

# Trust as a Mediator of the Relationship between Perceived Online Deception and Online Purchase Intention

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## Abstract

*The problem of deceptive practices and the impact of deceptive practices on consumer behaviour has been extensively discussed in marketing, both in relation to off and online marketing. However, surprisingly, the direct impact of perceived online deception on consumers' purchase intentions has not been established so far. In addition, in the Sri Lankan context, the literature on online marketing and consumption has paid scant attention to ethical concerns. This study investigated the impact of consumers' perceived online deception and their purchase intentions with trust as a mediator in the Sri Lankan context. The study was a cross sectional survey utilising 110 consumers. Analysis utilising regression analysis indicated that although perceived online deception does have an impact on consumer purchase intentions, it is at a low level of significance. This impact was found to be completely mediated by trust.*

**Keywords.** *Deceptive practices, Online marketing, Trust, Purchase intentions*

## 1. Introduction

Technological advancement has contributed to the tremendous changes in the lifestyle of people today. Accordingly, the trend towards online shopping is increasing rapidly throughout the world, where people find the internet as an attractive and convenient mode of purchasing. This increase in e-commerce has also given rise to questionable ethical practices of e-commerce participants (Roman, 2010). As a result, ethical issues relating to online retailers have surfaced as one of the biggest challenges to online shopping (Ahuja, Gupta & Ramann, 2003). Among various ethical concerns, one of the most common issues is deceptive practices adopted by online retailers (Grazioli & Jarvenpaa, 2003).

Deception refers to intentional alterations when presenting a product or service's details (Olson & Dover, 1978). When considering research initiatives on deception, the studies on impact of deception on consumer behaviour has a long history. Specifically, in the offline context it has been identified to create many adverse consequences such as reduction in trust, satisfaction and loyalty (Fayyaz & Lodhi, 2015) and purchase intention (Olson & Dover, 1978). Similarly, deceptive practices in the online environment has been shown to lead to unfavourable outcomes such as reducing trust (Limbu, Wolf & Lunsford, 2011), loyalty and satisfaction (Roman, 2010) towards a website. However none of the studies have focused upon whether online deceptive practices influence customers' online buying intention. This constitutes a theoretical gap in literature and prompted an attempt at testing the direct impact on perceived online deception on online purchase intention. In addition to

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testing the direct impact of perceived online deception on online purchase intention, the mediating role of trust is also examined in the study.

In the Sri Lankan context, the studies related to online purchasing have examined different factors affecting on-line purchase intention (e.g., Yatigammana, 2010) such as, attractive and content rich website, up-to-date delivery, easily downloadable content, secure transactions and faster and trustworthy services. However, discussions on virtual ethical issues and influence of ethics in e-commerce engagement among Sri Lankans appear to be lacking, indicating an empirical gap, which provided further impetus for the study.

Among the different types of online deceptive practices, namely, B2B, C2B, C2C and B2C, the present study focused on B2C e-commerce dealings since majority of the deceptive practices are found in these types of online businesses (Grazioli & Jarvenpaa, 2003) and also compared to businesses (i.e.B2B) the accessibility to remedies for individual users is comparably limited due to various reasons. Further, this study is focused on online deception that people encounter in internet sources only; since the deceptive claims are higher on the internet compared to other mobile devices included under the term „online“ (Federal Trade Commission (FTC), 2015). Empirically, data collection was mainly from Colombo because in addition to being the capital city, much of the online retail activity takes place in Colombo (“Online retail is booming”, 2016).

The remainder of the paper initially presents the prevailing literature in the study area and highlights the gap in the available literature. The literature review starts with a broad area of marketing ethics and narrows it down to a specific marketing concern called deception. In relation to deception, the effect of deception on consumer behavioural responses is presented. Then it further narrows its focus to online deceptive practices and affected consumer behavioural variables. This discussion leads to the identification of the theoretical gap in the research area. Next the conceptual model used to test the hypotheses is presented along with the hypothesis of the study. Thereafter the elaboration on the methodology and the findings and discussions are provided. Finally the limitations of the study are highlighted and the paper concludes with some indications for further research areas.

## **2. Literature Review**

Under the conditions of global competition, the necessity of monitoring the observance of the ethical principles of marketing is highly considered (Lache, 2013). Marketing ethics can be considered as a subset of business ethics. According to Laczniak (2008) marketing ethics is the systematic study of how moral standards are applied to marketing decisions, behaviours and institutions. Among various areas of marketing, the argument developed in relation to advertising, with high emphasise on deceptive advertising.

The transformation towards a virtual market from a traditional market place has constituted a concern in terms of ethical marketing practices in the online forum as well. It has been identified that consumers are mostly worried about privacy of financial information, web security, fraud, retailer reliability and quality when making online purchases (Adam, Aderet, & Sadeh, 2008). Further a study by Roman and

Cuestas (2008) highlights that with the increasing acceptance of the internet as a source for retail, ethical issues concerning internet usage have prompted serious concerns to consumers and created new challenges to practitioners. In addition a study by Roman (2010) proposes four a scale to measure the consumer perception regarding the ethics of online retailer (CPEOR) using four dimensions namely security, privacy, fulfilment, and non- deception. This indicates that in the online forum too deception is considered as an important ethical issue.

There is no distinct definition provided to online deception. In the offline context deception is usually defined in relation to advertising, “if an advertisement leaves the consumers with an impression/belief different from what would normally be expected if the consumers had reasonable knowledge and that impression is factually untrue/misleading that amounts to deception” (Gardner, 1975, p. 42). Further the FTC defines a deceptive advertisement as any “representation, omission or practice that is likely to mislead the consumer acting reasonably in the circumstances, to the consumer’s detriment” (FTC, 1983, p.3). In the online context, perceived deception has been discussed by previous scholars in terms of the extent in which users felt that the quality of information about the store is “accurate” versus “misleading,” “truthful” versus “deceptive,” and “factual” versus “distorted” (Newell, Goldsmith, & Banzhaf as cited in Grazioli & Jarvenpaa, 2000).

The online retailer can manipulate the information content by withholding, equivocating, or falsifying the content of information presented to consumers in the web- site (Grazioli & Jarvenpaa, 2003). Also, the online retailer can manipulate the information presentation by altering individual features (e.g., size, colour, and interactivity) to either inhibit correct product understanding or foster incorrect product understanding and/or manipulating the level of presentation vividness so as to focus consumers' attention on irrelevant information or distract their attention from relevant information (Grazioli & Jarvenpaa, 2003). It was found that the detection of online deception seems to be a difficult task due to the lack of opportunities for face-to-face interactions (Ben-Ner & Putterman as cited in Roman, 2007). Also, the recognition of deception is restricted because of the high media richness (the attractive presentation of the information) in the online environment (Mitra, Raymond, & Hopkins, 2008). This indicates online deception is one of the important ethical aspects, which need to be studied in depth.

## **2.1 Deception and Consumer Behaviour**

As previously noted, deception was initially discussed in the literature in relation to advertising. One of the core objectives of any advertising attempt is to influence consumer behaviour. A number of studies have analysed the relationship between deceptive practices and consumer behavioural elements. Any intentional alterations when presenting a product or service’s details through advertisements in the form of misleading or false information (deception) were found to have significant negative consumer reactions (Olson & Dover, 1978). If individuals fear they are prone to be cheated in many or most ordinary transaction they will inclines to take costly precautions and end up in purchasing less (Kovacic,2007). A study concerning the consumer reactions for deceptive experiences by Maysonnave and Delorme (2013) concludes consumers care about deceptive advertisements and will be reluctant to buy

the brand anymore and feel distrust about the company once they experience deception.

A study by Fayyaz and Lodhi (2015) using empirical evidence from Karachi and Pakistan mobile phone industry revealed that over promising (deception) in mobile advertisements affect customer trust and make customers less satisfied thereby affecting loyalty. A study by Olson and Dover (1978) states that the deceptive advertising claims had a strongest impact on the cognitive structure of 64% of consumers who got strongly deceived. Further the same study recognised that the deceptive claims prevails in the customers' mind for a long term and leads to unfavourable subsequent product related behaviours. These clearly show deceptiveness has potentially led to negative consumer behaviour.

In terms of online deception and consumer behavioural aspects a study by Reichheld & Schefter (2000) identified that in the online context, customers can easily switch from one web site to another therefore maintaining the loyalty is a crucial task in online businesses. According to a study by Limbu et al. (2011) deception leads to dissatisfaction and eventually has a negative impact on loyalty. The study by Roman (2010) states consumer's perception of online retailers' deceptive practice is one of the major drivers of customer dissatisfaction. For example, online shoppers do not have an opportunity to touch, feel, and evaluate the product physically, thus, their product evaluation and purchase decisions largely rely on information available on the web site (e.g. product description and graphics, customers, reviews). Therefore, online shoppers are more likely to experience post-purchase dissonance when they are deceived, possibly leading to dissatisfaction.

## **2.2 Deception and Online Purchase Intention**

Most specifically, in the offline environment deceptive practices have been found to result in adverse effect on purchase intention (Olson & Dover, 1978). Similarly, online deception has been shown to lead to unfavourable outcomes such as reducing loyalty with regards to online purchase. However, the impact of perceived online deception on purchasing intention of consumer has not been studied yet, and as will be shown in this section, perceived deception could be expected to have an impact on online purchase intention.

Online purchase intention is defined as a situation where a consumer is willing and intends to make online transactions (Pavlou, 2003). There are different research initiatives which have focused upon the factors affecting the online purchase intention such as trustworthiness, privacy, security (Adam et al., 2008), pleasure, web features (Belanger, Hiller & Smith, 2002), perceived risk, consumer trust (Kim, Ferrin, & Rao, 2008), perceived usefulness and perceived ease of use (Zarrad & Debabi, 2012). A UK study reveals perceived ethics of an internet retailer's website significantly affect consumers' trust and attitudes to the retailer's website that eventually have impacts on purchase and revisit intentions (Limbu et al., 2011). In addition, this research suggests in order to convey a sense of ethics of the website, websites should ensure that privacy policies are easy to understand, explain clearly how customer information is used, offer secure payment methods, display clearly the terms and conditions of the online transactions, fulfill the orders and avoid deceptive practices and exaggerations of product characteristics.

Although it has been already identified that the ethical perception of a website affects the online purchase and repurchasing intention and perceived deception has been identified as one of the core e-ethical elements, surprisingly, the direct impact of perceived deception on purchase intention has not been studied. This is a theoretical gap in the literature. However, the literature discussed above that indicate the relationship between ethics of a website and purchase and revisit intentions (Limbu et al., 2011), and previously discussed literature on the impact of perceived deception on purchase intentions in the offline context (Kovacic, 2007; Maysonave & Delorme, 2013; Olson & Dover, 1978) suggest that perceived online deception could impact purchase intentions in the offline context as well. Further, previously discussed literature that indicate the relationship between perceived online deception and other concepts that are closely linked to purchase intention such as satisfaction (Roman, 2010) also provide support for a possible direct relationship between perceived online deception and purchase intention. Therefore this study proposes a relationship between online perceived deception and online purchase intention with the hypothesis:

H<sub>1</sub>: There is a negative relationship between perceived online deception and online purchase intention

### **2.3 Trust as a Mediator**

Trust is a concept closely related to perceived ethics Kramer (as cited in Grazioli & Jarvenpaa, 2000) defines trust as “a state of perceived vulnerability or risk that is derived from individual’s uncertainty regarding the motives, intentions, and prospective actions of others on whom they depend” (p. 571). Trust must exist between a trustor and a trustee. The trustor needs something from the trustee, but the trustor must have faith the trustee will act appropriately (Limbu et al., 2011). In the online marketing context, the operator of the website occupies the position of the trustee, with the consumer assuming the role of trustor. When analyzing the available literature about the independent and dependent variables of the study, namely, online deception and online purchase intention, separately, studies have indicated that trust plays a role in relation to both these variables.

Grabner (2002) mentioned that “trust” plays an essential role in the development of e-commerce and exists as a long term memory in the event of violation, thus influence the acceptance of e-commerce. Trust has been identified as a key challenge for the rapid growth and development of online transactions (Austin, Ibeh & Yee, 2006). A study that attempts to examine the internet customer trust model has highlighted, one of the most important issues faced by internet merchants is how to engender trust in a consumer when that consumer might be located in another country or even a continent away and the consumer has had no prior interactions with the merchant either in traditional or Internet channels. Therefore a consumer's willingness to buy from an Internet seller (i.e., behavioral intention) is contingent on the consumer's attitude towards the store, which, in turn, is affected by the seller's ability to evoke consumers' trust (i.e., belief). Consumers are less likely to patronize stores that fail to create a sense of trustworthiness (Jarvenpaa, Tractinsky, & Saarinen, 1999). In addition, it has been noted that higher trust will not only directly improve attitudes towards a store, but might also have an influence indirectly by way of reducing the perceived level of risk associated with buying from that specific store thus increasing the purchasing

intention (Jarvenpaa et al., 1999). In simple terms trust reduces the perceived risk in the online store and creates a positive attitude towards the retailer, which could finally trigger the intention to buy. These studies clearly indicate that trust impacts consumers' online purchase intention. Hence the second hypothesis of the study.

On the other side of equation, perceived deception has been identified as having an effect on trust (Grazioli & Jarvenpaa, 2000). Further, in a UK study on the effects of consumers' perceptions of the ethics of retailers' web sites on intention to revisit and purchasing intention suggests consumers' perceived ethical behaviour of the web site will shape consumers' attitudes and trust and ultimately affect intentions to purchase from and revisit the web site (Limbu et al., 2011). Here consumer attitude and trust plays a mediating role in the relationship between perceived ethical performance and purchase/repurchase intention towards a website.

The above evidence indicates the following: first, trust has an impact on purchase intention. Second, perceived deception has an impact on trust. Third, trust mediated the relationship between the perceived ethical behaviour of a website and purchase intention towards the website.

Based on the above evidence it can be concluded that deception negatively impact trust and trust plays a vital role in the engagement of e-commerce. Therefore we can argue that, trust acts as a mediator in the relationship between the online perceived deception and online purchase intention. In other words, the perceived deception could influence the purchase intention through its influence on trust. The discussion has demonstrated the plausibility of placing the trust as a mediating factor in explaining the relationship between perceived online deception and online purchase intention. Hence the second hypothesis of the study:

H<sub>2</sub>: Trust mediates the relationship between perceived online deception and online purchase intention.

These relationships are depicted in Figure 1.

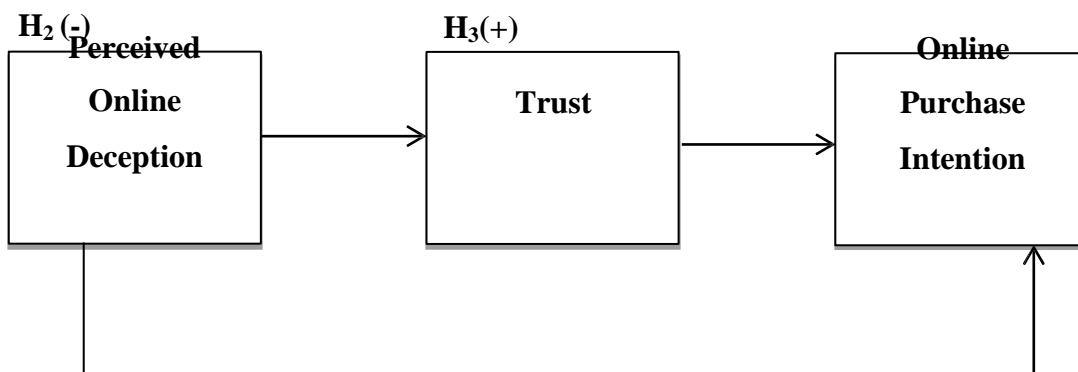


Figure 1. The conceptual model

### 3. Methodology

This was a positivistic quantitative research. In operationalising the variables, measurement instruments used in previous research were utilized in order to ensure validity and reliability. Perceived online deception was operationalised using the scale

adopted by Roman (2007) in which five indicators have been used. Scales adopted by Limbu et al. (2011) were used to measure both trust – with three indicators, and online purchase intention – with four indicators. All scales were five-point Likert scales.

The research utilized a cross sectional survey strategy. The sample comprised 110 male (44) and female (66) respondents who engage in online shopping. They were from the age category 18-34. This age category demonstrates a high computer literacy (Department of Census and Statistics, 2016) and has purchasing power. The educational attainment of sample was GCE O/L or above – an education level demonstrating higher computer literacy (Department of Census and Statistics, 2016). All except two participants were from the Colombo district. In order to overcome the difficulty in identifying the research participants who involve in online purchases frequently and have experienced online deceptive practices, snowball sampling was employed as a sampling technique. Data was collected through a self-administered questionnaire which was distributed mainly as a Google form through the Facebook. In addition, a few hard copies were personally distributed and collected.

Data analysis was performed using SPSS 16 software. Hypotheses were tested using regression analysis where the method proposed by Kenny and colleagues (as cited in Frazier, Tix & Barron, 2004) was utilized in the mediation test.

#### **4. Findings**

Prior to hypotheses testing, one indicator, „exaggerates offerings“, had to be dropped from the perceived online deception scale due to internal consistency problems. With the omission of this item all three scales – perceived online deception, trust, and purchase intention – had acceptable Cronbach alpha values above 0.6 (Malhotra, 2010). In testing the two hypotheses the method outlined for mediation testing by Kenny and his colleagues using multiple regressions was utilized. This approach involves testing three equations (as cited in Frazier et al., 2004). First, the outcome variable is regressed on the predictor to establish that there is an effect to mediate (total impact; Path c). (In this study this was  $H_1$ : There is a negative relationship between perceived online deception and online purchase intention.) Second, the mediator is regressed on the predictor variable (Path a). In the third equation, the outcome variable is regressed on both the predictor and the mediator. This provides a test of whether the mediator is related to the outcome (Path b) as well as an estimate of the relation between the predictor and the outcome controlling for the mediator (direct impact; Path  $c^1$ ). Depending significance of the direct effect of the predictor, there may be a partial or complete mediating effect. These different paths are presented graphically in Figure 2.

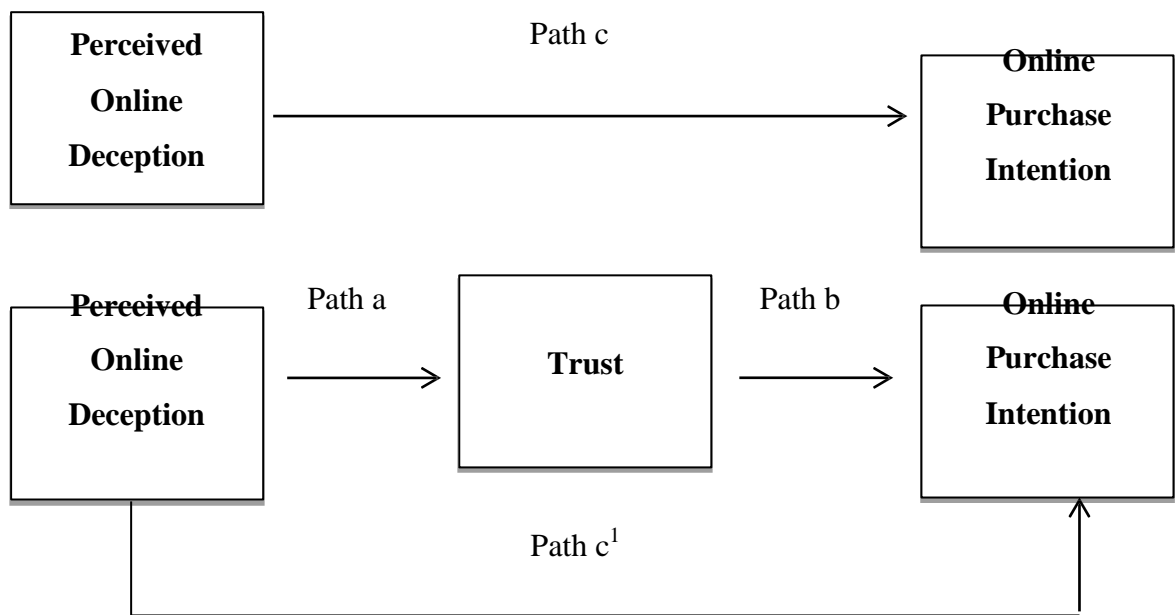


Figure 2. Regression paths in hypothesis testing

In a regression analysis several assumptions have to be met in order to be able to generalize the findings to the wider population (Field, 2009). Accordingly, the first assumption is “Independent errors”. This says the residual terms should be uncorrelated. Durbin-Watson test can be used to check this assumption which tests the serial correlation between errors. Field (2009) specifies that as a rule of thumb, Durbin – Watson value less than 1 or greater than 3 are considered as problematic. The Durbin – Watson statistic in these regressions were between 1.9 and 2.5. The other assumptions are homoscedasticity and linearity of the regression model. These assumptions were examined using the standardized residual plots (Field, 2009) and were found to be randomly scattered, satisfying the assumptions. In the third regression, which is a multiple regression, multicollinearity was also tested. According to (Field, 2009), if average VIF is substantially greater than 1 and tolerance below 0.2 indicates a potential problem. The current model shows a VIF value of 1.075 and the tolerance value of 0.931 which indicated there was no multicollinearity.

Results of the hypotheses tests are given in Table 1. As indicated,  $H_1$  was not supported at the significance level of  $p < .05$ . However, at  $p < .1$  level of significance, it was established that perceived online deception has a negative impact on purchase intention. Further as per the statistical analysis perceived online deception accounts for 3% of the online purchase intention. This shows fairly a low percentage of the variation in online purchase intention can be explained by perceived online deception.

As previously noted, in testing the mediation effect of trust ( $H_2$ ) the method outlined by Kenny and his colleagues using multiple regressions was utilized (as cited in Frazier et al., 2004). The total impact of perceived online deception on purchase intention (Path c) was established in  $H_1$  ( $p < .1$ ). Regression 2 in Table 1 indicates that perceived online deception has a significant ( $p < .05$ ) negative impact on trust (Path a). Regression 3 indicates that when purchase intention is regressed on both trust and perceived online deception, trust has a significant positive impact ( $p < .05$ ) on purchase



intention (Path b) and that the direct impact (Path c<sup>1</sup>) of perceived online deception on purchase intention is insignificant (p<.1). This indicates that trust completely mediates the relationship between perceived online deception and purchase intention (Frazier et al., 2004).

Table 1  
*Results of Hypothesis Tests*

Model	B	Std. Error	Beta	p
<u>Regression 1 (Path c)</u>				
Dependent: Purchase intention				
Predictor: Perceived online deception	-.204	.112	-.172	.072
<u>Regression 2 (Path a)</u>				
Dependent: Trust				
Predictor: Perceived online deception	-.321	.113	-.263	.005
<u>Regression 3</u>				
Dependent: Purchase intension				
Predictors:				
Perceived online deception (Path c <sup>1</sup> )	.003	.089	.002	.976
Trust (Path b)	.645	.073	.663	.000

#### 4.1 Significance of the Mediation Effect

As a final step the significance of the mediating effect was established using the following method (Frazier et al., 2004). The product of Paths a and b (which is the mediated effect) divided by a standard error term a z score of the mediated effect. If the absolute value of this z score is greater than 1.96, the mediating effect is significant. The error term used by Kenny and colleagues (as cited in Frazier et al., 2004) is the square root of  $b^2sa^2 + a^2sb^2 + sa^2sb^2$ , where a and b are unstandardized regression coefficients and sa and sb are their standard errors. According to this method the formula with relevant values are given in Table 2.

Table 2  
*Z Score of Mediation Effect*

$$Z \text{ score} = \text{Path a} \times \text{Path b} / \sqrt{b^2sa^2 + a^2sb^2 + sa^2sb^2}$$

$$Z \text{ score} = -0.321 \times 0.645 / \sqrt{(0.645^2 \times 0.113^2) + (-0.321^2 \times .073^2) + (0.113^2 \times 0.073^2)}$$

$$Z \text{ score} = -2.97$$

As shown in Table 2 the mediation effect is significant at p<.05. Thus H<sub>2</sub> is supported, where trust is established as fully mediating the impact of perceived online deception on purchase intention.

#### 5. Discussion

The intention of the study was to examine the relationship between perceived online deception and online purchase intention. This relationship is explained by introducing trust as a mediating factor.

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In identifying whether perceived online deception has an impact on online purchase intention, prevailing literature has established that in offline environments deceptive practices have been found to result in adverse effect on purchase intention (Olson & Dover, 1978). As previously noted perceived deception has been previously identified as having a negative impact on various aspects of consumer behaviour such as satisfaction, loyalty, both in the on and offline contexts (Fayyaz & Lodhi, 2015; Limbu et al., 2011; Roman, 2010). In offline contexts, perceived deception has long been found to have an impact on purchase intention (Olson & Dover, 1978).

Somewhat contrary to the offline findings, the findings of this study indicate there is an influence of perceived online deception on online purchase intention only at  $p < 0.1$  significance. In a previous study, Limbu et al. (2011) have similarly found that in the online context, perceived deception has no direct impact on loyalty, although they found an indirect impact via satisfaction. Grazioli and Jarvenpaa (2000) have identified that actual fraud of websites have little direct impact on purchase intention, and they note that this could be because people often fail to detect fraud and also because there is a “complex relationship” among variables such as “assurance and trust mechanisms, perceived deception, risk, trust and attitude toward the store” (pp. 406-407) in predicting purchase intention. Thus, the low significance of the impact of perceived deception on purchase intention could be a phenomenon to be expected in the online context.

The second hypothesis of the study which was to identify whether trust mediates the relationship between perceived online deception and online purchase intention, was tested using three relationships. First, the relationship between online deception and purchase intention which was discussed earlier. Second is the relationship between online deception and trust where several studies have identified that perceived deception and ethical practices of websites have an impact on consumer trust (Grazioli & Jarvenpaa, 2000; Limbu et al., 2011). The present study also identified this relationship. Finally, when online purchase intention was regressed on both trust and perceived deception, trust was found to be mediating the impact of perceived deception completely. The importance of trust in consumers’ willingness to engage in purchasing in the online platform has been established in several studies (Austin et al., 2006; Jarvenpaa et al., 1999). Further, a study highlights consumers’ perceived ethical behaviour through the web site shape consumers’ attitudes and trust and ultimately affect intentions to purchase from and revisit the web site (Limbu et al., 2011). Therefore this research complements these studies by establishing the mediating role played by trust in the impact of perceived online deception on purchase intention.

## **6. Implications, Limitations and Further Research**

This study indicated that perceived online deception has an impact on purchase intentions through trust. In other words, perceived online deception affects trust and that leads to an adverse impact on online purchase intention. This finding enhances the current body of literature which highlights that non-adherence to ethical practices and misleading marketing initiatives leads to negative consumer responses. It also strengthens Limbu et al.’s (2011) claim that avoiding deceptive practices plays an important role in conveying a sense of ethicality of a website.

One limitation of the study is the use of scales that have been developed to be used in Western countries. Although the research instruments were adopted from previous literature, as noted in the findings, there were some internal consistency issues that necessitated one indicator to be dropped from the study. This suggests possible issues of the measurement instrument in relation to the Sri Lankan context. Thus, future studies could test the measurement instrument in the Sri Lankan context and adapt it to the socio-cultural context of Sri Lanka if necessary. In addition, some of the characteristics of the data suggest another avenue for further research. A previous research has identified that educational level of consumers moderates the relationship between perceived deception and loyalty of consumers (Roman, 2010). The possibility of demographic variables moderating the relationship between perceived deception and purchase intention was not hypothesised in this study. This was because the sample size precluded subdivision of the sample into groups.

However, an examination of the data of the study (not presented in the paper) indicates that there appears to be some differences in the perception of online deception as well as online purchase intention depending on the age and educational level of consumers, suggesting a possible moderating influence of these demographic variables on the relationship between the two variables. Future studies with larger samples could examine the impact of such demographic differences on the relationship between perceived deception and online purchase intention, especially in the Sri Lankan context.

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