On and Off-line Purchase Intention: the Role of Brand Trust as Moderator of Risk Perception

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Abstract
Interpersonal trust is considered a risk moderator in choice under uncertainty (Einhorn, Hogarth, 1988) so it can help people to make decisions otherwise considered too risky (Galli, Nardin, 1997). Specifically, trust has been defined as a multi-dimensional construct, with cognitive and affective dimensions playing a different role to reduce perceived risk in low or high complexity tasks. In marketing field, trust has received increasing interest and research on brand trust scale validation has restated the multi-dimensionality of the construct, with a first detection of two crucial dimensions -competence and benevolence- (Delgado, 2003, 2004). Further research has enclosed other two dimensions, honesty and empathy (Martini, Galli, Arseni, 2016), and has hypothesised an evolutionary pattern, with cognitive dimensions preceding emotional ones in brand trust strengthening. With these premises, the research is aimed to evaluate the role of brand trust as moderator of risk perception in different buying contexts, characterized by increasing perceived complexity of the task. More specifically, the hypotheses are: purchase intention decreases when perceived complexity of the task increases; decreasing purchase intention is due to increasing risk perception; brand trust, with its cognitive and affective dimensions, is able to reduce risk perception and to moderate its impact on purchase intention. To test hypotheses, 432 Italian respondents to a structured online questionnaire had to declare their intention to buy a pair of Nike shoes, facing three different buying contexts: a traditional off-line store, the official online brand store and a famous on-line retailer. The results confirm that buying online is more complex than buying offline, with a corresponding increasing of risk perception and decreasing of purchase intention. Brand trust can reduce risk perception in both off and online contexts, with cognitive dimension playing a crucial role in offline context and emotional dimension in online one.

Keywords: Online buying behaviour, Perceived risk, Perceived complexity, Brand trust.

JEL classification: M31

1. Introduction
Several authors (Suh, Han, 2003; Pavlou, Fygerson, 2006; Vos et al., 2014, Hong, Cha, 2013; Kamarulzaman, 2007) have underlined the crucial relationship between perceived risk and trust in determining online buying intention. More specifically, perceived risk on product and vendor features could affect consumer trust and therefore reduce or increase his/her intention to buy in an e-world (Pappas, 2016).
Because of this important relationship, different types of risk, able to mitigate trust construction and strengthening, have been investigated to identify which marketing actions on products and online vendors should be implemented to maintain an high level of trust also in a virtual world. All different types of risk can actually be emphasized by the complexity of the task the consumer has to carry out. Even if the relationship between trust and risk, both in on- and off-
line buying contexts, is well-known and supported in different research fields, a large part of literature on this subject considers trust as a mono-dimensional construct. Through scales including a few items (Pappas, 2016), trust is represented as reliability on firms’ non-opportunistic behaviours, on their honesty and care assistance and/or on products quality features. Actually, different authors have suggested the multi-dimensional nature of interpersonal trust construct (Delgado-Ballester et al., 2003; Delgado-Ballester, 2004; Martini, Galli, Arseni, 2016). Adopting key features of interpersonal trust, Delgado-Ballester (2003, 2004) suggested a brand trust scale, with two main dimensions -competence and benevolence- to define the whole construct. Other authors have underlined the existence of more than two dimensions both in interpersonal and brand trust. If trust is a bi- or multi-dimensional construct each dimension needs to be elicited in order to evaluate its role in trust-risk relationship. The need to define exactly the multi-dimensionality of the construct of trust –both interpersonal and brand trust- is due to the highly different impact each dimension may have, in a direct or mediated way, on online purchase intention.
Several authors have argued that perceived risk affects buyers trust (Pappas, 2016), whereas the causal relationship between the constructs could also be inverted: trust could mitigate risk perception, which, in turn, directly affects purchase intention. Moreover, it has been repeatedly asserted that risk increases when uncertainty increases, so that this last variable needs to be considered to completely assess the role of risk and trust in online purchase behaviour.
This paper focuses on on-line and off-line perceived risk and purchase intention and it aims to evaluate the impact of brand trust on risk perception and finally on purchase intention, considering the different role played by uncertainty in a real and virtual world. In order to achieve this objective, the paper previously suggests a multi-dimensional scale of brand trust, verifies the different perception of risk and uncertainty in online and off-line behaviour for the same product and restates the higher purchase intention consumers show in real word if compared with online world. Finally, it compares the effect the main dimensions of brand trust have on risk perception in online and offline purchases.

2. Theoretical framework
Trust is as an important factor that helps to explain the thickness of the relationship between two counterparts, for example, buyers and vendors or brand and consumer.
In the latter case, trust reveals the generic will of the consumer to rely on the brand and it is known as brand trust. According to Chaudhuri and Holbrook (2001), if consumers trust a brand, they think that brand can always maintain its promises and deliver the related benefits. Other authors (Delgado-Ballester et al 2003) have extended this meaning including, in addition to the functional component, also the interest brand shows in consumers well-being. Many researches suggest that brand trust has a relevant role in consumer behaviour and highlight the role of brand trust as determinant of different levels of consumer engagement or attitudinal loyalty (Delgado-Ballester et al., 2004; Garbarino Johnson, 1999; Chaudhuri Holbrook, 2001; Didier Lombart, 2010; Gecti e Zengin, 2013; Hanzae e Andervazh, 2012; Matzker et al., 2008; Sung et al.; 2010).
Even if there is a general agreement about the concept and its relevance, there still are different measurement models, both mono-dimensional and multi-dimensional, to estimate brand trust. In particular, Li et al. (2008) emphasize the need to consider the concept of brand trust as a multi-dimensional construct with components forming a second-order global factor. Delgado-Ballester et. al. (2003; 2004) detect two main components, brand reliability and brand benevolence, derived from psychological, socio-psychological and marketing literature. The former concept refers to the technical endowment of the brand, that is, its ability to provide the buyer with an adequate supply. The latter concept reveals the brand’s will to behave in favour
of consumers interest. In this case, brand trust does not simply represent a rational expectation but, rather, something consumers can feel and link to their emotional sphere.

According to the literature on inter-organizational and inter-personal relationships, other components can explain how trust emerges. Beyond competence and benevolence (Jarvis et al. 2003), often considered as relevant parts of trust construct, other authors suggest that other dimensions can be introduced (Lazerlere e Huston, 1980). In the domain of interpersonal relationship, for example, dimensions as discretion, empathy, credibility, honesty have been suggested and their relevance asserted, depending on the nature, interdependency and lasting of personal interactions. (Sheppard and Sherman 1998; Doney and Canon 1997; Ganesan, 1994; Zaheer et al. 1998; Jap, 1999; Delgado-Ballester et al., 2003, Delgado-Ballester, 2004; Jarvis et al., 2003; Li et al., 2008)

Even if all these dimensions are well defined in the framework of inter-personal relationship, a selection of them can be retained also to represent brand trust concept.

Both trust and brand trust share a common multi-dimensional architecture that has rational or cognitive aspects, on one side, and emotional or affective ones, on the other. More in depth, dimensions like competence and honesty feed the rational side of trust, that is the complete reliability on lasting good performances from the counterpart. On the emotional or affective side, benevolence, for example, refers to perception a part will take care of the counterpart well-being.

Wicks et al. (1999) assign to the emotional dimension the ability to nourish the development of a relationship and to the rational one the ability to maintain it, making the partner’s behaviour predictable. Moreover, Johnson-George and Swap (1982) emphasize the possibility that both rational and emotional components of trust may appear in different ways and moments.

Williams (2001) suggests that trust evolve during time through a learning process that affects both parties so that its dimensions evolve and change coherently with the relationship life cycle. With a different perspective, other authors suggest that the two general components of trust, rational and emotional, are strongly interconnected and can’t be identified one by one during the relationship (Doney e Cannon, 1997; Kumar et al., 1995). However, Lewicki (et al.,1995; et al., 2006) argues that rational components of interpersonal trust anticipate emotional ones. Many of the theoretical considerations from literature review about trust development in interpersonal relationship can be included in brand trust concept, too.

Similarly, all dimensions involved in brand trust are not always simultaneously present and do not have always the same intensity (Li et al., 2008). Moreover, it can be argued that a causal relationship exists between the dimensions involved from time to time. A reasonable causation displays that rational dimensions, likely at the beginning of the brand relationship, are progressively replaced by those more emotionally rooted (Gronroos, 1994, 2000; Gummesson, 1994 e 1998; Harris e Goode, 2004; Oliver, 1997 e 1999). Competence should precede, and partially shape, the consumer perception of a sincere respect of his/her interest and wellness (Delgado et al., 2003).

According to the literature, in this research we assume brand trust as a multi-dimensional construct based on four factors: competence, honesty, empathy and benevolence.

Competence is an indicator of experience, professional quality and ability to respond to buyer needs. Honesty describes brand sincerity (Morgan and Hunt, 1994, Geyskens et al 1996, Kumar et al., 1995), while empathy (Sheppard and Sherman, 1998) represents the brand ability to systematically interact and communicate with its buyers. Benevolence is the sincere willingness of brand to help its buyers.

Both trust and brand trust have relevant interactions with other variables able to shape consumer behaviour. Indeed, many scholars agree on the role of trust as risk moderator in choice under uncertainty (Johnson-George, Swap, 1982; Sheppard, Sherman, 1998; Davis,
Schoorman, Hoon Tan, 2000). Trust encourages people to choose courses of action otherwise too risky. One person trusts another when he/she chooses to work with him/her, even if the course of action that he/she is carrying out may appear risky or uncertain (Luhmann, 1988). If a decision maker chooses a specific partner to undertake an action under uncertainty and with potentially negative effects, he/she is betting on the commitment of the partner to achieve a positive outcome. In this case, trust becomes the critical resource that makes possible a course of action otherwise too risky to be undertaken (Galli Nardin, 1997). Surely, as it has been advocated from several authors, online buying behaviour is considered riskier than ‘conventional’ one; if risk perception increases in online behaviour trust can then assume an important role to moderate it in order to maintain high purchase intention. Therefore, our hypotheses are:

**H1: In online buying behaviour, brand trust reduces perceived risk, which, in turn, impacts negatively on purchase intentions**

**H2: In online buying behaviour, cognitive dimensions of brand trust have a major role in perceived risk reduction when perceived complexity of the task is low**

**H3: In online buying behaviour, emotional dimensions of brand trust have a major role in risk reduction when perceived complexity of the task is high**

According to the assumptions of Tversky and Kahnemann’s Prospect Theory (Tversky, Kahneman, 1979, 1981, 1986), people show a systematic gap between stated probabilities of a possible outcome and perception people have of the same phenomena. In general, people strongly tend to overweight small probabilities and underweight large probabilities (Einhorn, Hogarth, 1988). Moreover, it seems that stated probabilities underweighting increases when uncertainty about possible outcomes increases (Einhorn, Hogarth, 1988). Different elements have been advocated as moderators of stated probabilities underweighting and trust is one of them. However, risk perception alone is not enough to define the specific role of trust in decision-making.

Different decision contexts may produce a different perception of the complexity of the task to be performed and, consequently, may alter risk perception. In these cases, people with trust endowment toward others, or brands, will behave differently (Lewicki, Bunker, 1996; Sheppard, Sherman, 1998).

Perceived complexity refers to the conditions of a system, characterized by a certain level of order/disorder, with too many elements and reciprocal interactions to completely understand it (Bennet e Bennet, 2004). In these contexts, behaviour can vary significantly because people are not able to organize all information relevant to a proper decision. To synthesize, risk perception depends on task complexity and brand trust may partially counterbalance their negative direct and indirect effects on purchase intention.

**H4: A high-perceived complexity of the task increases perceived risk associated with the task and reduces purchase intention.**

A high perceived complexity may lead to perceive an high level of uncertainty and, consequently, a high perceived risk and therefore to reduce intention to buy.

3. Methodology, data analysis and results

The questionnaire contained constructs measures derived from literature (Gronroos, 1994, 2000; Gummesson, 1994 e 1998; Harris e Goode, 2004; Tversky e Kahnemann, 1979, 1981, 1986; Bennet e Bennet, 2004) and partially adapted to the research questions of this paper and it was based on brand Nike and on the purchase of a pair of Nike shoes. Brand trust was measured through 12 items to define its four sub-constructs – competence, honesty, empathy, and benevolence- risk through 3 items, that estimated perceived success probabilities,
complexity through 3 items, to describe the perceived uncertainty of the task, and purchase intention through 3 items (see appendix at the end of the paper). Questionnaires also included other measures of brand equity and consciousness not further used for this investigation and, in the last section, demographics. Questionnaires were submitted online to 471 people in January and February 2017 and respondents could casually meet one of the following three versions of it: purchase a pair of Nike shoes at an official retail store (OFF); purchase them at the official online brand store (ONO) and finally purchase them online at Amazon store (ONR). In the first part of the questionnaire respondents faced 16 statements (on a 7 point Likert scale, strongly agree/strongly disagree) regarding brand trust (of which 12 have been retained in the model) 3 statements regarding risk perception, perceived complexity and purchase intentions. Before analysing data 39 questionnaires were removed because of their incompleteness. The collected data were analysed using descriptive statistics, exploratory factor analysis and regression. Descriptive statistics helped to distinguish different levels of perceived risk and complexity and purchase intention in the three sets submitted to the respondents (OFF; ONO; ONR) (table 1).

<table>
<thead>
<tr>
<th>Measures</th>
<th>OFF set</th>
<th>ONO set</th>
<th>ONR set</th>
<th>F=9,41, p=0.00</th>
<th>ONR and ONO set means different from OFF set mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived risk*</td>
<td>5,15</td>
<td>4,69</td>
<td>4,40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived complexity</td>
<td>2,75</td>
<td>3,37</td>
<td>3,65</td>
<td>F=14,39, p=0.00</td>
<td>ONR and ONO set means different from OFF set mean</td>
</tr>
<tr>
<td>Purchase intention</td>
<td>3,85</td>
<td>2,16</td>
<td>2,44</td>
<td>F=43,02, p=0.00</td>
<td>ONR and ONO set means different from OFF set mean</td>
</tr>
</tbody>
</table>

* Perceived risk is here measured as expected success probabilities

Table 1. Perceived risk and complexity, purchase intention means in online and offline behaviour

The OFF set is characterized by the highest expected success probabilities (that is the lowest perceived risk), the highest purchase intention and the lowest perceived complexity of the task. The ONO and ONR set distinguish themselves from OFF set because of lower purchase intention and higher perceived risk and complexity of the task.

Structural equation model was then employed to estimate the relationships among model constructs, according to the main advantage SEM has in estimating and testing causal relationships among constructs (Weston and Gore, 2006). According to Anderson and Gerbing (1988) a two-step path was adopted and first the measurement model was estimated. The measurement model contained 21 items and 7 factors and yielded an adequate fit (Chi-squared=292,15; df=168; Chi-squared/df=1,74; CFI=0,99; RMSEA=0,041); all items loading on their constructs were significant with the lowest T-value being 14,51 and the average variance captured by each construct always greater than 0,50 (except for empathy = 0,50) (Fornell & Larcker, 1981) (table 2).
Table 2. Measurement model (total sample, n=432)

For discriminant validity (Anderson & Gerbing, 1988; Bagozzi, 1981) the unconstrained models were statistically better than the constrained ones, on the basis of the chi-squared difference tests between each pair of scales correlation unconstrained and constrained to 1. Figure 1 depicts the structural model with brand trust impacting on perceived risk, that, in turn, affects purchase intention. Complexity of the task affects perceived risk and purchase intention.

![Figure 1. General model](https://www.etimm.ase.ro)
Brand trust is represented in its sequential model, with competence preceding and supporting honesty, that, in turn, enforces empathy, which finally supports benevolence. Only the first cognitive and the last emotional sub-constructs of brand trust (competence and benevolence) have been related to perceived risk.

The model was first tested with the inclusion of all cases (OFF, ONO and ONR set and 432 respondents) and then separately for each set, with results showed in table 3.

<table>
<thead>
<tr>
<th></th>
<th>General model</th>
<th>OFF set</th>
<th>ONO set</th>
<th>ONR set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Com→Hon</td>
<td>0.47 (8.47)</td>
<td>0.47 (5.94)</td>
<td>0.49 (4.18)</td>
<td>0.42 (4.87)</td>
</tr>
<tr>
<td>Hon→Emp</td>
<td>0.78 (16.02)</td>
<td>0.79 (10.85)</td>
<td>0.78 (7.82)</td>
<td>0.76 (10.94)</td>
</tr>
<tr>
<td>Emp→Ben</td>
<td>0.86 (19.81)</td>
<td>0.90 (14.12)</td>
<td>0.80 (9.73)</td>
<td>0.82 (9.11)</td>
</tr>
<tr>
<td>Com→PR*</td>
<td>0.28 (4.98)</td>
<td>0.41 (3.73)</td>
<td>0.39 (3.62)</td>
<td>0.06 (0.94)</td>
</tr>
<tr>
<td>Ben→PR*</td>
<td>0.22 (3.86)</td>
<td>0.21 (1.89)</td>
<td>0.05 (0.49)</td>
<td>0.32 (3.96)</td>
</tr>
<tr>
<td>PC→PR*</td>
<td>-0.44 (-7.13)</td>
<td>-0.19 (-1.78)</td>
<td>-0.33 (-3.32)</td>
<td>-0.57 (-5.61)</td>
</tr>
<tr>
<td>PR*→PI</td>
<td>0.28 (4.32)</td>
<td>0.22 (1.75)</td>
<td>0.22 (1.99)</td>
<td>0.27 (2.25)</td>
</tr>
<tr>
<td>PC→PI</td>
<td>-0.11 (-1.91)</td>
<td>0.03 (0.27)</td>
<td>0.05 (0.60)</td>
<td>-0.28 (-2.47)</td>
</tr>
</tbody>
</table>

Fit indices
- **Chi-squared**
  - OFF set: 363.86
  - ONO set: 290.78
  - ONR set: 287.88
- df
  - OFF set: 181
  - ONO set: 181
  - ONR set: 181
- RMSEA
  - OFF set: 0.041
  - ONO set: 0.039
  - ONR set: 0.044
- CFI
  - OFF set: 0.99
  - ONO set: 0.99
  - ONR set: 0.98

*Perceived risk is here measured as expected success probabilities and therefore its impacts on purchase intention with a positive algebraic sign.

**Results (t-value)**

In the general model, both cognitive and emotional traits of brand trust impact on expected success probabilities (that is, reduce risk perception), which, in turn, reinforce intention to buy. Perceived complexity of the task significantly reduces success probabilities but it hasn’t a direct impact on purchase intention. The general model confirms the ability of brand trust to reduce risk perception which has a negative impact on purchase intention.

In the OFF set, when people are asked to buy a pair of Nike shoes at a conventional Nike store, perceived risk, which is very low in this scenario, doesn’t impact on purchase intention and it is moderated only by the cognitive dimension of trust (competence). There aren’t any significant relationships between perceived complexity, on one side, and perceived risk and purchase intention, on the other.

In ONO and ONR sets, that depict the model when people are asked to accomplish the same task online, perceived risk reduces purchase intention and brand trust can mitigate risk perception. This happens in two different ways, depending on the set people face. If the product has to be bought at online Nike store competence is the only dimension of brand trust that intervenes to moderate risk. When the online store is Amazon, brand trust still reduces risk perception but, in this case, benevolence plays the main role to mitigate risk. Moreover, in online sets perceived complexity of the task increases risk perception and in the ONR set it impacts directly also on purchase intention.

**4. Limits, further research and implications**

This study has been conducted on a limited number of cases and needs to be extended to different product categories and brands to be opportunely corroborated. Differently from what expected, there isn’t a gradual increase of perceived risk and complexity, moving from the official online store to the online multi-brand retailer. To correctly test the model, there should be significant differences among the different sets. Anyway, online buying behaviour is confirmed to be riskier and more complex than offline one. To complete the model, also trust toward retailer, that is store trust, should be measured to evaluate its interaction with brand.
trust, perceived risk and complexity. Even with the limits described, some implications are relevant. Brand trust has to be measured with all its sub-dimensions to correctly understand how it works and impacts on relevant constructs as risk perception. Equally relevant, brand trust doesn’t directly relate to purchase intention but it is a strong dimension that intervenes only on risk perception. The ways brand trust acts on risk are different. When people are asked to buy at the online or traditional Nike store, only the cognitive dimension plays a role to mitigate perceived risk. Benevolence becomes the only relevant dimension when the same brand has to be bought at the multi-brand online retailer. This could mean that emotional dimensions emerge when the task is perceived as more articulated, complex and risky. Indeed, only in ONR set perceived complexity impacts on both risk perception and purchase intention. Moreover, considering both cognitive and emotional dimensions, brand trust can help people to act and buy when the decision becomes riskier and more complex. Cognitive dimensions support decisions mainly in low complexity task whereas emotional dimensions become crucial in medium-high complexity ones: they increase perceived success probabilities, support purchase intention and make buying decision still attractive. Finally, it is important to underline that brand trust still plays the role of risk moderator even when the online store is not directly connected with the name of the brand. Because of the sequential path that characterizes brand trust and the relevant role played by emotional dimensions, firms surely need to confirm their competence, experience and ability to match buyer’s expectations. These dimensions alone are not enough to support strong relationships able to persist even when the decision context becomes riskier and more complex. Firms have to systematically interact and communicate in order to confirm in each available ‘contact situation’ their honesty, empathy and benevolence toward their buyers to ensure higher purchase intentions. Since brand trust is a risk moderator both in low and high complex buying sets, it becomes crucial to support firms multi and omni-channel policies, today so widely adopted to face more and more challenging markets.

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