of touch' inherent in online exchange (R. Anderson & Srinivasen, 2003).

Numerous definitions of trust appear in the academic literature; this plethora reflects the multifaceted nature of the concept and context specificity (for a comprehensive discussion, see, e.g., Gefen, Karahanna, & Straub, 2003; Gefen & Straub, 2004; McKnight, Choudhury, & Karcmar, 2002). There are, however, a number of commonalities in these definitions. Moorman, Deshpande, and Zaltman (1993), for instance, see trust as 'a willingness to rely on an exchange partner in whom one has confidence' (p. 82). They propose that an expectation of trustworthiness results from the partner's expertise, reliability, or intentionality. Morgan and Hunt (1994) define trust as the perception of confidence in the exchange partner's reliability and integrity. According to McKnight et al. (2002), competence, benevolence, and integrity are the facets of trust most often used in the business literature. Similarly, after a comprehensive review of the literature on trust, Gefen and Straub (2004) tested and validated a four-dimensional scale of trust for the business-to-consumer (B2C) online environment to measure trust. The four dimensions of their scale were ability, benevolence, integrity, and predictability. Their study confirms these four dimensions of trust in the context of both e-products and e-services.

It is also necessary to distinguish between initial trust and ongoing trust, particularly in the case of online trust, as it is likely to go through a number of developmental stages. Yoon (2002) for instance identifies three stages of development. In the initial stage, potential customers are concerned about safety of online purchasing. This is followed by a stage where they are concerned about protecting their personal information and want confirmation that their trust is



not being abused. In the third stage, customers are more concerned about the maintenance of trust. That is, in this stage they are more concerned about the reliability, benevolence, and integrity of the website that they are dealing with. It is this ongoing trust that this study is interested in rather than initial trust. This is because loyal customers will have passed the initial stages of trust, and if they are to form a long-term relationship with their online vendor, they will be looking for the ongoing reliability, benevolence, and integrity from the vendor.

There is also some empirical evidence of a relationship between trust and RS. For instance, Geyskens, Steenkamp, and Kumar (1999), in a meta-analysis of the literature on satisfaction in marketing channels, suggest that there is evidence of a positive relationship between RS (or non-economic satisfaction) and trust. However, there is a difference of opinion in the literature on the directionality of the relationship. A number of authors suggest that the direction of the relationship is from RS to trust. For instance, Jarvenpaa, Tractinsky, and Vitale's (2000) study on consumer trust in Internet stores particularly emphasises the relationship between RS and trust. That is, customers' RS with the online retailer exerts a direct influence on perceived trust. Similarly, Gefen (2002) suggests that the more satisfied the customers are with the relationship with an online vendor, the more they are inclined to trust the online vendor and shop and repurchase with that same online vendor. In contrast, a number of authors suggest that the relationship between RS and trust is reversed. For instance, J. C. Anderson and Narus (1990) suggest that trust leads to overall satisfaction with the relationship through increased cooperation and reduced conflict. Similarly, Smith and Barclay (1997) propose that trust leads to mutually satisfying relationships. Finally, Grossman (1999) contends that consumers who trust a firm will be more satisfied with it, its products, and the relationship with the firm. We follow this latter conceptualisation and model trust as an antecedent to RS. This is because, in the e-tailing context, due to the increased inherent risks because of the lack of interaction with the merchandise and sales personnel, and financial risks, trust in the website is an essential prerequisite for attracting customers to shop online. We therefore hypothesise that:

*H4: E-trust has a positive impact on E-RS.*

### ***Trust and loyalty***

A number of previous studies have also modelled trust as having a direct impact on loyalty (Cyr, 2008; Harris & Goode, 2004; Polites, Williams, Karahanna, & Seligman, 2012; Yoon, 2002; Yoon & Kim, 2009). This is because, as mentioned above, trust is regarded as a significant antecedent of customers' willingness to engage in e-commerce (Gefen, 2000, 2002). This view suggests that if Internet shoppers do not trust a website, they are unlikely to return to it even if they are generally satisfied with other aspects of the website (R. Anderson & Srinivasan, 2003). Furthermore, increased trust is also said to lead to a more favourable attitude towards the online store (Jarvenpaa et al., 2000) and hence loyalty towards it. This suggests the hypothesis:

*H4A: E-trust has a positive impact on e-loyalty*



It must be emphasised, however, that focus here is on trust in the website/online service rather than overall trust in the retailer. This distinction is made because some Internet retailers have both offline and online operations, and in such cases, trust in the online service may potentially be influenced by prior (offline) experience.

### ***Commitment***

Commitment is an important variable in discriminating between loyal and non-loyal customers. Commitment is the desire to continue the relationship and to work to ensure its continuance. For the purposes of this paper, online commitment (or e-commitment) is defined as a consumer's desire to continue a relationship with an online retailer. In marketing practice and research, mutual commitment among partners in business relationships is agreed to produce significant benefits for companies. Although several conceptualisations of attitudinal commitment have been used in the literature, each reflects one of three general themes: affective attachment, perceived costs, and obligation, which are labelled as 'affective', 'calculative', and 'normative' commitment respectively (Allen & Meyer, 1990).

Allen and Meyer (1990) define affective commitment as a person's emotional attachment to, identification with, and involvement in the organisation. Thus people with strong affective commitment remain with the organisation because they have strong emotional attachment to the organisation. Calculative commitment, which is sometimes termed as continuance commitment, is based on the person's recognition of the costs associated with leaving the organisation. Finally, normative commitment is based on a sense of obligation to the organisation (Weiner, 1982). In contrast to affective and calculative commitment, normative commitment focuses on the right or moral thing to do (Weiner, 1982). It concentrates on the obligation and/or moral attachment of people produced by the socialisation of people to the organisation's goals and values (Allen & Meyer, 1990; Weiner, 1982). Support for Meyer, Allen, and Smith's (1993) three-component model of commitment (in the marketing context) is provided by a number of studies, including Bansal, Irving, and Taylor (2004) and Gruen, Summers, and Acito (2000). However, the majority of studies on loyalty (and other outcomes of commitment) only test the effect of affective and calculative commitment (e.g. Fullerton, 2005; Harrison-Walker, 2001; D. Li, Browne, & Chau, 2006; Verhoef, Franses, & Hoekstra, 2002). In the context of the present study, given the absence of direct human contact in Internet retailing, we expect normative commitment to be less relevant in relationships between consumers and an e-tailer, and normative commitment is therefore omitted from the study.

Also, calculative commitment is more relevant where investments in the relationship (i.e. sunk costs) are high, switching costs are high, or there is a lack of attractive alternatives. However, in the online retailing context, customer investment costs and switching costs tend to be low, and normally numerous alternatives are available. This is supported, for instance, by Chen and Hitt (2002) who found that whilst calculative considerations might be important in initial adoption decisions, costs are less likely to be considered in decisions to continue or discontinue use of online services. In contrast, an affective commitment-based relationship is likely to last much longer than that based on calculative commitment. For the purposes of this study, affective commitment is defined as a person's emotional attachment to, and identification with, the e-tailer. In this case, the customer's attachment

is focused on long-term co-operation and is based on feelings, rather than any rational consideration of the benefits (Moorman et al., 1993). Given this, calculative commitment is also omitted from the study, and we focus on the impact of affective commitment.

### ***Commitment and customer loyalty***

Customer loyalty is an important manifestation of relationship marketing outcomes because loyalty signals a motivation to maintain a relationship with the focal firm (Zeithaml, Berry, & Parasuraman, 1996). As indicated by the value–attitude–behaviour theory, it is commonly accepted that attitudes influence behaviour (Homer & Kahle, 1988; Korgaonkar, Lund, & Price, 1985). Affective commitment in marketing relationships has been described as a reflection of loyalty (Gundlach, Achrol, & Mentzer, 1995) and it is an important variable in discriminating between loyal and non-loyal customers. Some support can be found in the literature regarding this proposition. Several authors support the notion that affective commitment motivates customers to act (Gruen, 1995; Hennig-Thurau & Klee, 1997). Dick and Basu (1994) state that the stronger the affective commitment is, the more likely customers are to overcome potential obstacles in the relationship, resulting in repeat patronage or more purchases or recommendations to others. Morgan and Hunt (1994) and Price and Arnould (1999) found that customer advocacy is regarded as an important consequence of affective commitment. This is in line with Gremler and Gwinner (2000), who argue that customers who feel affectively committed in their relationships with the service provider can be expected to act as advocates for the service organisation. Advocacy and positive word-of-mouth communications have a lengthy tradition of loyalty research in services marketing. A number of studies suggest that favourable behavioural intentions are associated with a service provider's ability to get its customers to say positive things about them, recommend them to other consumers, remain loyal to them, spend more with the company, and pay price premiums (Dick & Basu, 1994; Roberts, Varki, & Brodie, 2003; Sirohi, McLaughlin, & Wittink, 1998; Zeithaml et al., 1996). Based on the previous discussion, the following hypothesis is proposed:

*H5: E-AC has a positive impact on e-loyalty.*

### ***Relationship satisfaction, commitment, and loyalty***

In the context of Internet retailing, a number of studies have proposed the link between e-satisfaction and e-loyalty (e.g. R. Anderson & Srinivasan, 2003; Shankar, Smith, & Ragaswamy, 2003; Srinivasan, Anderson, & Ponnnavolu, 2002). In these studies, e-satisfaction is defined similarly to the way we have defined E-RS above. Also, in the context of online financial services, Liang and Chen (2009) propose a link between RS and relationship commitment. This suggests that RS leads not only to loyalty directly but also to affective commitment. This is in line with established loyalty theory which suggests that loyalty has both attitudinal and behavioural components (Dick & Basu, 1994). However, we are not aware of any studies in the online retailing area that model affective commitment acting as a mediator between RS and loyalty (although Caceres & Paproidamis, 2007, provide some evidence to

support this link in the context of B2B relationships). This suggests the following hypotheses:

*H6: E-RS is positively related to E-AC.*

*H7: E-RS is positively related to e-loyalty.*

## **The study**

### ***The setting***

This study was conducted in the UK e-grocery market. An interesting feature of the online grocery market in the UK is that online retailers have been relatively more successful in developing the market than, for instance, in the United States. The UK online market is currently dominated by three conventional supermarket operators; Tesco, Sainsbury's, and ASDA (part of the Wal-Mart group). Several smaller operations are also active in the market, and include Waitrose, which has a joint venture with Ocado, a pure Internet operator. According to Mintel (2006), the online grocery market in the UK was worth £1.7 billion in 2005. Tesco, the market leader, had a market share of 54.7%, Sainsbury's 18%, ASDA 17.1%, and Waitrose (including Ocado) 8.4%. Tesco was the only profitable operator in the market. Given the highly competitive nature of the market and the relatively low switching costs for customers, customer retention and relationship building takes on added importance. In addition, grocery shopping is typically a high-frequency, repeat activity, and hence strong and lasting relational bonds between the customers and retailer are core to the success of an e-grocery business (Raijas & Tuunainen, 2001). From the perspective of the e-grocery retailers themselves, the study of customer e-loyalty is important, as the prevailing view in the extant literature is that e-grocery retailing is not yet as successful as it might be, in part because Internet retailers are paying too much attention to initial customer acquisition, and are failing to recognise the value of customer retention (Insight Research, 2003).

### ***Research method***

A questionnaire with multiple items and seven-point Likert rating scales (1 = 'strongly disagree'; 7 = 'strongly agree') was developed for all the theoretical constructs used in the conceptual model. The questionnaire was first pretested among a sample of 10 academics. The 10 respondents were asked to provide comments on the relevance and wording of the questionnaire items, the length of the survey, and time taken to complete it. Their recommendations were used to guide item additions and deletions, and to improve the wording of items. In order to reduce common method bias, a number of procedural remedies suggested by Podsakoff, MacKenzie, Lee, and Podsakoff (2003) were followed. First, all participants were guaranteed anonymity. Another remedy adopted was the separation of predictor and criterion variables psychologically, that is, construct items were randomly distributed in the questionnaire. Also, existing measures with proven reliability were employed for construct items to reduce any ambiguity.

An online survey method was chosen as the main distribution method for this research. The data presented in this research were collected from a web-based survey

using self-administered questionnaires. The questionnaires were distributed to online grocery shoppers by the use of an Internet panel administered by a market research company. A pilot study aimed to achieve 100 responses was launched first. A small-scale pilot survey of the population can help to highlight the answering pattern from respondents and any problems with the questionnaire. As a result, the wording of some of the questions was changed to improve clarity. Following the pilot test, the full formal survey was administered. In order to ensure the quality of the data, the time for completing each questionnaire was monitored. A total of 519 responses were received within a week, and 491 questionnaires remained for further analysis after data screening.

The relatively large sample size provides some confidence that the sample is representative of online grocery shoppers. In this survey, 49.3% of the respondents were males and 50.7% females. There were 45 (9.2%) respondents who were less than 25 years of age; 186 (38.2%) who were between 25 and 40; 190 (39.1%) who were between 41 and 55; 40 (8.2%) were between 56 and 60; and 26 (5.3%) were over the age of 60. According to the Office of National Statistics (2006), in 2006, the average annual income in the UK was £23,244. However, the results from this survey reveal that e-grocery shopper's annual income is higher than the national average. Almost 50% of e-grocery shoppers' annual salary is over £30,000, 15% between £25,000 and £29,999, and 11.3% between £20,000 and £24,999. Among the respondents, 52.7% were married, 21.4% were living with a partner, and 25.9% were single. In the sample, 69.7% shopped online with Tesco, 14.5% with ASDA, 10.6% with Sainsbury's, .6% with Waitrose, and 4.6% with a number of smaller operators such as Ocado and Foodferry. We believe this to be an accurate reflection of the market share of the online food retailers in the summer of 2006 when the study took place (see, e.g., Mintel, 2006). It is also interesting to note that Tesco continues to consolidate its overall position in the grocery market and that ASDA now occupies second place in market share terms ahead of Sainsbury's. On average, 64% of the respondents had shopped with the offline store before trying the online store. That is, around 64% of the respondents were transferring their loyalty from their offline store to the online store. The most loyal were Tesco shoppers of whom 93% had shopped with the offline store before shopping with the online store.

### ***Measures and measurement properties***

This study used existing measures for the constructs in the model given their proven reliability. E-RS is measured via three commonly used semantic differential items measuring satisfaction, namely satisfied/dissatisfied, pleased/displeased, and favourable/unfavourable (Jones & Suh, 2000; Szymanski & Hise, 2000). E-trust is measured using R. Anderson and Srinivasen's (2003) four-item scale for trust which taps into predictability/reliability/willingness to relay aspects of trust. The affective commitment (three items) measure is based on Fullerton's (2005) adaptation of Allen and Meyer's (1990) affective commitment scale in the retailing context. De Wulf et al.'s (2001) three-item scale is adapted to measure E-PRI. E-loyalty is measured using a modified version of Zeithaml et al.'s (1996) five-item scale (see Appendix 1 for a list of items used).

This study used confirmatory factor analysis (CFA), employing the maximum likelihood estimation procedure using standard recommended procedures (e.g. Byrne, 2001; Hair, Anderson, Tatham, & Black, 1998) to purify the measures and

to analyse the measurement model. One indicator of the loyalty scale (LOYALTY5, see Appendix 1) was dropped as a result of these procedures because its standardised loading was less than .7 and its squared multiple correlation (SMC) was also less than .5, suggesting a lack of convergent validity (Fornell & Larcker, 1981). The final measurement model provided a good fit with  $\chi^2 = 246.57$  ( $p < .000$ )  $\chi^2/df = 2.262$ , GFI = .943, CFI = .980, and RMSEA = .051. All the measures demonstrated good psychometric properties. All the indicators had standardised regression weights greater than .7 (see Table 1) demonstrating evidence of unidimensionality. Composite reliability ranged from .92 for e-Llyalty to .98 for E-RS. Average variance extracted (AVE) was above the .5 threshold recommended by Bagozzi and Yi (1988) and ranged from .67 (e-loyalty) to .94 (E-RS), demonstrating evidence of convergent validity of the measures of the constructs. As recommended by Fornell and Larcker (1981), discriminant validity was tested by comparing the AVE of each construct with the shared variance between the construct and all other constructs in the model. As recommended, for each comparison, the AVE exceeded all combinations of shared variances and therefore discriminant validity was established.

**Table 1** Retained items used in structural equation modelling.

<b>Constructs and items</b>	<b>Standardised regression weights</b>	<b>Composite reliability</b>	<b>Variance extracted</b>	<b>SMC estimates</b>
<i>Relationship satisfaction (E-RS)</i>		.98	.94	
RELSAT1←E-RS	.92			.84
RELSAT2←E-RS	.96			.92
RELSAT3←E-RS	.97			.94
<i>Perceived relationship investment (E-PRI)</i>		.93	.74	
INVEST01←E-PRI	.81			.64
INVEST10←E-PRI	.85			.72
INVEST12←E-PRI	.86			.74
<i>E-affective commitment (E-AC)</i>		.93	.82	
AFCM1←E-AC	.75			.57
AFCM2←E-AC	.91			.80
AFCM3←E-AC	.88			.80
<i>E-trust</i>		.97	.90	
TRUST1←E-TRUST	.90			.80
TRUST2←E-TRUST	.89			.79
TRUST3←E-TRUST	.94			.88
TRUST4←E-TRUST	.90			.81
<i>E-loyalty</i>		.92	.67	
LOYALTY1←E-LOYALTY	.72			.52
LOYALTY2←E-LOYALTY	.84			.70
LOYALTY3←E-LOYALTY	.90			.81
LOYALTY4←E-LOYALTY	.90			.80

### Testing for common method bias

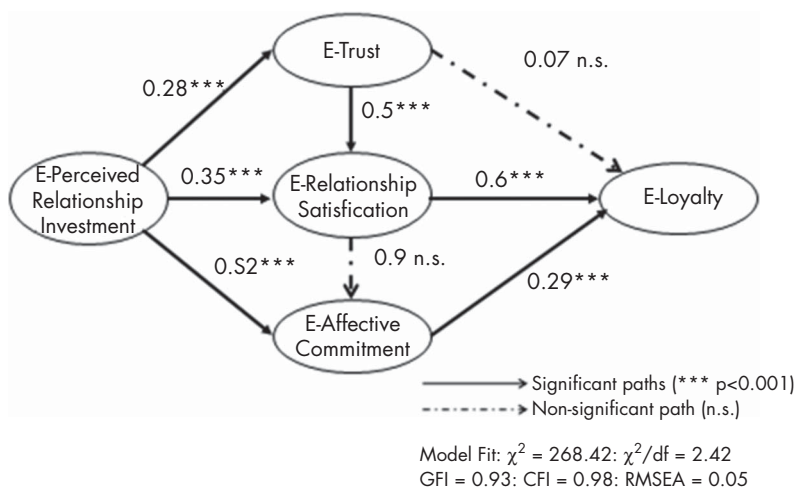
Common method bias was assessed using Lindell and Whitney's (2001) suggestion for a post hoc approach for assessing common method bias. They argue that the smallest correlation between any two manifest variables is a good proxy for common method bias. However, as this tactic can take advantage of chance occurrences, Lindell and Whitney (2001) therefore suggest that the second-smallest correlation between the manifest variables provides a better, more conservative estimate of method bias. In this study, the second smallest correlation was .134 between the E-AC item AFCM1 and the e-trust item TRUST1 (see Appendix 1). The small size of the correlation suggests that common method is not a problem in this study.

## Analysis and results

### Main model

The estimated structural model fitted well to the data with  $\chi^2 = 268.42$ ;  $\chi^2/df = 2.415$ , GFI = .938, CFI = .979, and RMSEA = .054, all suggesting good fit. Analysis of the path estimates showed that all the path coefficients were significant except the hypothesised path between E-RS and E-AC ( $p < .078$ ) and the path between e-trust and e-loyalty ( $p < .149$ ; see Figure 2). The model was then re-estimated with this path deleted from the model. However, this resulted in a chi-square change of only 3.08 which is not significant at  $p = .05$ . Significantly, the model explains 66% of the variance in loyalty. All the significant path coefficients are relatively high, suggesting that they make a strong contribution to loyalty (see Figure 2). In terms of the total effects on loyalty, E-RS has the highest effect at .69, followed by E-PRI (.48), e-trust (.38), and E-AC (.29). Therefore, all the hypotheses are accepted except H4a and H6.

Figure 2 Model path estimate and fit statistics.



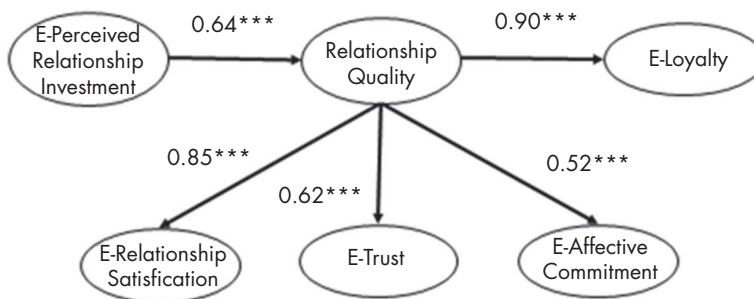
Given the disagreement over the directionality of the relationship between trust and satisfaction, we tested an alternative model where satisfaction and commitment are modelled as mediators of loyalty and RS acts as an antecedent of trust. The re-specified structural model yielded  $\chi^2 = 359.73$  ( $p < .000$ ) with a  $\chi^2/df$  ratio of 3.92 (which exceeds the recommended level of 3) and GFI = .913, CFI = .957, and RMSEA = .078, all suggesting a poorer fit compared with the main model (see above). However, because the alternative model is not nested within the disaggregated model but contains the same set of variables, Akaike's (1987) Information Criterion (AIC) is appropriate for model comparison as well as the related CAIC (Consistent AIC; Bozdogan, 1987). Whereas, in the case of the original model, AIC = 352.50 and CAIC = 565.05, the values for the re-specified model are AIC = 520.77 and CAIC = 733.32 respectively. As smaller values of these criteria indicate a better fit of the model (Hu & Bentler, 1995), these results indicate a preference for the original model over the re-specified model. Overall, these results suggest that the original model (with trust as antecedent) is superior to the alternative re-specified model (with RS as antecedent) in predicting loyalty.

### Alternative model testing

The competing model of the relationship between E-RQ and customer loyalty was also tested by treating E-RQ as a global measure (De Wulf et al., 2001; Hennig-Thurau et al., 2002). E-RQ in this model is specified as a second-order construct consisting of E-RS, e-trust, and affective commitment. E-PRI is modelled as antecedent and loyalty as an outcome in the model (see Figure 3). This structural model yielded  $\chi^2 = 359.73$  ( $p < .000$ ) with 114 degrees of freedom and  $\chi^2/df = 3.16$  (which slightly exceeds the recommended level of 3) with GFI = .911, CFI = .968, and RMSEA = .067, all suggesting a poorer fit compared with the main model (see above).

However, because the alternative model is not nested within the disaggregated model but contains the same set of variables, AIC and the related CAIC were used for comparison. Whereas, in the case of the disaggregated model, AIC = 352.50 and

**Figure 3** Alternative model path estimates and fit statistics.



Model Fit:  $\chi^2 = 359.73$ ;  $\chi^2/df = 3.156$   
 GFI = 0.91; CFI = 0.97; RMSEA = 0.07  
 \*\*\*Paths and factor loadings significant at  $p < 0.001$



CAIC = 570.15, the values for the aggregated model are AIC = 437.73 and CAIC = 639.91 respectively. As smaller values of these criteria indicate a better fit of the model, these results indicate a preference for the disaggregated model over the aggregated model. In addition, Parsimonious Goodness of Fit Index (PGFI) (disaggregated model: .681; aggregated model: .679) and Parsimonious Normed Fit Index (PNFI) (disaggregated model: .788; aggregated model: .799), which assess the parsimonious fit of competing models (Kelloway, 1998), slightly favour the disaggregated model. Overall, the results suggest that the disaggregated model of RQ is superior to the aggregated model of E-RQ in predicting loyalty. However, it must be noted that the difference in fit between the two models is relatively small on a number of the fit statistics. This suggests that both models of RQ can be used in RQ research depending upon the purpose of the research.

## **Discussion and conclusions**

### ***Main findings***

Our findings make a contribution to RQ theory in two important areas. First, the findings contribute to the debate in the literature on the directionality of the relationship between trust and RS. As discussed previously, the majority of RQ studies suggest that the direction is from RS to trust (Gefen, 2002; Geyskens et al., 1999; Jarvenpaa et al., 2000) whilst only a small minority provide support for the opposite contention that trust is an antecedent to RS (Grossman, 1999; Smith & Barclay, 1997). In the context of RQ in Internet retailing, this is the first study to provide empirical support for the view that trust is an antecedent of RS (H4) rather than an outcome of RS, as it is generally portrayed in existing RQ theory. This is because, as was explained previously, trust is an essential prerequisite to shopping online because of the additional risks involved compared with offline shopping. The result is further supported by the poorer performance of the competing model where RS acts as an antecedent of trust.

Second, our findings also contribute to the debate on whether trust has a direct effect on loyalty, as is often suggested in the literature (Cyr, 2008; Harris & Goode, 2004; Polites et al., 2012; Yoon, 2002; Yoon & Kim, 2009), or whether it is mediated through RS. The rejection of hypothesis H4a (e-trust→e-Loyalty) suggests that the effect of trust is fully mediated by RS. That is, there is no direct effect from trust to loyalty. We believe these findings to be robust and expect them to hold not only in online retailing but also in the offline B2C environment and believe that they should be tested in future research.

Regarding PRI, Smith and Barclay's (1997) contention that it has a positive impact on trust (H1) is borne out. E-PRI also positively influences RS (H2), as predicted. What this suggests is that online customers regard E-PRI as the retailer's commitment to the customer, and this is reciprocated with increased trust and RS. Furthermore, the customers' reciprocation is also captured by increased affective commitment as a result of E-PRI (H3). This is a novel and important finding (given a path coefficient of .52), as we do not believe that it has been tested before in the context of RQ. The results of this study affirm the importance of affective commitment in developing loyalty (H5). This result is in line with previous research. Where it differs, however, is that, in previous research, trust is regarded as the main antecedent to building

affective commitment. In this study, it is E-PRI that drives affective commitment rather than trust. This fits in with the reciprocity theory of social exchanges, in that firms make relational investments in the expectation that customers will respond in some positive way. This can be in the form of increased trust, commitment, and RS, as suggested by the results in this study.

The main driver of loyalty in the model is RS (H7), as it has a large direct impact on loyalty with a path coefficient of .66. The path between RS and affective commitment (H6) is marginally non-significant, but the results suggest that the model with this path retained performs better than the one without it. Hence, there is only weak evidence of affective commitment acting as a mediator between RS and loyalty.

Finally, the study suggests that the disaggregated model of RQ provides a better prediction of customer loyalty than an aggregated model of RQ. This is an important result for a couple of reasons. First, it suggests that customers can and do discriminate between different aspects of loyalty, whereas previously it was postulated that this was not the case, and aggregate measures were suggested for measuring RQ. Second, the disaggregated model allows us to understand the relationships between the different elements of RQ and their relative importance.

### ***Managerial implications***

The results from this study clearly demonstrate that E-PRI has a substantial impact on online loyalty via RQ. E-PRI, however, has a differential impact on the RQ components of trust, RS, and affective commitment. In particular, it shows that the highest impact is on affective commitment (with path coefficient of .52), followed by RS (.35) and trust (.28). Furthermore, if we examine the total effect of E-PRI on loyalty via the E-RQ components, the path via RS has the highest impact (.23), followed by affective commitment (.15) and trust (.10). This suggests that e-grocery retailers need to focus their relationship investment efforts on RS and affective commitment in order to build loyalty. Whilst trust is important and cannot be neglected, it is less important than the other two components of RQ for existing customers.

### ***Limitations and directions for future research***

The study has a number of limitations which should be addressed in future research. First, this study is limited to investigating Internet loyalty in one specific sector. In order to increase the validity of the results of this study, the research should be replicated in other sectors. It may be that these results are less applicable outside grocery retailing, for instance, where products are bought less frequently (e.g. consumer durables, books, etc.) or consumer involvement is higher (e.g. clothes shopping). A comparative study is likely to provide the most interesting results, as well as providing a robust test of the model presented here. In order to provide an even more rigorous test of the model, researchers should employ different measures of the constructs in the model. Researchers should also examine consumer-related factors in future research such as involvement and relationship proneness as potential moderators.

In terms of the sample, the majority of the respondents shopped with the three market leaders, namely Tesco, ASDA, and Sainsbury's. Very few respondents shopped

with pure Internet grocery retailers such as Ocado. Therefore, future research should consider replicating the research with Internet-only grocery retailers. It is possible that the structure of the loyalty relationships may differ. Furthermore, because the main Internet grocery retailers in the UK also operate offline stores, and many of the respondents had experience of shopping in them, it is possible that the offline experience may affect the online relationship. This was not tested in our research and is an area that should be examined in future research.

Common method bias is another potential limitation of the study (even though a number of procedures were employed to reduce it), as a single instrument was used to measure all the constructs. Also, a self-reported measure of loyalty is used in the study, whereas using actual purchasing behaviour to measure behavioural loyalty would have been preferable. As Internet retailers have a wealth of such data (as each customer transaction is automatically logged and the customers individually identified), future researchers should consider actual purchasing behaviour in online loyalty research, co-operation from online retailers permitting. Also, it would be worth examining whether different results are obtained if trust is broken down into its components rather than using an overall measure of trust.

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## Appendix 1. Measurement items

Constructs	Items	Sources
<i>E-relationship satisfaction</i>		Based on Crosby, Evans, and Cowles (1990)
RELSAT1	How satisfied are you with the relationship you have had with your Internet grocery store?	
RELSAT2	How pleased are you with the relationship you have had with your Internet grocery store?	
RELSAT3	How favourably do you rate your relationship with your Internet grocery store?	
<i>E-perceived relationship investment</i>		Based on De Wulf, Odekerken-Schröder, and Iacobucci (2001)
INVEST01	This store cares about keeping regular customers patronage.	
INVEST10	This store makes various efforts to improve its links with regular customers.	
INVEST12	This store makes efforts to increase regular customers' loyalty.	
<i>E-affective commitment</i>		Based on Allen and Meyer (1990); Fullerton (2005)
AFCM1	I feel emotionally attached to my Internet grocery store.	
AFCM2	I feel a strong sense of identification with my Internet grocery store.	
AFCM3	My Internet grocery store has a great deal of personal meaning for me.	
<i>E-trust</i>		Based on Anderson and Srinivasan (2003)
TRUST1	This website is reliable for Internet grocery shopping.	
TRUST2	The performance of this website meets my expectations.	
TRUST3	This website can be counted on to complete the transaction successfully.	
TRUST4	I can trust the performance of this website to be good.	
<i>E-loyalty</i>		Based on Zeithaml, Berry, and Parasuraman (1996)
<i>Thinking about your Internet grocery store, how likely is it that you would:</i>		
LOYALTY1	Consider it my first choice to buy-groceries?	
LOYALTY2	Encourage friends and relatives to buy groceries from it?	
LOYALTY3	Recommend it to someone who seeks your advice?	
LOYALTY4	Say positive things about it to other people?	
LOYALTY5	Purchase more groceries from it in the future?	