HOW MUCH INFORMATION IS ENOUGH?!

How different amounts of product information regarding products' sustainability influence consumers' purchase intention in online shops

MASTER THESIS

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How much information is enough?! – How different amounts of product information regarding products' sustainability influence consumers' purchase intention in an online shop

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Last year, Gerd Müller, the German Federal Minister for Economic Cooperation and Development, initiated a debate about a new textile eco-label for the German textile industry. This eco-label should be one essential measure of the voluntary alliance of retail umbrella organizations and leading German textile companies. This debate and a change of consumers' attitudes towards an environmentally-friendly lifestyle in combination with the increasing number of online shoppers, who are looking for high quality information, leads to the question, how different amounts of product information regarding products' sustainability influence consumers' purchase intention in an online shop.

Data for this experiment was collected by using a quantitative online survey. In total, 238 people participated in this study, in which the amount of written product information, determined by the number of characters, and the presence of different types of eco-labels, according to their responsible organization, was manipulated. Six different conditions were tested according to six different combinations of little vs. much information in relation to governmental vs. institutional vs. no label.

The results of this study show significant conclusions with regard to the positive effect of trust on purchase intention as well as a positive effect of product information quality on trust. Moreover, an interaction of written information and eco-labels leads to improved trust in comparison to separate influence factors, whereas credibility was identified as covariate of the relationship between eco-labels and trust. No conclusions can be made about different types of eco-labels, because the manipulation checks only succeeded partially, although they were successfully tested in a pretest.

1. Introduction

Ever since last year, when Gerd Müller, the German Federal Minster for Economic Cooperation and Development, initiated a debate about a new textile eco-label for the German textile industry, both the media and the people in general have been becoming more aware of the concept of eco-labels. The topic received broad coverage, especially in national newspapers. Although the trend towards fair trade, fair production or environmentally friendly produced items has already been part of the public agenda for a few years, the debate on eco-labels drove the discussion even further. According to Minister Müller, the German textile industry should take on a pioneering role and, in doing so, improve the working conditions in factories of low-wage countries and guarantee social and ecological standards along the whole supply chain. One essential measure of this voluntary alliance is the development of a special textile eco-label symbolizing and guaranteeing the aspired goal of better social and ecological standards along the textile supply chain.

Quite recently, the previous action plan of this voluntary alliance was revised, due to the fact that many companies did not agree to it. However, companies will have to commit themselves to this action plan if they are part of this alliance. The action plan consists of goals, an implementation strategy, structures and joint work as well as conditions of participation. One goal, however, remained unchanged: the action plan requires transparent communication and the inclusion of a special eco-label to make sustainable textiles easily recognizable for consumers. Several retail umbrella organizations and leading companies of the German textile industry joined the textile alliance, which is a huge step that has been taken towards the intended improvements.

A reason for this great support of leading companies might be the overall development towards a more sustainable society. This is not only related to textiles, but also to food, energy, the environment and a "greener" lifestyle (Hustvedt & Dickson, 2009). In general the increasing awareness of own impacts of individual (purchasing) behavior is responsible for this new attitude (Thogersen, 2000). This phenomenon is called green consumerism, defined as "the purchasing and non-purchasing decisions made by consumers, based at least partly on environmental or social criteria" (as cited in Neergaard & Pedersen, 2003). In order to make an eco-conscious purchase decision, eco-labels offer a good opportunity to find out about the products environmental and social footprint, so that consumers know if these manufacturing criteria correspond to their personal environmental or social criteria.

Even if eco-labels can be categorized and defined according to their individual criteria, labelling in general is defined as a voluntary certification method for the sustainable performance of a company or a product. An eco-label itself is defined as "a label that approaches the overall environmental aspects of a product or service within a certain product or service category" (Goel, 2012, p. 337). This is a general definition, which is not only used for apparel eco-labels, but also for other types of labeled products, like food. (Gallastegui, 2002; Zepeda, Sirieix, Pizarro, Corderre & Rodier, 2013).

Eco-labels are often used by companies and retailers to differentiate their sustainable products from other products in the same product group, to increase sales or to improve the image of the product (Belson, 2012; Goel, 2002). Furthermore, they are indicating and informing consumers about the positive consequences of the product for the environment or about the company's environmental protection goals, and could therefore also be seen as a type of product information (Belson, 2012).

Generally, as already stated in several studies, consumers take environmental information into consideration when making a buying decision (Bjorner, Hansen & Russell, 2004, p. 414; Dickson, 2001). In this context, eco-labels are also recognized as having a positive influence on consumers' purchase decisions (D'Souza, Taghian, Lamb & Peretiatko, 2007; Dickson, 2001). This positive influence can lead to a sales increase and a better image of the labeled product (Goel, 2012) by informing the consumers about the products' features. Further stimulation of consumers thinking about their environmental impact or conclusively the less negative impact on the environment and the favoring of sustainability, can be other positive influences of eco-labels (Gallastegui, 2002).

However, some of these influences tempt companies to use multiple eco-labels per product, which causes confusion for consumers (McCarthy & Burdett, 1998). This confusion is not only a result of the multiple usage, but additionally also of the ignorance of consumers, who are not able to differentiate between types of eco-labels (Leire & Thidell, 2005; Horne, 2009). Although consumers might trust known eco-labels, most of them are not aware of and do not know anything about the background of these eco-labels or about their responsible organizations (Leire & Thidell, 2005, p. 1066).

This lack of knowledge is probably also a reason for the discrepancy between consumers' attitudes and the actual buying behavior concerning products with eco-labels (De Pelsmacker, Driesen & Rayp, 2005, p. 365). Consumers often are willing to buy eco-labelled products, but other factors like higher prices or ignorance about the eco-labels' meaning foments scepticism and encourages consumers to buy cheaper unlabeled products, maybe also because consumers had good experiences with it. Therefore, to change the consumers' purchasing behavior, additional information about the eco-labels' standard on the product might be an easier way than competing with unlabeled products in terms of pricing. In light of the increased consumption of sustainable products, product information should be made "more accessible and relevant to consumers" (Leire & Thidell, 2005, p. 1062). Especially with regard to textiles, there is a need for additional information due to an increasing demand for sustainable fashion and the big variety of textile eco-labels.

However, not only sustainable fashion is becoming more popular, but also the e-commerce environment (Baier & Stüber, 2010; Watchravestringkan & Shim, 2003). E-commerce and the online business is getting more important for companies, because the amount of online shoppers is increasing constantly. Those consumers use the internet as an alternative to going into the actual shops and many are also using the internet as information provider when they are looking for specific product information (Watchravestringkan & Shim, 2003, p. 5). The online environment can satisfy this need by giving shoppers written and visual product information.

Again, textiles have a major stake in this steadily growing online environment (Baier & Stüber, 2010, p. 173; Watchravestringkan & Shim, 2003, p. 1), which is shown by the elaborate textile online shops, in which you can see any product information you need, in addition to recommendations of other consumers and sometimes even 360° videos of the product. However, at present, eco-labels are still rarely found online.

Therefore, the derived research question for this study is: How do different amounts of product information regarding the products' sustainability influence consumers' purchase intention in online shops?

2. Theoretical Background

In the following two paragraphs, the theoretical background of this study with regard to product information and eco-labels will be further demonstrated, with special focus on definition, concept and influences.

2.1. Product information

With regard to online shopping, product information primarily should include "product price, availability, delivery time, product differentiation and comparison, new products or most recent product changes, and product pictures" (Cheung & Lee, p. 330). However, it is required in terms of trustworthiness that all this information is "up to date, easy to understand, relevant, consistent and accurate" (Chen & Dibb, 2010, p. 340), because vice versa, irrelevant information and information, which is hard to understand, can lead to incredibility (Chen & Dibb, 2010).

Since the intention for information searches, also with regard to textiles (Watchravestringkan & Shim, 2003), is the most significant reason for doing online shopping, it is also an important factor to take into account, when considering online shopping behavior. This means that people shop online, because they are looking for specific information, so that they are well informed before they make a buying decision. Specifically, online consumers look for "pictures, images, quality information, and video clips of the product" (Park & Kim, 2003, p. 16), because there is no other possibility, like a personal contact to a salesperson or a personal fitting (Schaupp & Belanger, 2005), to get a real impression. However, some studies (Kang, Lui & Kim, 2013; Chen & Dibb, 2010) state, that websites need more high-quality and detailed information due to consumers' demands. Thus, if product information quality is high, the search effort of consumers can be reduced and this in turn enhances their trust (Peterson, Balasubramanian, Bronnenberg, 1997; Park & Kim, 2003, p. 18). The trust towards a website is therefore highly depending on the information provided by a product website and the quality of the online system (Cheung & Lee, 2005), especially since shop assistants are absent in the online environment and cannot provide any additional information for the customer (Schaupp & Belanger, 2005).

The major challenge is to decide to what extent the written product information is reasonable for a product website. To summarize, there are several contrary results about the right amount of written information on product websites in online shops. On the one hand, high quality information should be given, because this is the only source for consumers to find details about the product, which leads to higher trust and a more sophisticated purchase decision (Peterson et al., 1997; Park & Kim, 2003). On the other hand, it is just as important that consumers get tailored information, which means that the information has to be relevant and understandable, because irrelevant or complicated information can also have a negative impact on consumers' trust and on the purchase decision (Chen & Dibb, 2010).

In general, the literature leads to the conclusion that the amount of information on a product website has an impact on consumers purchase decision by creating trust through high product quality information (Park & Kim, 2003).

2.2.Eco-labels

As stated above, Goel (2014) defines an eco-label as "a label that approaches the overall environmental aspects of a product or service within a certain product or service category" (p. 337). However, eco-labels can be differentiated according to their format or, more appropriately, according to their type. Regarding their format, eco-labels can be signs, symbols or seals, which are used in combination with a product or service (Belson, 2012). In terms of the eco-labels' type, three different types of voluntary labels are identified by The International Organization for Standardisation (ISO). Each eco-label can be distinguished from others by its responsible organization and its elaborateness of aspects according to the product's environmental and social impact (Tang, Fryxell & Chow, 2004).

A type II label, for instance, is commonly defined as "informative environmental self-declaration" (Global Ecolabelling Network, 2015). These are invented labels or claims by retailers or companies, mostly to give products a greener image (Neergaard & Pedersen, 2003). Usually, these labels are not independently verified and they only consider one single attribute of a product. On the other hand, the type III eco-labels indicate a very elaborated and detailed analysis of the whole products' life cycle impacts, on the basis of independently verifiable data. These labels are primarily used for business-to-business communication (Horne, 2009). However, this study concentrates on type I labels, since these are the labels that are usually meant when talking about eco-labels (Horne, 2009). Additionally, these are the eco-labels studied most often in research, because they are intended for consumers (Rex & Baumann, 2007):

Type I eco-labels are "third-party certified product environmental label schemes that provide use of a logo associated with certified products" (Horne, 2009, p. 176). The „EU flower", allocated by the EU, or the "Fairtrade" eco-label, founded and allocated by a non-governmental organization, are assumed to be widely known examples for this type. Type I eco-labels can be allocated by governmental, but also by non-governmental institutions.

Figure 1. Fairtrade eco-label

Figure 2. EU Flower eco-label

Generally, as stated in recent literature, consumers have a positive attitude towards eco-labels and sustainable product consumption if they have the impression that they personally have a positive influence on the environment (Kang, Liu & Kim, 2013). Therefore, as stated by Bjorner, Hansen and Russell (2004) "labelling may be more effective on

products purchased more frequently, as consumers may feel that it would make a greater environmental impact" (p. 413). One product category of these more frequently purchased products are textiles.

During the actual purchasing process, situational factors are negligible. In turn, consumers include other criteria in their purchase decision (De Boer, 2003), such as product-related factors, for instance. Consumers can find out something about these product-related factors when reading the provided product information. Also, eco-labels contribute to the product information. The eco-labels' perception "will depend upon how consumers understand, trust and value its claim" (De Boer, 2003, p. 259) and furthermore also on the perceived sufficiency of additional background information about the label, its responsible organization and the standards' criteria (Leire & Thidell, 2005; Lefebure & Munoz, 2011). This information can create trust that can further promote the purchase decision of the consumer (Lefebure & Munoz, 2011).

As already mentioned, an important characteristic of an eco-label with regards to trust, is the organization, which is responsible for the eco-label (Thogersen, 2000; Dekhili & Achabou, 2004). The degree of trust is generally influenced by the perceived scepticism towards the responsible organization and the perceived credibility of the eco-label. Since the textile industry is highly criticized for their production processes, the whole industry is confronted with scepticism per se (Mohr, Eroglu, Ellen, 1998; Koszewska, 2013). To break this scepticism and bad reputation, many companies use own eco-labels to give their clothes a greener image. However, there is still continual media coverage about the bad working conditions in the low-wage countries and about popular brands selling products that are produced under bad conditions (Koszewska, 2013). This further encourages the scepticism and also reduces credibility of other eco-labels and its responsible organizations (De Boer, 2003). Commonly, the organization of the eco-label is in some way visible within the logo. Predominantly, it is distinguished between a governmental organization and a non-governmental organization (Atkinson & Rosenthal, 2014), whereby a non-governmental organization can be further divided in retailers, dependent and independent initiatives, non-profit organizations and so forth.

Literature already stated that it is important for consumers that the eco-label is controlled by a third-party or external actor (Dekhili & Achabou, 2004; Thogersen, 2000), since this has a positive influence on the trust and credibility of the eco-label. In general, independently controlled eco-labels initiated and regulated by the government are evaluated better and more trustworthy than non-governmental ones (Atkinson & Rosenthal, 2014, Horne, 2009), especially since governmental groups usually create a higher awareness among the people, for instance the EU and its initiatives. In comparison, people feel uncertain about the credibility of non-governmental institutes or initiatives, because they lack knowledge about the actions or attitude of these groups. However, this of course changes according to the government of each country and the trust towards said government.

In most cases, however, eco-labels have an effect on consumers' trust and therefore also on the purchase decision, depending on the credibility and scepticism consumers have in relation to the eco-label and its organization.

2.3.Model Development

This study tests the influence of different eco-labels combined with different amounts of written product information and proposes that different combinations have a different influence on the purchase intention.

It is essential, when testing different influences, that the underlying model has already been proven in literature before. Otherwise, no manipulation effects can be verified. Therefore, figure 1 shows the complete conceptual research model and the respective hypotheses, of which the first two hypotheses build this underlying model. Before going into further detail, it is important to consider that trust has already been identified in literature as a significant factor that leads to a higher purchase intention (Lefebure & Munoz, 2011; Peterson et al., 1997; Park & Kim, 2003). Moreover, the literature also states that high product information quality leads to higher consumers' trust (Cheung & Lee, 2005; Peterson et al, 1997; Park & Kim, 2003). These revelations therefore lead to the following hypotheses:

H1: High trust in the product website of an online shop leads to a higher purchase intention of the consumers.

H2: High product information quality leads to higher trust of consumers in the product website of an online shop.

Another factor with influence on trust are eco-labels (De Boer, 2003). Within this study, it is assumed that eco-labels have a positive influence on the trust consumers' have regarding the product website of an online shop. However, it is to be expected that different eco-labels according to their responsible organization have a different influence on trust. Within the framework of this study, eco-labels are differentiated between governmental eco-labels, institutional and non-governmental eco-labels as well as no labels, in order to additionally control the impact of eco-labels in general. Since eco-labels, which are initiated by the government, are perceived to be more trustworthy than eco-labels of a non-governmental organizations (Atkinson & Rosenthal, 2014, Horne, 2009), it is assumed that they also tend to lead to higher trust regarding the product website of an online shop.

H3: A governmental eco-label on a product website of an online shop will lead to higher consumers' trust in the product website than an institutional label.

In addition to the previous assumptions, it is expected that much information should have a more positive influence than little information, because people are looking for high quality information on the internet (Park & Kim, 2003, p. 16). Much information should therefore have a positive influence on the product information quality, which in turn should have a positive influence on trust, if the product information quality is high. The assessment is differentiated between much information and little information. This is defined by the amount of additional characters which give more information about the sustainability characteristics of the product.

H4: Much written information will lead to higher product information quality of the product website of an online shop than little written information.

As eco-labels are also a type of product information, it is assumed that they have an impact on the relationship between the amount of written information and product information quality. In general, eco-labels should have a positive influence on this relationship, because they are another pictorial source of information for the

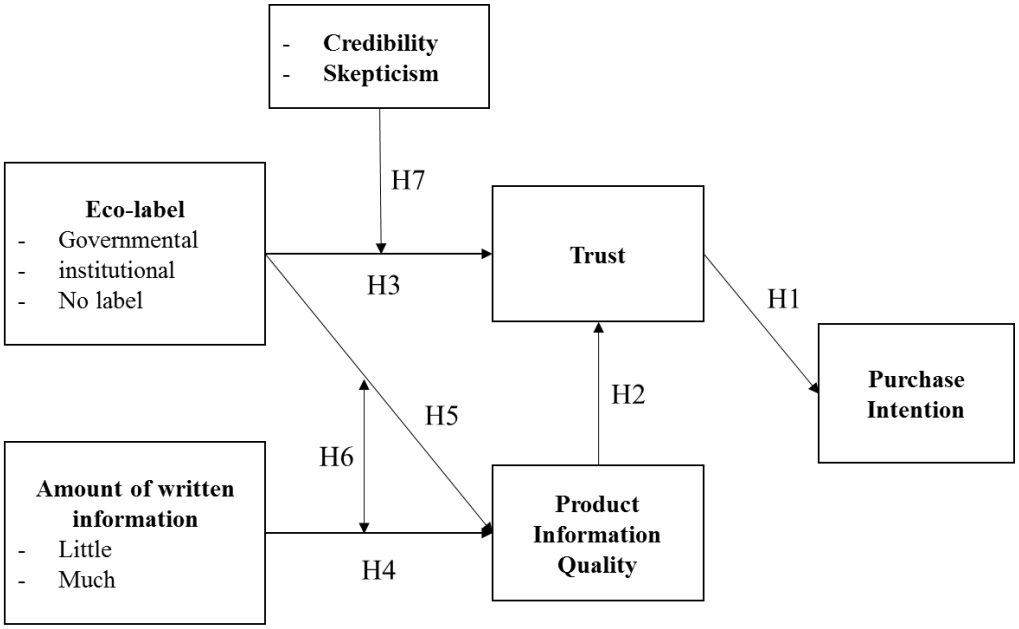

Figure 3. Conceptual Research Model

consumers (De Boer, 2003). However, according to the different conditions in this study, it is also assumed that eco-labels, which are known by the consumers and which are perceived as more trustworthy, do not require much additional information, because then the additional information would be perceived as irrelevant, which would lead to a decrease in product information quality (Chen & Dibb, 2010).

H5: The presence of an eco-label on a product website will lead to a higher product information quality.

H6: A product website including the combination of a governmental eco-label and little written information will result in higher product information quality than the combination of an institutional label with little information.

As already stated above, credibility regarding the responsible organization and scepticism regarding the eco-label can influence the relationship between the eco-label and its influence on trust (De Boer, 2003; Mohr et al, 1998). In general, it can be said, that if credibility regarding the responsible organization is high and scepticism regarding an eco-label is low, the relationship with respect to trust is more positive. As governmental eco-labels are perceived as more trustworthy according to the literature (Atkinson & Rosenthal, 2014, Horne, 2009), they probably have a higher credibility and people are less sceptical towards the governmental labels. Therefore, they should have a more positive effect on the trust in a product website of an online shop.

H7: A governmental eco-label with high credibility and low scepticism will result in higher trust in a product website than an institutional eco-label with high credibility and low scepticism.

Overall, the following conceptual research model (Figure 1) can be presented.

Table 1

Results Pretest

	M	P-value
EU Flower_governmental*	5,45	
EU Flower_institutional	3,86	
EU Flower_company	2,48	
		.00
Fairtrade_institutional*	5,45	
Fairtrade_governmental	3,38	
Fairtrade_company	2,45	
		.00
Much information	3,52	
Little information	2,93	
		.00

Note. Friedman Test and Wilcoxon Test. M = Mean.. Much and Little Informatinno both range from 1 (Very little information) to 7 (Very much information). Items regarding the eco-label range from 1 (Strongly disagree) to 7 (strongly agree). * = responsible organization identified by participants.

3. Method

In general for this research, an experimental 3 x 2 design was used in line with the anticipated goals and the formulated hypotheses.

First of all, a pretest was conducted to determine conditions for the main study. The pretest had identified reasonable or suitable eco-labels for each condition as well as other important requirements for the main study.

After the analysis of the pretest results, the main study in form of an online survey was established and executed in order to test six different conditions. The following paragraphs describe the process of the data collection and the analysis in more detail.

3.1.Research Design

This study used an experimental research design to determine which combination of an eco-label and additional written information has a positive impact on the consumers' purchase intention.

Within the experiment, an independent variable is used as an intervention (Dooley, 2009). A true experiment is defined by two characteristics, namely, "two or more differently treated groups and random assignment to these groups" (Dooley, 2009, p. 165). These characteristics are essential to reduce bias and to indicate a manipulated outcome. Therefore, for this study, various product websites with different amounts of information, visual and written, had been created in order to measure the impact of the different set-ups on the consumers' purchase intention. The research was conducted using a 3 x 2 between-subject design: three eco-labels, an institutional eco-label, a governmental eco-label and no eco-label were randomly assigned to two different amounts of written information, little vs. much information, which resulted in six different groups (Table 2).

3.2.Pretest

This research included a pretest to evaluate if participants can differentiate between governmental and institutional textile eco-labels as well as to differentiate between much and little amount of written information. These differences are crucial in order to be able to formulate conclusions about the diverse impact of governmental or institutional eco-labels in combination with little or much amount of information in online shops.

Pretesting is quite common in experimental research designs, for example in case of group comparisons (Dimitrov & Rumrill, 2003). Furthermore, it increases the internal validity, because this research is based on the assumption of determining causal relationships, which can only be supported if a difference between the types of eco-labels can be ensured in advance (Dimitrov & Rumrill, 2003).

Therefore, several textile eco-labels were presented in the pretest. In total, twelve different eco-labels were shown to the participants. Eight of them were institutional eco-labels, two were eco-labels of textile companies and two were governmental eco-labels (see Appendix A). The number is in accordance with the amount of existing eco-labels for each of those types of eco-labels. There are much more institutional eco-labels than governmental or company eco-labels. Although no company labels are included in the main study, they had been included in the pretest in order to make sure that people are able to differentiate and identify eco-labels within the whole range of possible responsible organizations and not just between institutional and governmental eco-labels.

Additionally, participants had to rate the amount of information of two different text blocks, which differed according to the number of characters. The text block with little information only included some bullets, whereas the text block with much information included the same bullets as well as an additional text box with information about the eco-label standard (see Appendix A).

Another requirement for the main study was the determination of a fair price for the experimental object, a simple, but fairly and environmentally-friendly produced dark-blue pair of jeans (see Appendix A). People were asked how much they would pay for such a fairly and environmentally-friendly dark-blue pair of jeans, so that an average price could be determined.

In total, 29 participants took part in the pretest. The results clearly showed that the participants predominantly identified the “EU flower” as a governmental eco-label and the “Fairtrade” label as an institutional one.

Table 2

Experimental conditions of this study

		Labels		
		EU Flower	Fairtrade	No Label
Amount of Information	Much	1) EU Flower + Much Information	2) Fairtrade + Much Information	5) No Label + Much Information
	Little	3) EU Flower + Little Information	4) Fairtrade + Little Information	6) No Label + Little Information

Note. In total this study includes six different conditions.

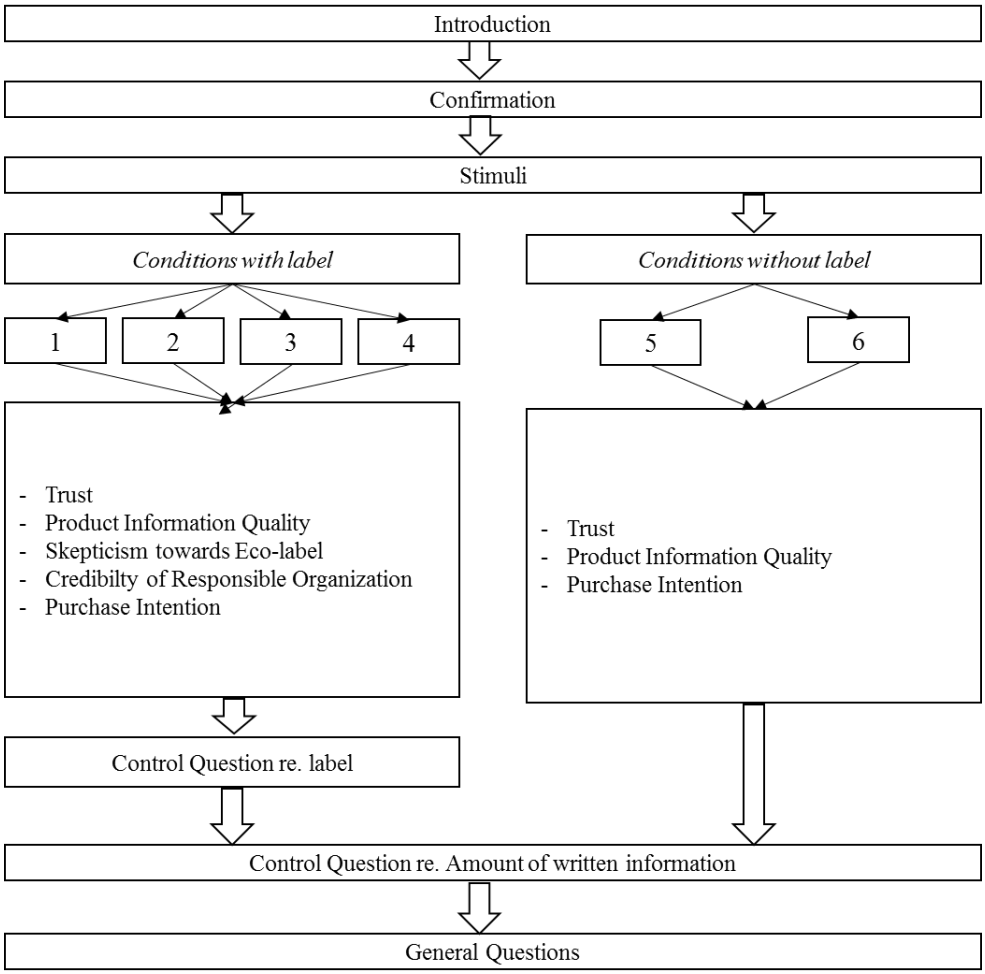

Figure 4. Scenario Flowchart. Conditions are numbered from one to six. 1 = Much Information / Governmental Label; 2 = Much Information / Institutional Label; 3 = Little Information / Governmental Label; 4 = Little Information / Institutional Label; 5 = Much Information / No Label; 6 = Little Information / No Label.

For the conduction of this analysis, a Friedman test was used (Table 1), followed by Wilcoxon tests, to determine differences between two groups. The Friedman test is a nonparametric test to investigate variables' differences or relationships (Sheldon, Fillyaw & Thompson, 1996). It can be used for more than two groups or variables and it is appropriate for ordinal scales (Sheldon et al, 1996). The Wilcoxon test is the same sort of test, but for two different groups.

In addition to the participants' perception of eco-labels, the results also indicated that people would be willing to pay between 50 and 60 Euros for the presented pair of jeans, so that the jeans were assigned a price of 54,95 € in the main study. Moreover, the amount of one text block was also predominantly identified as "little information" and the amount of the other text block was predominantly identified as "much information".

As this pretest showed significant differences regarding eco-labels and different written amounts of product information, the "EU flower" was used as governmental eco-label and the "Fairtrade" eco-label was used as institutional eco-label for the main study, as well as the two different text blocks were both included in the main study.

3.3.Stimuli and Scenarios

Different combinations with regard to the eco-labels, respectively no eco-label, and the two contrasting amounts of product information, were used for designing six different stimuli according to the research design.

Most importantly, the manipulated stimuli only differed according to their eco-labels and amount of information, the other design aspects and the set-up of the product website remained unchanged. These unchanged characteristics were adopted from real online shops and their common framework was established by exploring different online shops and their set-ups. This means that, for instance, pictures of the product are on the left hand side and the price is more centralized, while the product information is at the bottom of the page. An unchanged set-up is crucial for a possible comparison and for avoiding a bias, since other varied design elements could sophisticate the results, which would make an untainted comparison impossible.

As exemplary product, a simply styled dark-blue pair of jeans was chosen, so that almost everybody can identify with the product. The flow chart (Figure 4) shows the two scenarios in accordance with the six different conditions the participants were randomly assigned to.

3.4.Instrument

The instrument used for data collection was an online questionnaire composed of several constructs, which were already tested in literature beforehand (Table 3). In addition to the study-related questions, the questionnaire also featured general questions, such as the participants' age, educational level, income or employment status. For the set-up of the survey, only multi-item scales were used because they are superior when it comes to representing complex constructs and are more valid and accurate compared to single-item scales (McIver and Carmines 1981, p. 15).

On the one hand, the aim of this overall questionnaire was to examine the effects of the presented product information on the consumers' purchase intention, and on the other hand, the study was meant to show, which combination of information might be the one with the most positive influence on the purchase intention.

Most of the items were measured by a seven-point Likert scale, which means that the items were formulated as a descriptive sentence or question and answered by the participants' degree of agreement or endorsement according to the sentence (De Vellis, 2003). The degree was defined by boxes representing an opinion from "strongly disagree" to "strongly agree". In case of a seven-point Likert scale, participants also have the option of ticking the middle box, which indicates a neutral opinion regarding a particular statement. This way of giving answers to a questionnaire is advisable for determining beliefs, attitudes and opinions of participants, and therefore makes it appropriate for this research (DeVellis, 2003).

To test the internal validity, manipulation checks were also included. It was tested, for instance, if the eco-labels presented in the stimuli were correctly identified with regard to their responsible organization and if the written information was correctly identified with regard to its amount. For this purpose, the same questions as in the pretest were also used for the main study. It is important that the main study shows the same significant differences between the eco-labels and the

Table 3

Constructs from existing literature used in main study

Construct	Adjusted items	Cronbach's alpha	Reference
Trust	I think this website keeps ist promises	.79	San Martin & Camarero, 2008
	I think the information provided on this website is true and honest		
	I think I can trust this website		
	This website stands out for ist honesty and transparency while offering its products to the user		
	I think this website's owner operates in an ehtical manner		
	I think this website's owner has the necessary resources to successfully carry out ist activities		
Information Quality	This website provides up-to-date product information	.70	Chen & Dibb, 2010
	This website provides sufficient product information		
	This website provides relevant product information		
	This website provides accurate product information		
	This website provides easy-to-understand product information		
	This website provides consistent product information		
Scepticism	I do not believe this label	.79	Mohr, Eroglu & Ellen, 1998
	Most labels are intended to mislead rather than to inform consumers		
	Because labels are exaggerated, consumers would be better off if such labels were eliminated		
	Most labels and their certification are true		
Credibility	The organization has a strong value system	.89	Walker & Kent, 2012
	The organization is an organization I can trust		
	The organization is an organization I believe in		
Purchase Intention	I would be willing to buy this product	.95	Kim, Lee & Hur, 2012
	I would be willing to recommend this product		
	I would be willing to buy this product for family or friends		
	I would be willing to defend this product when others speak poorly about it		

Note. The items of these constructs where used in the main study. The items are adjusted to the topic.

amount of written information as the pretest, otherwise a comparison between the various conditions is impossible.

Although this experiment includes six different conditions in line with the six different stimuli, there were only two different scenarios of survey flow (Figure 4). All participants, who were randomly assigned to one of the four conditions with an eco-label on the product website, had to fill in the same questionnaire. Similarly, the participants randomly assigned to one of the two conditions without an eco-label on the product website also had to fill in the same questionnaire.

3.5.Dependent variables

In total, three dependent variables were identified and included within this study. Combined together, they build the basic model of the study. Several independent variables, which are assumed to have an influence on these three dependent variables, were also added.

The overall outcome variable is the purchase intention. This dependent variable is influenced by the overall impression of trust the consumers have in the product website. Trust again is influenced by the product information quality, because this is one of the most influential factors of trust regarding a product website (Peterson et al, 2007).

As shown in the scenario flow, participants first of all had to answer questions regarding the overall impression of the product website in relation to trust, after they have seen a stimuli. The six items were adopted from San Martin & Camarero (2008) with only a few modifications.

Secondly, questions regarding the product information quality have been asked. Although participants could have questions about the information quality remained the same for all conditions, to guarantee a good comparison. The items were copied from and identified by Chen & Dibb (2010).

The last important construct in this questionnaire was the purchase intention. Items were copied from Kim, Lee & Hur (2012).

At the end of the questionnaire, some general questions about the participants have been added. They were, for instance, about their gender, age and educational degree. Additionally, participants have been asked about their employment status and income.

Moreover, two moderating variables were included, namely credibility and scepticism. Both should have a moderating influence on the relationship between the presence of an eco-label and the overall trust in a product website. Scepticism towards the eco-labels was measured in consideration of the eco-labels' standard, while credibility was measured according to the responsible organization of the eco-label. Items measuring scepticism were adapted from Mohr et al (1998) and items measuring credibility from Walker & Kent (2012). The scepticism scale had to be adjusted to the topic of the study.

The following section gives insights into the participants of the main study.

3.6.Participants in the Main Study

In total, 336 people participated in the main study. However, for the analysis, only 238 qualified to be included in the study, because the other participants dropped out before they completed the survey. The distribution between men and women was approximately at 30 percent for men compared to 70 percent for women. Even though this is not a balanced sample, this is no essential requirement for the analysis of

Table 4

Demographics for participants

Characteristic		
Age	27,5 years	
	n	%
Sample	238	-
Gender		
Female	163	68
Male	67	28
Education		
High school diploma, diploma or equivalent	76	32
Completed apprenticeship	36	15
Bachelor‘s degree	67	28
Master‘s degree	52	22
Doctorate degree	1	0
Pfrofessional degre	0	0
Employment		
Student	102	43
Employed	116	48
Self-Employed	4	2
Out of work	8	3
Income		
under 20.000	127	53
20.000 – 29.999 €	20	8
30.000 – 39.999 €	23	10
40.000 – 49.999 €	16	7
50.000 – 59.999 €	12	5
60.000 – 69.999 €	1	0
70.000 – 79.999 €	2	1
80.000 – 89.999 €	0	0
90.000 – 99.999 €	2	1
More than 100.000 €	1	0

Note: These are rounded values.

this study. The average age was at 27.5 years, and in each case one third of the participants were high school graduates or had a Bachelor's degree. Additionally, around 20 percent of all participants had a Master's degree and 15 percent completed an apprenticeship. Since many of the participants were students or just started working, more than half of the people had an income under 20,000 € per month (Table 4).

3.7.Procedure

As this experiment was executed by a survey, it was spread online via social media and classically via email to reach as many people as possible. Personal contacts were approached via email. All other participants via the researchers' Facebook profile or via different public discussion groups in social media.

Using an online questionnaire instead of a hardcopy one has many advantages. One of these advantages is the higher availability of much more people, which means that more people can be reached with lesser costs (Couper, 2000). Moreover, the duplication effect is much bigger, because a link to a survey makes it easier for participants to spread and share the survey, so that more people have access to the link and can participate. This is also called democratization of the survey (Couper, 2000).

A disadvantage of spreading surveys online is that there are already so many surveys online, that the willingness of people to take part in them decreases. Surveys have to be well-designed and of high quality (Couper, 2000) to overcome this obstacle.

All participants have been randomly assigned to one of the six different conditions after they confirmed to participate in this study. The system automatically and evenly assigned the participants to the conditions, so that there has been the same amount of participants in each condition.

3.8.Scale Assessment

To discover the underlying structure of all the variables or to explain the variance of these, an exploratory factor analysis (EFA) with the 23 items is useful. A factor analysis groups items into clusters, the so-called "factors", by using the correlations among them (Henson & Roberts, 2006). On the one hand, the outcome of such an analysis ideally helps to find out about the theoretical construct structure or relationship between all the items, and, on the other hand, reduces the number of items to a smaller number of factors (Henson & Roberts, 2006; Beavers, Lounsbury & Richards, 2013). To keep the interpretation simple, a varimax rotation was conducted, because after that, "each original variable tends to be associated with one (or a small number) of factors, and each factor represents only a small number of variables" (Abdi, 2003, p. 3). The results can be seen in Appendix F.

This factor analysis also tested, if each of the items within the factors, which were defined for the survey in advance, are really belonging to this particular factor. With an overall 0.864 Kaiser-Meyer-Olkin (KMO) score, this is an adequate overall factor analysis and therefore also an adequate sample of participants, since the minimum value should be 0.6 (Beavers et al, 2013). This value is also important regarding the external validity, which means that this experiment has a high external validity according to the KMO score (Henson & Roberts, 2006). Moreover, for reducing the number of items, Kaiser's

Table 5

Construct Validity and Reliability

Construct (Number of items)	EFA loadings	Cronbach's alpha	Corrected Item-to-total correlation
Trust (6)	.77, .80, .81, .65, .71, .66	.85	.66, .71, .74, .58, .63, .55
Information Quality (6)	.63, .73, .81, .83, .71, .55	.86	.61, .65, .72, .63, .55
Scepticism (3)**	.57, .72, .68	.47	.34, .25, .31
Credibility (3)*	.73, .79, .81, .71	.89	.68, .82, .76
Purchase Intention (4)	.83, .87, .82, .60	.87	.70, .81, .76, .61

Note. Factor Analysis and Reliability Teste were made. * = One more item in the EFA loading. This was deleted due to reliability reasons. ** = This construct was excluded in further analyses.

criterion was used, which means that every factor with an eigenvalue of or above one remains (Beavers et al, 2013, Henson & Roberts, 2006). This is also shown in the scree plot (see Appendix F), which additionally shows the linear relations of this analysis. As expected, five different factors were identified by this analysis Together, they are explaining a total variance of 65.5 percent, which is an acceptable value (Beavers et al, 2013).

To assign an item to a factor, the loading has to be higher than 0.5 (Beavers et al, 2013). Sometimes, items have cross-loadings, which means that they have a loading above 0.5 on two or more factors. In this study, this is not the case, thus all of the above described criteria were given and satisfactory. However, one item, which was originally designated to one construct (scepticism), had a stronger loading on another factor (credibility). Therefore, this item ("Most labels and their certification is true") was allocated to the factor credibility in the further analysis.

As the external validity is proven, for instance, by the KMO score, the next step was to examine the internal reliability. For this, the Cronbach's alpha (α) is an appropriate value, which should have an overall value above 0.7 (as cited in Kim & Damhorst, 2009). Except for one measurement, all scores had a higher value than 0.85 and had an item-to-total correlations higher than 0.5.

The item "Most labels and their certification is true", which got allocated to the factor "credibility" according to the EFA, was deleted, because its deletion increased the reliability of the factor. Since the items of scepticism scored an α of 0.47, it could not be included in the further analysis of this study. Such a low score means that these items will not measure scepticism appropriately, and therefore have been excluded in the following analysis.

Based on this analysis of scale assessment, four valid and reliable constructs were identified in the end (Table 5)

4. Results

4.1.Statistical Tests of Assumption

The collected data was analyzed based on several statistical tests, appropriate for experimental studies. At first, it has to be identified if the data was normally distributed, in addition to its reliability, objectivity and validity. Furthermore, it has to be evaluated whether the manipulation has worked.

The data distribution testing is important for further statistical analyses, because it is a prerequisite of parametric testing. Therefore, an exploratory data analysis was done. As shown in Appendix H, the data was not normally conventionally distributed in all conditions in terms of the dependent variables, because the Shapiro-Wilk value is under 0.05 in these non-normally distributed cases. The Shapiro-Wilk test is the "most powerful test for all types of distribution and sample sizes" (Razali & Wah, 2010, p. 32). Consequently, in the following, non-parametric tests were used for further analyses.

As a manipulation check, the same assumptions which had been tested in the pretest beforehand were also included in the main study. These are assumptions that build an essential part of the further analysis of this experiment, because they suggest that people can differentiate between governmental and institutional eco-labels, so that the results can be compared according to the different types of eco-labels.

To begin with the manipulation check, the data was divided into two groups. While one group consisted of participants who have seen a governmental eco-label, the other group was made up of participants who have seen an institutional eco-label. Participants who have not seen any eco-label were excluded in this manipulation check. After the initial division, a Friedman test was conducted for each of the two groups. A Friedman test is used "for analyzing three or more repeated measurements of ordinal data" (Sheldon et al., 1996, p. 222) in an experimental design. Therefore, this is an appropriate test to investigate the extent to which people think that the eco-label which they have seen is a governmental, institutional or an eco-label of a company. As participants had to rate these three possibilities on ordinal scales, this fulfills all prerequisites of the Friedman test to support the significant results of this first test. Wilcoxon tests were conducted afterwards. These tests are used to compare two groups by calculating their rank-sums (Bergmann, Ludbrook & Spooren, 2000). Each possible assumption was therefore compared to the other two possibilities, to be sure about significant differences and the right identification of the eco-labels' particular responsible organization.

The results show that there are significant differences in case of the Fairtrade eco-label, but not in case of the EU flower eco-label (see Table 6 and see Appendix D). However, this means that the groups which have seen a different eco-label cannot be compared according to their eco-label type. Therefore, in the following analyses, comparisons can only be made between the conditions with an institutional Fairtrade label and the conditions without any label. The originally intended comparison between different groups of labels regarding their responsible organization had to be excluded.

The second assumption or manipulation check was made with regard to the amount of information. With respect to this analysis, a significant difference between the two different amounts of

Table 6

Manipulation Check Main Study

	M	P-value
EU Flower_governmental	3,59	
EU Flower_institutional	3,93	
EU Flower_company	4,44	
		.00
Fairtrade_institutional*	4,89	
Fairtrade_governmental	3,24	
Fairtrade_company	3,64	
		.00
Much information	3,34	
Little information	2,73	
		.00

Note. Friedman Test and Wilcoxon Test. M = Mean.. Much and Little Informatinno both range from 1 (Very little information) to 7 (Very much information). Items regarding the eco-label range from 1 (Strongly disagree) to 7 (strongly agree). * = responsible organization identified by participants.

information was found (see Appendix D and table 6). For this purpose, the Mann-Whitney-U-Test was used, in which, as the name already says, the U statistic is used. It assumes (H0) that "two groups came from the same population" (Nachar, 2008) and it is also a very common non-parametric test in statistics.

All in all, the research design had been changed to a 2 (no label, institutional label) x 2 (much information, little information) design due to the non-significant results regarding the identification of the EU flower.

To conclude this section, not all manipulations succeeded. The participants could not identify the EU flower as a governmental label, but the Fairtrade label was identified significantly as an institutional one. Moreover, the manipulation with regard to the amount of information succeeded. In addition, the participants also significantly identified the text block with the higher amount of characters as much information and the text block with less characters as little information. The following analysis will present the hypothesis testing.

4.2.Hypotheses tests

In this paragraph, the testing of all hypotheses is described and results are presented. Results are also shown in Table 7, Figure 5 and in Appendix I.

H1: High trust in the product website of an online shop leads to a higher purchase intention of the consumers.

At first, hypothesis 1 was analyzed. To test if the trust in a product website has a significant influence on the purchase intention of the participants, a linear regression analysis was executed. In this case the purchase intention was the dependent variable and the trust in the product website was the independent variable. Within this test, all participants,

independently from their treatment, were included, because the impact of trust on the purchase intention was tested in all six conditions. Although the data set was non-normally distributed, a linear regression analysis was conducted, due to its robustness. As long as the data is not completely non-normally distributed, this test can be executed. The linear regression analysis showed significant correlations (p = .00) and also a significant regression (Beta = .432; p = .00), which means that the trust in a product website has a positive influence on the purchase intention. This means further, that the higher the trust regarding the product website, the higher the purchase intention.

H2: High product information quality leads to higher trust of consumers in the product website of an online shop.

The next hypothesis states, that the product information quality has a positive influence on the trust in the product website. Therefore, again, a linear regression

analysis was executed, with trust in the product website as dependent variable and the product information quality as independent variable. Likewise, a linear causal relationship between the quality of product information and the trust in the product website (Beta = .532; p = .00) could be identified. This means that the higher the product information quality, the higher the consumers trust in the product website.

H3: A governmental eco-label on a product website of an online shop will lead to higher consumers' trust in the product website than an institutional label.

Hypothesis three is the first hypothesis considering a treatment of this experiment. The question is, if the presence of a governmental eco-label on a product website has a more positive impact on the consumers' trust than an institutional one. First of all, a linear regression was conducted to test if there is a relationship between the presence of an eco-label on a product website and the trust in a product website in general. Within this analysis, trust was used as the dependent variable and the presence of an eco-label as the independent variable. The results show that there is no significant relation between those two variables (p = .36). Hence, there is also no difference between the eco-labels' influence according to their responsible organization.

H4: Much written information will lead to higher product information quality of the product website of an online shop than little written information.

First of all, to prove this hypothesis, a regression analysis was made to test if there is a relationship between the amount of information and the product information quality in general. Within this regression, the amount of information was the independent variable and the product information quality was the dependent variable. However, the regression does not show a significant relation (Beta = -.073; p = .27). Thus, in general, the amount of written information does not have an influence on the product information quality, which means that different amounts of information also do not have an influence on the product information quality.

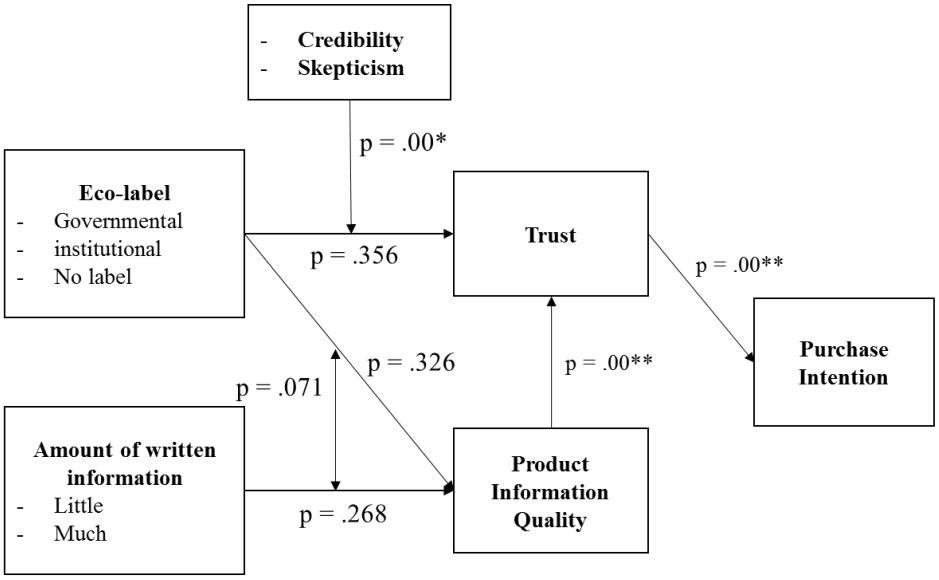

Figure 5. Conceptual Research Model with Analyses Results. ** = significant results (p ≤ .05); *= significant covariate analysis

H5: The presence of an eco-label on a product website will lead to a higher product information quality.

To test whether an eco-label has a positive influence on the product information quality, again a regression analysis was executed. In doing so, the product information quality was the dependent variable and the presence of an eco-label the independent variable. It is shown, that there is no relationship between product information quality and the presence of an eco-label (Beta = -.065; p = .326), therefore it can also be concluded that different types of eco-labels do not have an effect on product information quality.

H6: A product website including the combination of a governmental eco-label and little written information will result in higher product information quality than the combination of an institutional label with little information.

Since no relationships have been found between the amount of product information and the product information quality as well as between eco-labels and the product information quality, it is further tested, whether these phenomena will change according to an interaction of these two variables.

Therefore, a univariate regression was conducted, in which the presence of an eco-label and the amount of product information were used as independent variables and the product information quality as dependent variable. However, this research also demonstrated that there is no interaction effect between the amount of information and the presence of an eco-label (p = .07). But it is also shown that the significance level is higher in terms of the interaction of the amount of information and the presence of an eco-label than if these variables are evaluated separately.

Additionally, another linear regression analysis was done. This time, the product information quality was defined as dependent variable and the condition variable as independent variable in order to find out if the different conditions have an influence on the product information quality in general. In fact, this regression

Table 7

Hypotheses testing

Hypotheses	Result
H1	Supported
H2	Supported
H3	Not supported
H4	Not supported
H5	Not supported
H6	Not supported

Note. Figure 5 shows results in detail

showed that there is no significant relationship between a particular condition and the product information quality (Beta = -.06; p = .373).

Therefore it cannot be assumed, that a governmental eco-label and little written information in combination work better with regard to product information quality than an institutional label with little written information.

H7: A governmental eco-label with high credibility and low scepticism will result in higher trust in a product website than an institutional eco-label with high credibility and low scepticism.

Regarding hypothesis six, it is, first of all, assumed that there is a correlation between credibility and trust. Since scepticism cannot be tested because the construct is not reliable, it is not included in the further analyses regarding this hypothesis. Results of the correlation test show that credibility positively correlates with trust (p = .00).

As a next step, a univariate variance analysis was executed, with credibility used as covariate variable. This analysis supports the assumption that credibility regarding a responsible organization of an eco-label is a covariate variable (p = .00). However, since the type of eco-label regarding its responsible organization does not have an influence on trust (p = .37), further analyses in terms of moderation cannot be executed due to the absence of an independent variable.

5. Discussion

5.1.Summary Research Question

Research Question: How do different amounts of product information regarding the products' sustainability influence consumers' purchase intention in online shops?

Due to newest developments and consumers' attitudes regarding the online environment, politics and the society, the right communication with consumers in online shops about environmentally friendly and fairly produced textiles has become a challenge for online shop operators. It was assumed that the aligned interaction of eco-labels and written information can encourage consumers' trust and purchase intention.

From an online shop operator's perspective, the increasing numbers of online sales and the fast changing demands of consumers are very challenging. Since the phenomenon of "green consumerism" is evolving from a trend to a new population with a new lifestyle (Neergaard & Pedersen, 2003), it is getting more important to adapt to these lifestyles. On the one hand, online shop operators neither want to give too much information, so that it seems as if they are operating didactically, nor do they want to give irrelevant information. On the other hand, they want to satisfy the demand for product information quality, because some people want more detailed information than others. Thus far, literature has not examined if and how purchase intention changes in relation to the presence of eco-labels in combination with written product information about the products' sustainability in online shops. This lack of knowledge, in view of the fact that eco-labels are part of a current discussion, has led to the research question.

The conceptual research model includes one underlying model in line with theory (Peterson, Balasubramanian, Bronnenberg, 1997; Park & Kim, 2003, p. 18), which was altered by additional experimental treatments, namely the presence of eco-labels and the different amounts of product information about the products' sustainability. Data was collected by using a quantitative online survey. In total, 238 suitable questionnaires could be used for further analysis. As data was not completely conventionally distributed, a limited set of non-parametric tests have been executed to prove hypotheses, in addition to correlation and regression analyses.

Overall results of this experiment indicate that the underlying model, i.e. the positive impact of trust on purchase intention and the positive impact of product information quality on trust, within the conceptual research model is supported. Additionally, the research shows that different combinations of different amounts of information and different eco-labels according to their responsible organization have no significant influence on the purchase intention. However, neither the influence of the amount of information on the product information quality nor the influence of different eco-labels on the product information quality and on trust in a product website could be proven. In the following section, the results will be discussed in more detail.

5.2.Discussion of Results

H1 and H2 are statistically proven in this experiment, which means that the two underlying models of the conceptual research model are supported. That these two assumptions were identified as significant was expected due to many scientific articles that already have verified these two relations. Since these two were also verified within this study, the

requirement for testing the influence of the two treatments on the consumers' purchase intention was fulfilled. Furthermore, the results show that, regarding H1, approximately 18 percent of the purchase intention can be explained by the overall trust in a product website. Since this is only about one fifth, it can be concluded that there are additional factors, or at least one additional factor, which have an impact on the purchase intention. According to literature, these can be factors like experiences with a product (Martín & Camarero, 2008) or satisfaction (Cheung & Lee, 2005).

Nearly the same can be stated about the relationship between product information quality and trust. Trust can be explained by 28 percent of product information quality. This again means that there is at least one additional factor having an impact on the construct of trust. Suggested other factors, which are already proven by literature, are, for instance, "security and privacy policies, performance and refund warranty, and quality of service" (Martin & Camarero, 2008, p. 549). Since literature stated (Peterson et al, 2007) that product information quality is one of the most influential factors, this can also be verified by this experiment.

Regarding H3, no statistically significant results could be found. This means that eco-labels, independent from their responsible organization, do not have an influence on the consumers' trust in an online shop. An explanation for this can already be found in the manipulation checks, since the participants were not able to identify eco-labels according to their responsible organization. The EU flower was wrongly identified as an eco-label initiated by a company, which shows that people cannot distinguish between governmentally initiated eco-labels and institutionally initiated eco-labels. This, of course, has a major effect on the results and this can also be an explanation of why there is no relationship between the presence of an eco-label and trust. If people simply do not know the eco-label, it is difficult to put one's trust in it. Moreover, people are generally sceptical about eco-labels (Mohr et al, 1998, Koszewska, 2013), which would explain, that there is no positive relationship.

Concerning hypothesis four, the amount of written product information in general has no influence on the product information quality. Although no relationship between the amount of written product information and the product information quality was proven, a comparison was made between the two different amounts of written product information regarding trust, since the manipulation checks showed a significant difference between them. However, again no significant difference was found between much and little amount of information in relation to product information quality, although literature mainly stated, that people want high quality information (Watchravestringkan & Shim, 2003). Hypothesis four was therefore rejected. An explanation for this could be, that the average mean scores of the manipulation check for much and little information were basically very close together. Therefore, the participants may have thought that the amount of information representing much information is actually not that much information for consumers. This could explain why no significant difference could be found between the two different amounts of information regarding the product information quality. However, the manipulation check has proven, that there was a significant difference between much and little written information. Moreover, another explanation could be, that the participants think the written information is irrelevant, so they did not have an intensive look at them and did not consider the written information when

rating the product information quality. According to literature, irrelevant information can even have a negative impact on product information quality (Chen & Dibb, 2010). Finally, one more explanation could also be that people do not look for written information at all, but just consider basic information like product pictures and pricing.

H5 was also rejected, because the relationship between the presence of an eco-label and the trust in a product website was not statistically proven. This can again be explained by the ignorance of consumers regarding eco-labels. As long as eco-labels are confronted with scepticism (Mohr et al., 1998) due to ignorance, and are not evaluated as trustworthy, they cannot have a positive effect on trust.

Regarding H6, it cannot be indicated that a governmental eco-label in combination with little written information has a more positive influence on the product information quality than an institutional eco-label and little written information. The analysis which tested the interaction effect between the amount of written product information and eco-labels shows a higher level of significance for these factors together than for each of those factors separately. However, it is still not a statistically significant. Nevertheless, it shows that eco-labels and written information about products' sustainability work better in combination towards product information quality than separately.

In the end, after several analyses, H7 only suggests that a governmental label on a product website, which is perceived as credible, leads to higher trust in a product website, because scepticism was excluded in the further analysis. Since it is assumed that credibility regarding the responsible organization has a moderating effect on the relationship between the eco-label and the overall trust in a product website, this hypothesis is rejected. Adding to this conclusion, there was no relationship found between the eco-label and the overall trust in an online shop. Nevertheless, it can be significantly stated that credibility has a positive correlation with trust and that credibility regarding the responsible organization of an eco-label is identified as a covariate variable within this relationship. This means that if credibility is included in the relationship between an eco-label and trust, trust is improved. Although the moderating effect is not proven here, it can be concluded that the credibility regarding an eco-labels' responsible organization has a positive effect on the relationship between the eco-label and trust in an online shop. This can be explained by the construct of trust, because credibility is named as one crucial factor regarding trust (Atkinson & Rosenthal, 2014).

Overall, it can be concluded that this is a complex research field with certain obstacles, which had to be overcome. In particular, there is not much literature about this specific research field and the ignorance of people regarding eco-labels is an additional obstacle, which is difficult to handle.

5.3.Practical and theoretical contributions

This study provides several theoretical and practical implications. Initially, this experiment is the first to examine the influence of eco-labels in online shopping situations. That means, that it gives first insights into the eco-labels' influence on purchase intention. Furthermore, this study contributes to the online shopping literature by identifying more essential components of a product website, such as eco-labels. Additionally, this research combines theory from different research fields that have not been combined in literature before. Literature regarding the concept of purchase intention, as well as regarding online shopping and eco-labels, was taken

into account. The lack of literature, especially regarding eco-labels in online shops and its influence on the purchase intention, presents a gap to investigate. Moreover, six different combinations have been compared simultaneously, because various scenarios were included in this experiment.

Furthermore, a few practical implications can be identified additionally. The purchase intention of consumers is obviously very important for every company, because the more positive it is the more revenue companies can achieve. Many companies are already attaching eco-labels to their products to increase sales (Goel, 2012), but only a few also use them in the online environment. This experiment gives first recommendations for companies on how to use eco-labels in online shops. First of all, if an online shop offers sustainable or labeled products, usage of these eco-labels is recommended in general, because the presence of an eco-label on a product website does not, at least, have a negative influence on the trust in the product website. But online shop operators have to consider the lack of knowledge consumers have with regard to eco-labels and their background. Consumers are mostly not aware of the criteria or standard differences that is defined by each eco-label. Also, not every consumer is aware of the responsible organizations of the eco-labels, which is also shown in this experiment. But, as shown in this experiment, the credibility regarding the responsible organization has an influence on the relationship between the eco-label and the trust in the product website.

These results are of particular interest for communication managers and web designers as they have to set-up the online shop. It has to be decided what and how much information should be on a product website of an online shop with consideration of the eco-label. It is shown that written product information does not have an influence on the product information quality, which means that information about the products' sustainability is not of special interest. But eco-labels probably have a better influence on trust, if people think the responsible organization is credible, so therefore it is recommendable to give more information about the responsible organization of an eco-label to create more trust in the product website. This information would also partly close the knowledge gap of people with respect to eco-labels.

5.4.Limitations and further research

Aside from the practical and theoretical implications, this experiment has some limitations, which result in ideas for further research.

At first, more participants should be included in the research, to increase external validity (De Vellis, 2003) and to increase the possibility for giving realistic recommendations. In addition to that, more factors with an impact on purchase intention and trust should also be included, because, as it is shown in this experiment, the included factors only show one fifth of each construct.

Another limitation would be that no control variables were used within this study. In future studies, control variables, such as online purchasing behavior or sustainable purchasing behavior, should be included to add more depth to conclusions. If such information about consumers' online purchasing behavior or their sustainable purchasing behavior can be clustered, a different consumer character can also be identified.

Moreover, what is probably the most significant limitation to this experiment, is that the manipulation checks did not succeed. For instance, the EU flower was not identified as governmental eco-label in the main study, but in the pretest. This leads

to unanswered hypotheses in the study. In connection to the eco-labels, another limitation could be that the Fairtrade eco-label is very popular and widely known, since Fairtrade does not only have standards for apparel but also for food products. Regarding food, people are much more informed about eco-labels, because they purchase food more often than textiles. Therefore, the chance that people have at least seen this eco-label is much higher for the Fairtrade eco-label than for the EU flower. Lastly, further research could have a more precise and separate look at the visual and written information, in order to make more specific assumptions about different types of product information. These limitations and first ideas for further research show that this was only a first step towards exploring the field of purchasing sustainable products in online shops. The usage of control variables and the more specific look at different types of information would be a feasible and appropriate further investigation in this research field.

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6. Conclusion

To have knowledge about the most appropriate combination of written product information and eco-labels would give companies the chance to increase sales and therefore also revenues. However, companies have to be careful about the different possibilities of these combinations, because several factors have to be included in the decision about the combinations, as examined in this study.

In general, it is important that people know the responsible organization of the eco-label. If this is the case and people evaluate this as credible, this information will lead to an increase in trust. Moreover, people do not necessarily need that much additional written information regarding the products' sustainability, because the additional information does not necessarily have a positive effect on product information quality.

Online shop operators have to look at the eco-labels individually in order to find a good balance between additional written information and an eco-label.

What is as important as a good balance is the knowledge about the eco-labels. The knowledge about the background of textile eco-labels is limited. People do not necessarily know, how much eco-labels there are and what the criteria are for companies to use them. Obviously there are too many eco-labels for the people to know everything about them. Therefore, Minister Müller will have to do better educational work regarding the new eco-label of the textile alliance of the German textile industry, so that the people will know what this eco-label stands for, without needing much more additional information.

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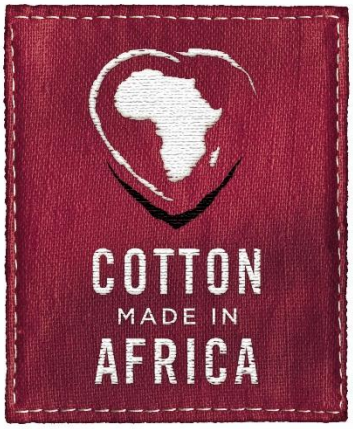
Appendices

Appendix A: Pretest stimuli

Eco-labels initiated by the company:

Governmental Eco-labels:

Institutional Eco-labels:




GLOBAL ORGANIC TEXTILE STANDARD
GOTS


IVN ZERTIFIZIERT BEST
NATURTEXTIL


OEKO-TEX®
MADE IN GREEN
1234567891


TextileExchange

Visual Stimuli

Amounts of information

Little information:

- 5-Pocket-Style
- Contrast stitching
- Contains non-textile parts of animal origin
- Length: normal
- Fit: Slim fit
- Material outer fabric: 100 % organic cotton
- Machine washes: 40°, not suitable for tumble drier

Much information:

- 5-Pocket-Style
- Contrast stitching
- Contains non-textile parts of animal origin
- Length: normal
- Fit: Slim fit
- Material outer fabric: 100 % organic cotton
- Machine washes: 40°, not suitable for tumble drier

This standard is recognized as the world's leading processing standard for textiles made from organic fibers. It defines high-level environmental criteria along the entire organic textiles supply chain and requires compliance with social criteria as well.

Only textile products that contain a minimum of 70% organic fibers can become certified. All chemical inputs such as dyestuffs and auxiliaries used must meet certain environmental and toxicological criteria. The choice of accessories is limited in accordance with ecological aspects as well. A functional waste water treatment plant is mandatory for any wet-processing unit involved and all processors must comply with minimum social criteria. The key criteria, is its quality assurance system and the principles of the review and revision procedure are summarized in this section.

Appendix B: SPSS Output Pretest

Which price would you pay for this labeled jeans made of 100 % organic cotton? Please choose...

		Häufigkeit	Prozent	Gültige Prozent	Kumulative Prozente
Gültig	10 - 20 €	1	3,4	3,4	3,4
	20 - 30 €	4	13,8	13,8	17,2
	30 - 40 €	4	13,8	13,8	31,0
	40 - 50 €	5	17,2	17,2	48,3
	50 - 60 €	9	31,0	31,0	79,3
	60 - 70 €	2	6,9	6,9	86,2
	70 - 80 €	3	10,3	10,3	96,6
	90 - 100 €	1	3,4	3,4	100,0
	Gesamtsumme	29	100,0	100,0	

Tests of eco-labels:

Deskriptive Statistiken

	H	Mittelwert	Standardabweichung	Minimum	Maximum	Perzentile		
						25.	50. (Median)	75.
Fairtrade_gov	29	3,38	1,935	1	6	2,00	3,00	5,50
Fairtrade_insti	29	5,45	1,594	1	7	5,00	6,00	6,00
Fairtrade_comp	29	2,45	1,502	1	6	1,00	2,00	3,50

Ränge

	Mittlerer Rang
Fairtrade_gov	1,84
Fairtrade_insti	2,64
Fairtrade_comp	1,52

Teststatistiken[a]

H	29
Chi-Quadrat	23,031
df	2
Asymp. Sig.	,000

.00

a. Friedman-Test

Deskriptive Statistiken

	H	Mittelwert	Standardabweichung	Minimum	Maximum	Perzentile 25.	Perzentile 50. (Median)	Perzentile 75.
Fairtrade_gov	29	3,38	1,935	1	6	2,00	3,00	5,50
Fairtrade_insti	29	5,45	1,594	1	7	5,00	6,00	6,00

Ränge

		H	Mittlerer Rang	Summe der Ränge
Fairtrade_insti - Fairtrade_gov	Negative Ränge	4[a]	8,13	32,50
	Positive Ränge	19[b]	12,82	243,50
	Bindungen	6[c]		
	Gesamtsumme	29		

a. Fairtrade_insti < Fairtrade_gov

b. Fairtrade_insti > Fairtrade_gov

c. Fairtrade_insti = Fairtrade_gov

Teststatistiken[a]

	Fairtrade_insti - Fairtrade_gov
U	-3,223[b]
Asymp. Sig. (2-seitig)	,001

a. Wilcoxon-Test

b. Basierend auf negativen Rängen.

Deskriptive Statistiken

	H	Mittelwert	Standardabweichung	Minimum	Maximum	Perzentile 25.	Perzentile 50. (Median)	Perzentile 75.
Fairtrade_insti	29	5,45	1,594	1	7	5,00	6,00	6,00
Fairtrade_comp	29	2,45	1,502	1	6	1,00	2,00	3,50

Ränge

		H	Mittlerer Rang	Summe der Ränge
Fairtrade_comp - Fairtrade_insti	Negative Ränge	24[a]	14,23	341,50
	Positive Ränge	2[b]	4,75	9,50
	Bindungen	3[c]		

	Gesamtsumme	29		

a. Fairtrade_comp < Fairtrade_insti

b. Fairtrade_comp > Fairtrade_insti

c. Fairtrade_comp = Fairtrade_insti

Teststatistiken[a]

	Fairtrade_comp - Fairtrade_insti
U	-4,234[b]
Asymp. Sig. (2-seitig)	,000

a. Wilcoxon-Test

b. Basierend auf positiven Rängen.

Deskriptive Statistiken

	H	Mittelwert	Standardabweichung	Minimum	Maximum	Perzentile 25.	Perzentile 50. (Median)	Perzentile 75.
Euroblume_gov	29	5,45	1,863	1	7	5,00	6,00	7,00
Euroblume_insti	29	3,86	1,684	1	7	3,00	4,00	5,00
Euroblume_comp	29	2,48	1,430	1	6	1,50	2,00	3,00

Ränge

	Mittlerer Rang
Euroblume_gov	2,62
Euroblume_insti	1,98
Euroblume_comp	1,40

Teststatistiken[a]

H	29
Chi-Quadrat	25,735
df	2
Asymp. Sig.	,000

a. Friedman-Test

Deskriptive Statistiken

	H	Mittelwert	Standardabweichung	Minimum	Maximum	Perzentile 25.	Perzentile 50. (Median)	Perzentile 75.
Euroblume_gov	29	5,45	1,863	1	7	5,00	6,00	7,00
Euroblume_insti	29	3,86	1,684	1	7	3,00	4,00	5,00

Ränge

		H	Mittlerer Rang	Summe der Ränge
Euroblume_insti - Euroblume_gov	Negative Ränge	19[a]	11,66	221,50
	Positive Ränge	4[b]	13,63	54,50
	Bindungen	6[c]		
	Gesamtsumme	29		

a. Euroblume_insti < Euroblume_gov

b. Euroblume_insti > Euroblume_gov

c. Euroblume_insti = Euroblume_gov

Teststatistiken[a]

	Euroblume_insti - Euroblume_gov
U	-2,553[b]
Asymp. Sig. (2-seitig)	,011

a. Wilcoxon-Test

b. Basierend auf positiven Rängen.

Deskriptive Statistiken

	H	Mittelwert	Standardabweichung	Minimum	Maximum	Perzentile 25.	50. (Median)	75.
Euroblume_gov	29	5,45	1,863	1	7	5,00	6,00	7,00
Euroblume_comp	29	2,48	1,430	1	6	1,50	2,00	3,00

Ränge

		H	Mittlerer Rang	Summe der Ränge
Euroblume_comp - Euroblume_gov	Negative Ränge	24[a]	14,67	352,00
	Positive Ränge	3[b]	8,67	26,00
	Bindungen	2[c]		
	Gesamtsumme	29		

a. Euroblume_comp < Euroblume_gov

b. Euroblume_comp > Euroblume_gov

c. Euroblume_comp = Euroblume_gov

Teststatistiken[a]

	Euroblume_comp - Euroblume_gov

U	-3,962[b]
Asymp. Sig. (2-seitig)	,000

a. Wilcoxon-Test

Deskriptive Statistiken

	H	Mittelwert	Standardabweichung	Minimum	Maximum	Perzentile		
						25.	50. (Median)	75.
LittleInfo	29	2,93	,961	1	5	2,00	3,00	4,00
MuchInfo	29	3,52	1,153	1	5	2,50	4,00	4,00

Ränge

		H	Mittlerer Rang	Summe der Ränge
MuchInfo - LittleInfo	Negative Ränge	1[a]	17,00	17,00
	Positive Ränge	17[b]	9,06	154,00
	Bindungen	11[c]		
	Gesamtsumme	29		

a. MuchInfo < LittleInfo

b. MuchInfo > LittleInfo

c. MuchInfo = LittleInfo

Teststatistiken[a]

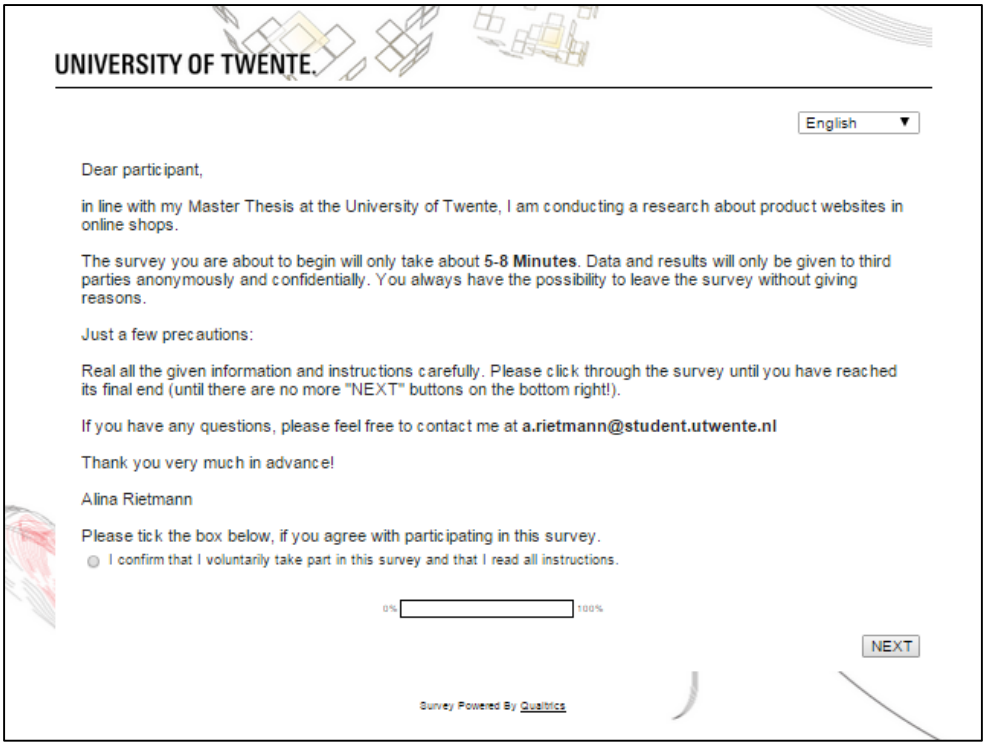
	MuchInfo - LittleInfo
U	-3,205[b]
Asymp. Sig. (2-seitig)	,001

a. Wilcoxon-Test

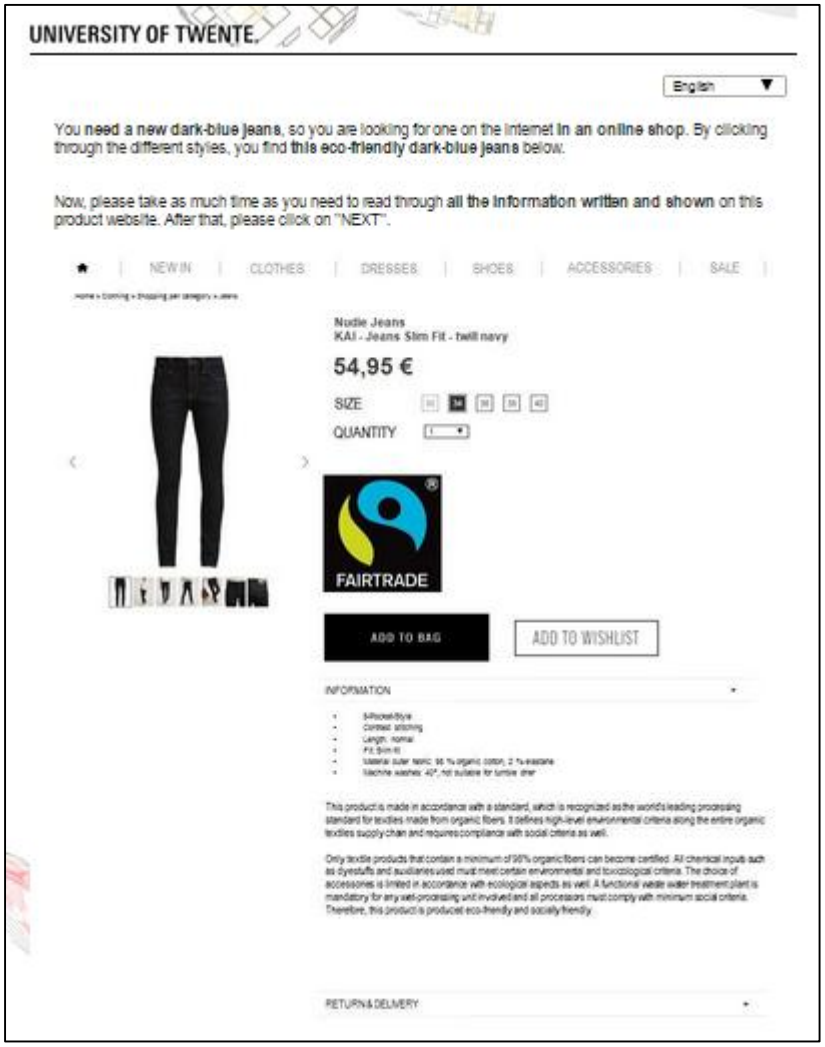
b. Basierend auf negativen Rängen.

Appendix C: Online Questionnaire (one example)

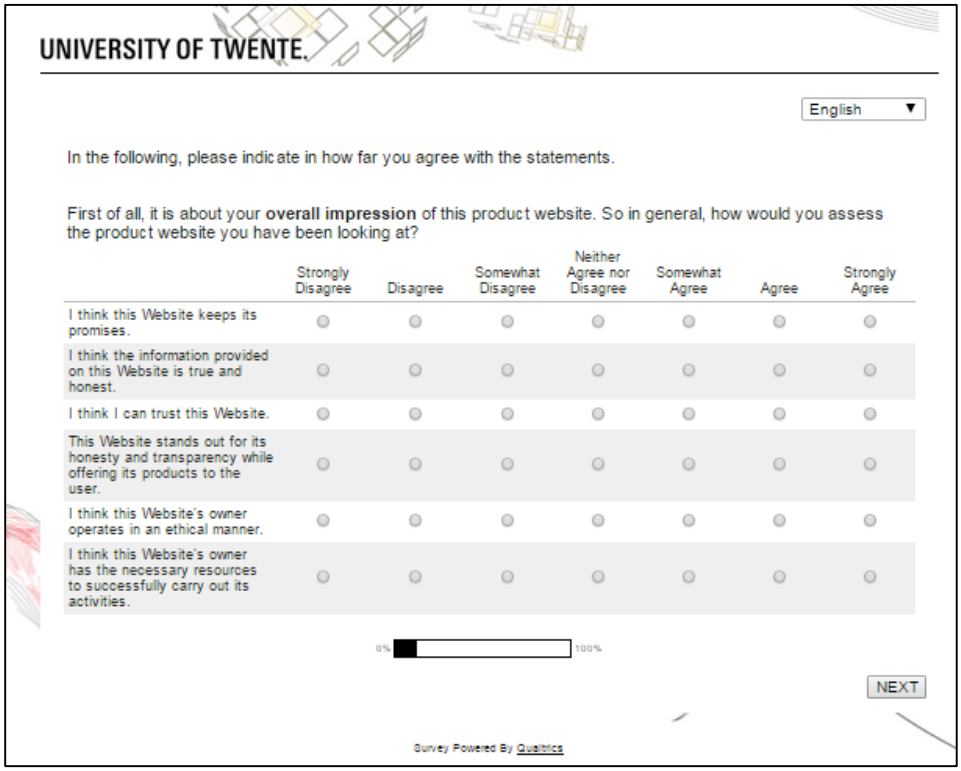
Introduction:



Example Stimulus (Institutional & Much Information):



Trust:



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English

In the following, please indicate in how far you agree with the statements.

First of all, it is about your **overall impression** of this product website. So in general, how would you assess the product website you have been looking at?

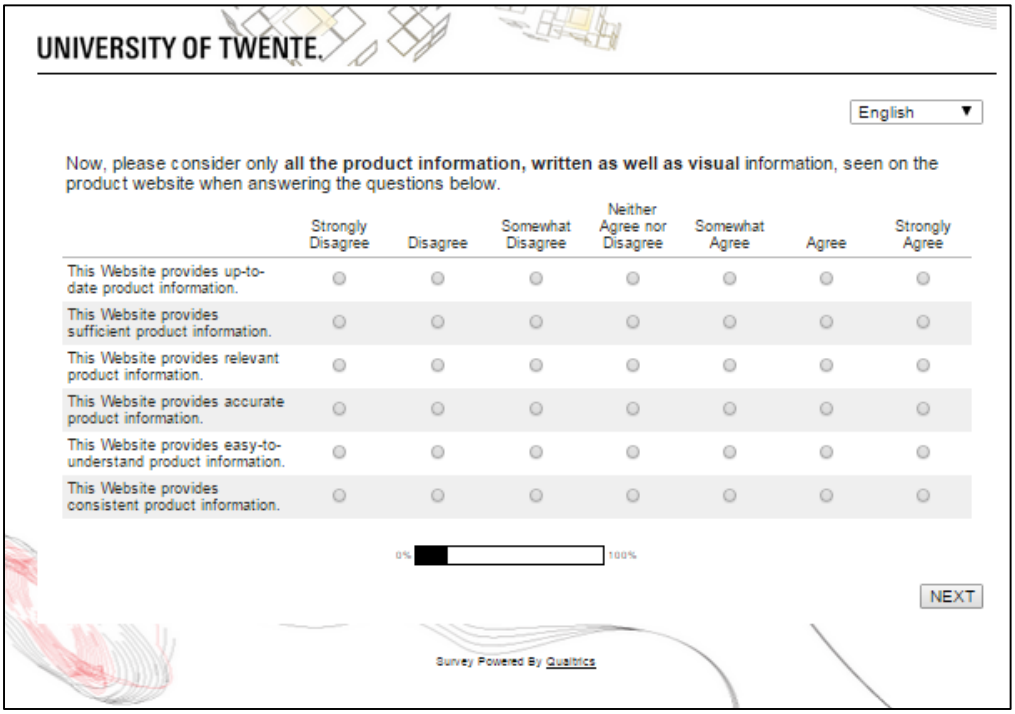
	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I think this Website keeps its promises.							
I think the information provided on this Website is true and honest.							
I think I can trust this Website.							
This Website stands out for its honesty and transparency while offering its products to the user.							
I think this Website's owner operates in an ethical manner.							
I think this Website's owner has the necessary resources to successfully carry out its activities.							

0% 100%

NEXT

Survey Powered By Qualtrics

Product Information Quality:



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English

Now, please consider only **all the product information, written as well as visual** information, seen on the product website when answering the questions below.

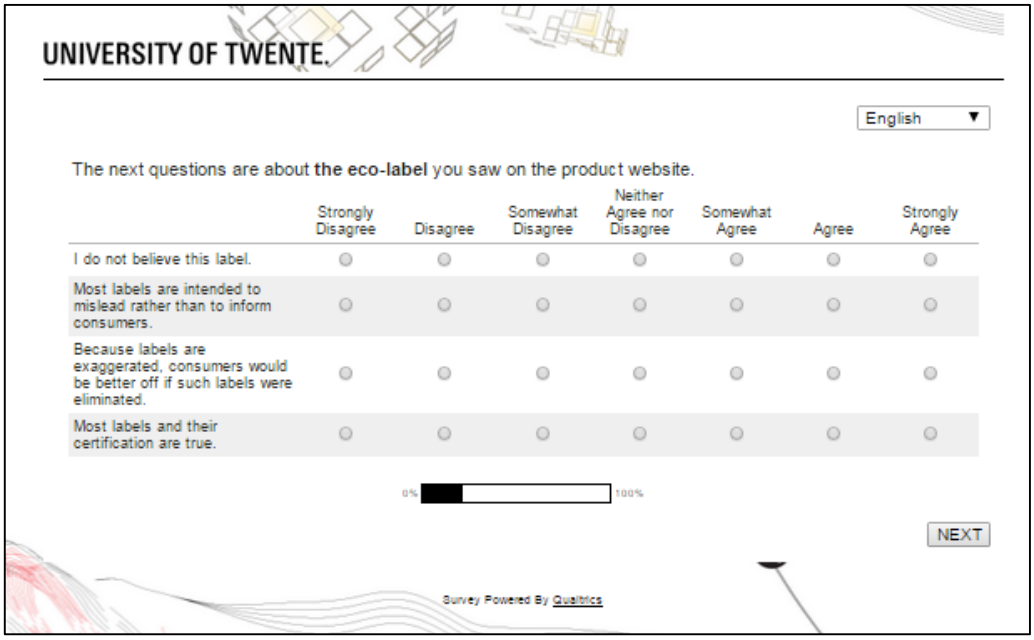
	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
This Website provides up-to-date product information.							
This Website provides sufficient product information.							
This Website provides relevant product information.							
This Website provides accurate product information.							
This Website provides easy-to-understand product information.							
This Website provides consistent product information.							

0% 100%

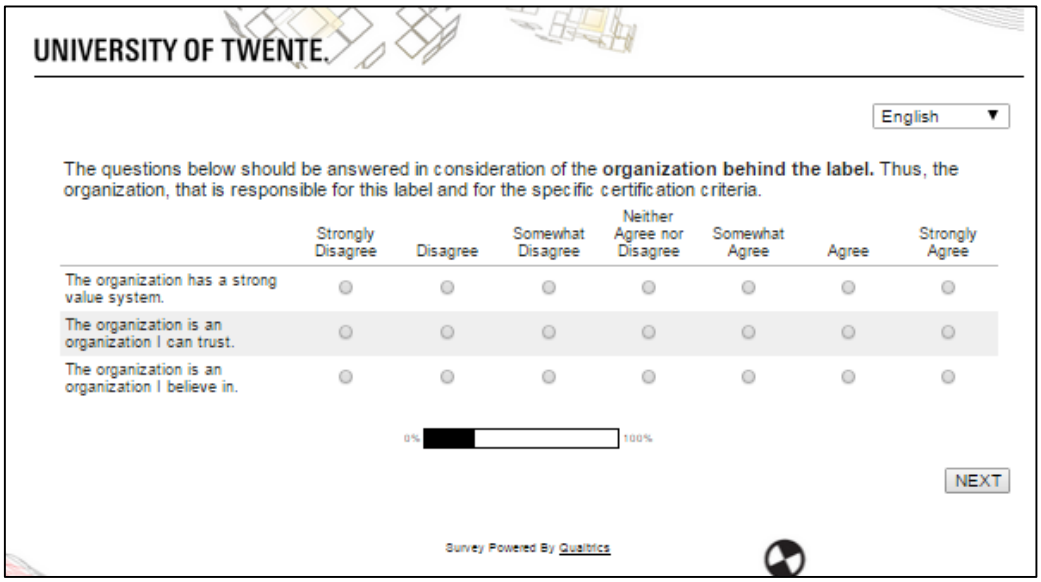
NEXT

Survey Powered By Qualtrics

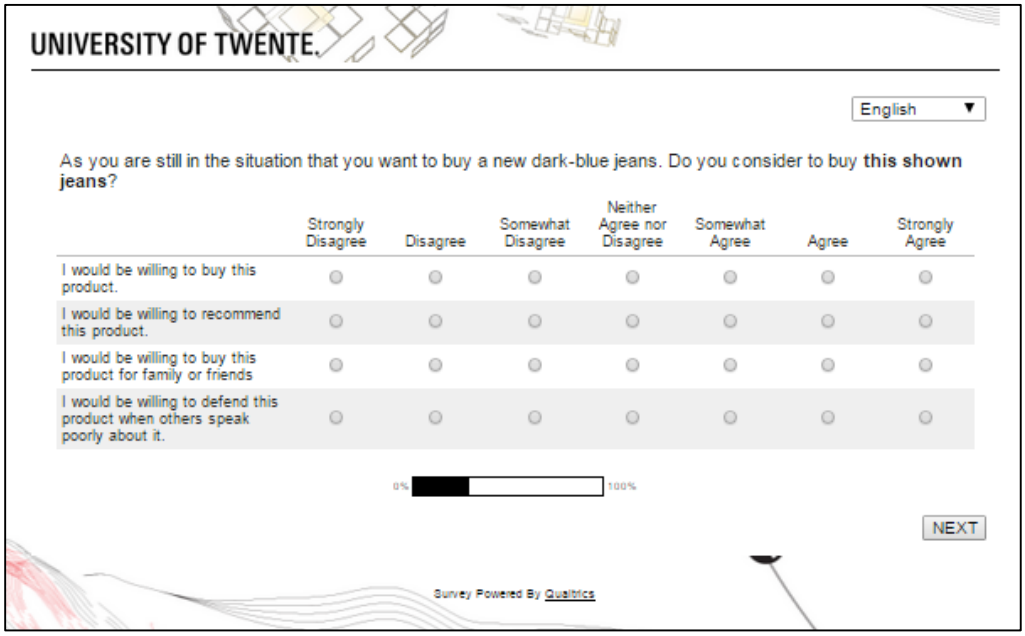
Scepticism:



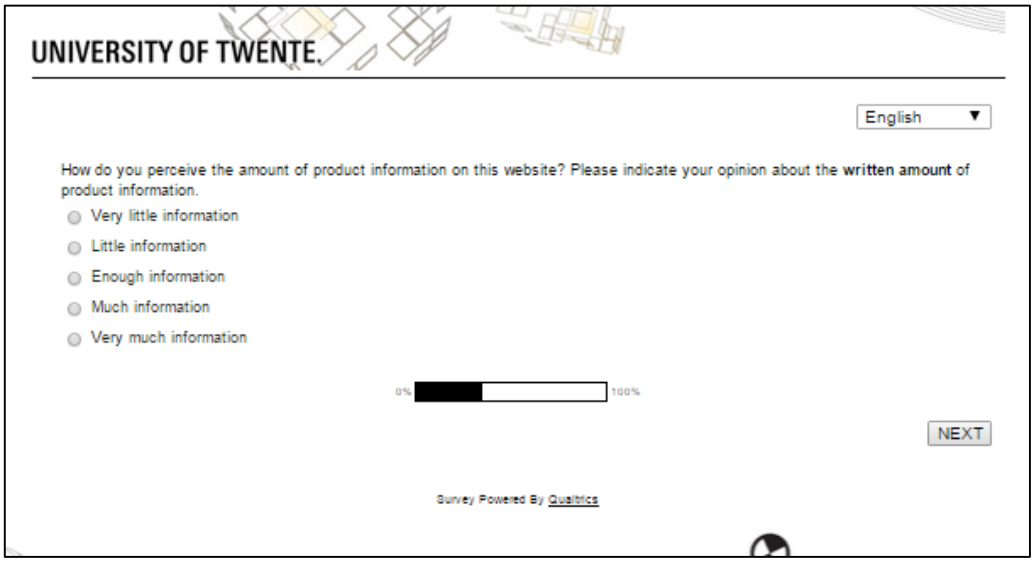
Credibility:



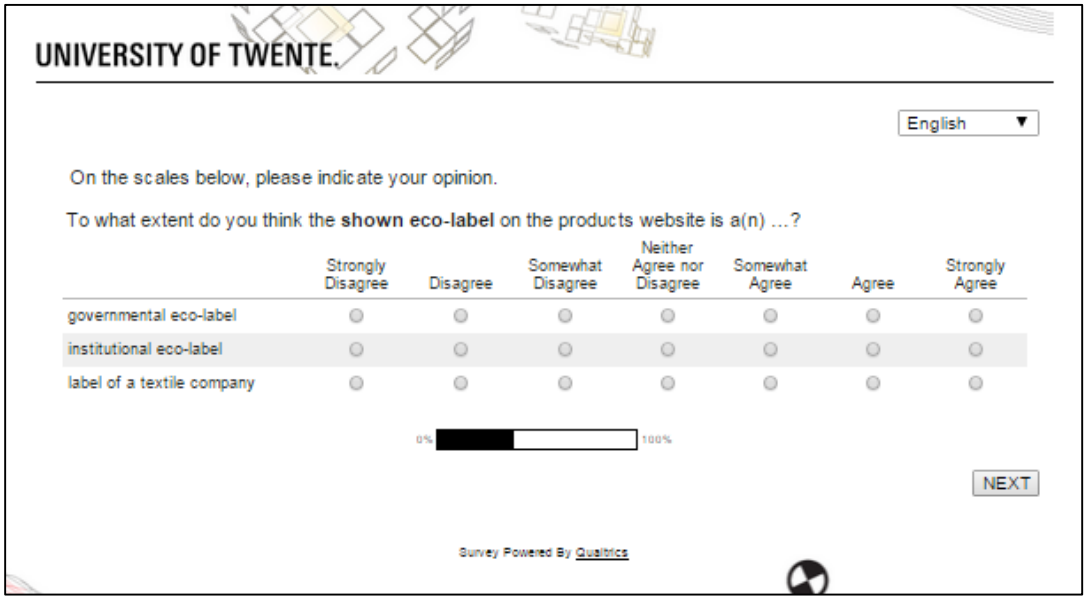
Purchase Intention:



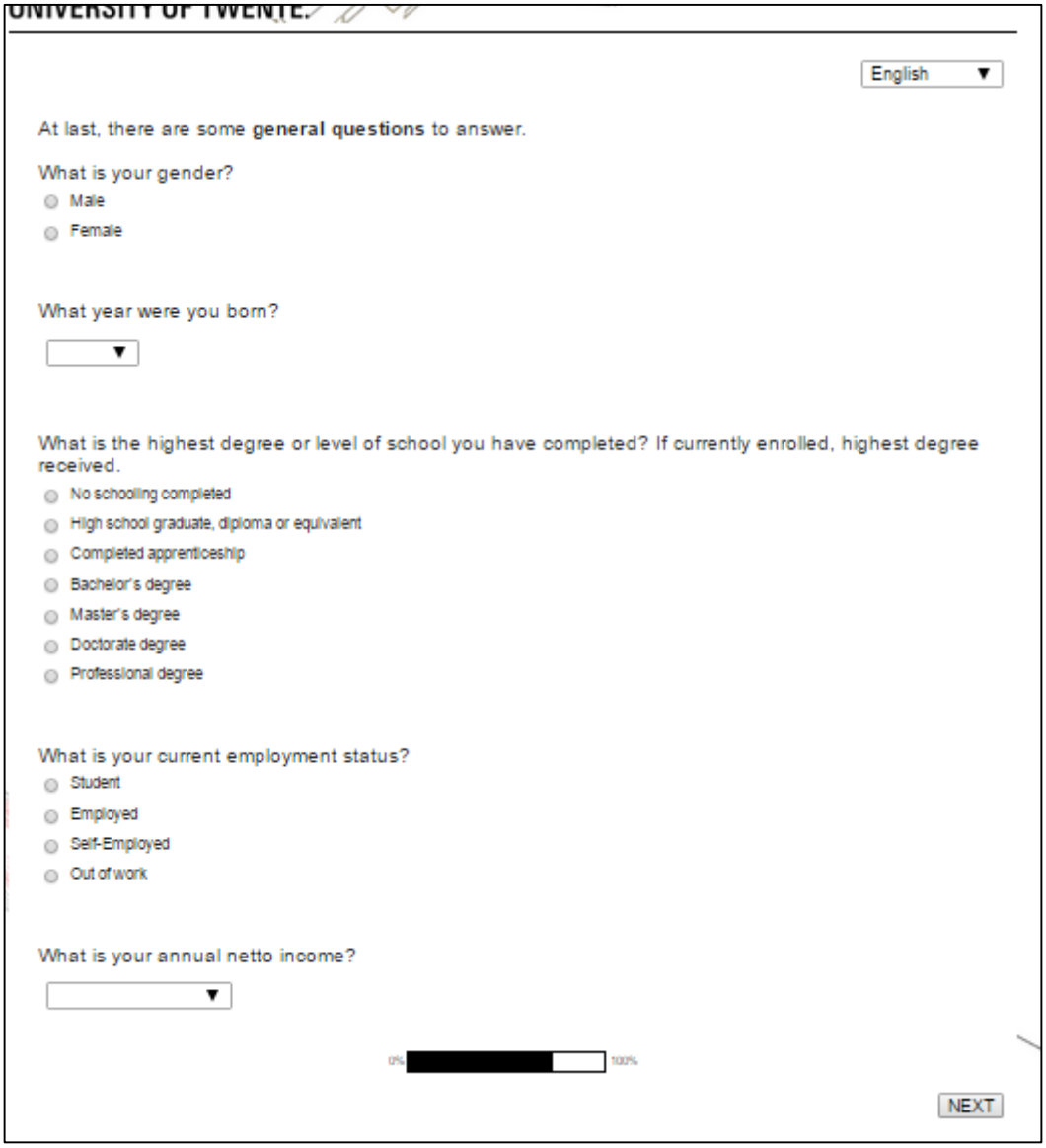
Manipulation Check Amount of Information:



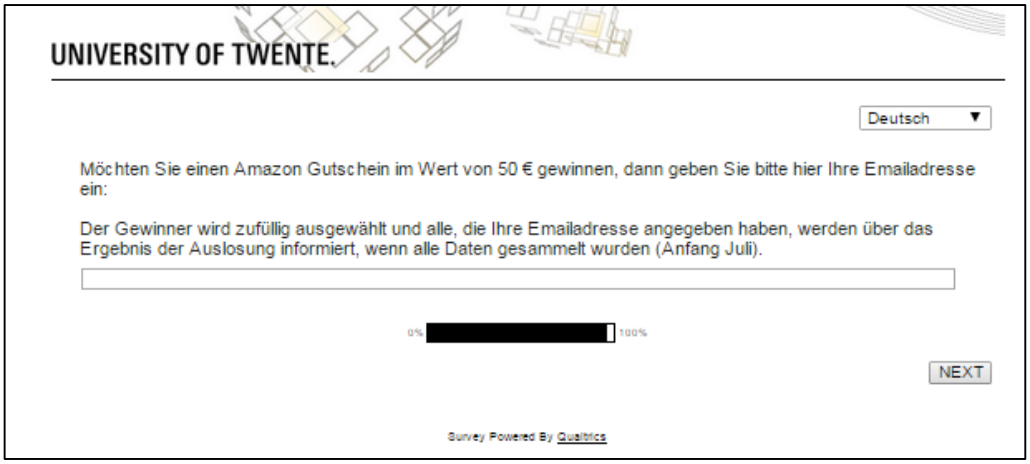
Manipulation Check Eco-Label:



Demographics:



Lottery:



Last Page:

Appendix D: SPSS Output Manipulation Check

EU Flower:

Deskriptive Statistiken[a]

	H	Mittelwert	Standardabweichung	Minimum	Maximum
governmental	71	3,59	1,479	1	7
institutional	71	3,93	1,428	1	7
company	71	4,44	1,360	1	7

a. Authori = governmental

Ränge[a]

	Mittlerer Rang
governmental	1,70
institutional	2,02
company	2,28

a. Authori = governmental

Teststatistiken[a,b]

H	71
Chi-Quadrat	15,718
df	2
Asymp. Sig.	,000

a. Authori = governmental

b. Friedman-Test

Deskriptive Statistiken[a]

	H	Mittelwert	Standardabweichung	Minimum	Maximum
governmental	71	3,59	1,479	1	7
institutional	71	3,93	1,428	1	7

a. Authori = governmental

Ränge[a]

		H	Mittlerer Rang	Summe der Ränge
institutional - governmental	Negative Ränge	14[b]	28,39	397,50
	Positive Ränge	32[c]	21,36	683,50
	Bindungen	25[d]		
	Gesamtsumme	71		

a. Authori = governmental

b. institutional < governmental

c. institutional > governmental

d. institutional = governmental

Teststatistiken[a,b]

	institutional - governmental
U	-1,580[c]
Asymp. Sig. (2-seitig)	,114

a. Authori = governmental

b. Wilcoxon-Test

c. Basierend auf negativen Rängen.

Deskriptive Statistiken[a]

	H	Mittelwert	Standardabweichung	Minimum	Maximum
governmental	71	3,59	1,479	1	7
company	71	4,44	1,360	1	7

a. Authori = governmental

Ränge[a]

		H	Mittlerer Rang	Summe der Ränge
company - governmental	Negative Ränge	17[b]	29,82	507,00
	Positive Ränge	42[c]	30,07	1263,00
	Bindungen	12[d]		
	Gesamtsumme	71		

a. Authori = governmental

b. company < governmental

c. company > governmental

d. company = governmental

Teststatistiken[a,b]

	company - governmental
U	-2,879[c]
Asymp. Sig. (2-seitig)	,004

a. Authori = governmental

b. Wilcoxon-Test

c. Basierend auf negativen Rängen.

Fairtrade:

Deskriptive Statistiken[a]

	H	Mittelwert	Standardabweichung	Minimum	Maximum
governmental	80	3,24	1,343	1	6
institutional	80	4,89	1,253	2	7
company	80	3,64	1,545	1	6

a. Authori = institutional

Ränge[a]

	Mittlerer Rang
governmental	1,60
institutional	2,44
company	1,96

a. Authori = institutional

Teststatistiken[a,b]

H	80
Chi-Quadrat	36,892
df	2
Asymp. Sig.	,000

a. Authori = institutional

b. Friedman-Test

Deskriptive Statistiken[a]

	H	Mittelwert	Standardabweichung	Minimum	Maximum
governmental	80	3,24	1,343	1	6
institutional	82	4,90	1,243	2	7

a. Authori = institutional

Ränge[a]

		H	Mittlerer Rang	Summe der Ränge
institutional - governmental	Negative Ränge	10[b]	19,70	197,00
	Positive Ränge	54[c]	34,87	1883,00
	Bindungen	16[d]		

	Gesamtsumme	80		

a. Authori = institutional

b. institutional < governmental

c. institutional > governmental

d. institutional = governmental

Teststatistiken[a,b]

	institutional - governmental
U	-5,679[c]
Asymp. Sig. (2-seitig)	,000

a. Authori = institutional

b. Wilcoxon-Test

c. Basierend auf negativen Rängen.

Deskriptive Statistiken[a]

	H	Mittelwert	Standardabweichung	Minimum	Maximum
institutional	82	4,90	1,243	2	7
company	81	3,67	1,557	1	6

a. Authori = institutional

Ränge[a]

		H	Mittlerer Rang	Summe der Ränge
company - institutional	Negative Ränge	42[b]	32,56	1367,50
	Positive Ränge	15[c]	19,03	285,50
	Bindungen	23[d]		
	Gesamtsumme	80		

a. Authori = institutional

b. company < institutional

c. company > institutional

d. company = institutional

Teststatistiken[a,b]

	company - institutional
U	-4,324[c]
Asymp. Sig. (2-seitig)	,000

a. Authori = institutional

b. Wilcoxon-Test

c. Basierend auf positiven Rängen.

Ränge

		H	Mittlerer Rang	Summe der Ränge
governmental - company	Negative Ränge	37[a]	26,41	977,00
	Positive Ränge	17[b]	29,88	508,00
	Bindungen	26[c]		
	Gesamtsumme	80		

a. governmental < company

b. governmental > company

c. governmental = company

Teststatistiken[a]

	governmental - company
U	-2,053[b]
Asymp. Sig. (2-seitig)	,040

a. Wilcoxon-Test

b. Basierend auf positiven Rängen.

Amount of Information:

Ränge

	AmountIn	H	Mittlerer Rang	Summe der Ränge
ControlInf.0	Less Info	121	95,30	11531,50
	Much Info	113	141,27	15963,50
	Gesamtsumme	234		

Teststatistiken[a]

	ControlInf.0
Mann-Whitney-U-Test	4150,500
Wilcoxon-W	11531,500
U	-5,656
Asymp. Sig. (2-seitig)	,000

a. Gruppierungsvariable: AmountIn

Statistiken[a]

How do you perceive the amount of product information onthis website? Please indicate your opinion about the written amount of product information

N	Gültig	113
	Fehlend	1
Mittelwert		3,34

a. AmountIn = Much Info

Statistiken[a]

How do you perceive the amount of product information onthis website? Please indicate your opinion about the written amount of product information

N	Gültig	121
	Fehlend	3
Mittelwert		2,73

a. AmountIn = Less Info

Appendix E: SPSS Output Sample Demographics

Gender

		Häufigkeit	Prozent	Gültige Prozent	Kumulative Prozente
Gültig	Male	67	27,9	29,1	29,1
	Female	163	67,9	70,9	100,0
	Gesamtsumme	230	95,8	100,0	
Fehlend	System	10	4,2		
Gesamtsumme		240	100,0		

Education

		Häufigkeit	Prozent	Gültige Prozent	Kumulative Prozente
Gültig	High school graduate, diploma or equivalent	76	31,7	32,8	32,8
	Completed apprenticeship	36	15,0	15,5	48,3
	Bachelor's degree	67	27,9	28,9	77,2
	Master's degree	52	21,7	22,4	99,6
	Doctorate degree	1	,4	,4	100,0
	Gesamtsumme	232	96,7	100,0	
Fehlend	System	8	3,3		
Gesamtsumme		240	100,0		

Employment

		Häufigkeit	Prozent	Gültige Prozent	Kumulative Prozente
Gültig	Student	102	42,5	44,3	44,3
	Employed	116	48,3	50,4	94,8
	Self-Employed	4	1,7	1,7	96,5
	Out of work	8	3,3	3,5	100,0
	Gesamtsumme	230	95,8	100,0	
Fehlend	System	10	4,2		
Gesamtsumme		240	100,0		

Income

		Häufigkeit	Prozent	Gültige Prozent	Kumulative Prozente
Gültig	under €20,000	127	52,9	62,3	62,3
	20,000-29,999	20	8,3	9,8	72,1
	30,000-39,999	23	9,6	11,3	83,3
	40,000-49,999	16	6,7	7,8	91,2
	50,000-59,999	12	5,0	5,9	97,1
	60,000-69,999	1	,4	,5	97,5
	70,000-79,999	2	,8	1,0	98,5
	90,000-99,999	2	,8	1,0	99,5
	110,000-119,999	1	,4	,5	100,0
	Gesamtsumme	204	85,0	100,0	
Fehlend	System	36	15,0		
Gesamtsumme		240	100,0		

Deskriptive Statistiken

	N	Minimum	Maximum	Mittelwert	Standardabweichung
Age	232	34	78	68,50	7,550
Gültige Anzahl (listenweise)	232				

Appendix F: SPSS Outcome Factor Analysis

Kommunalitäten

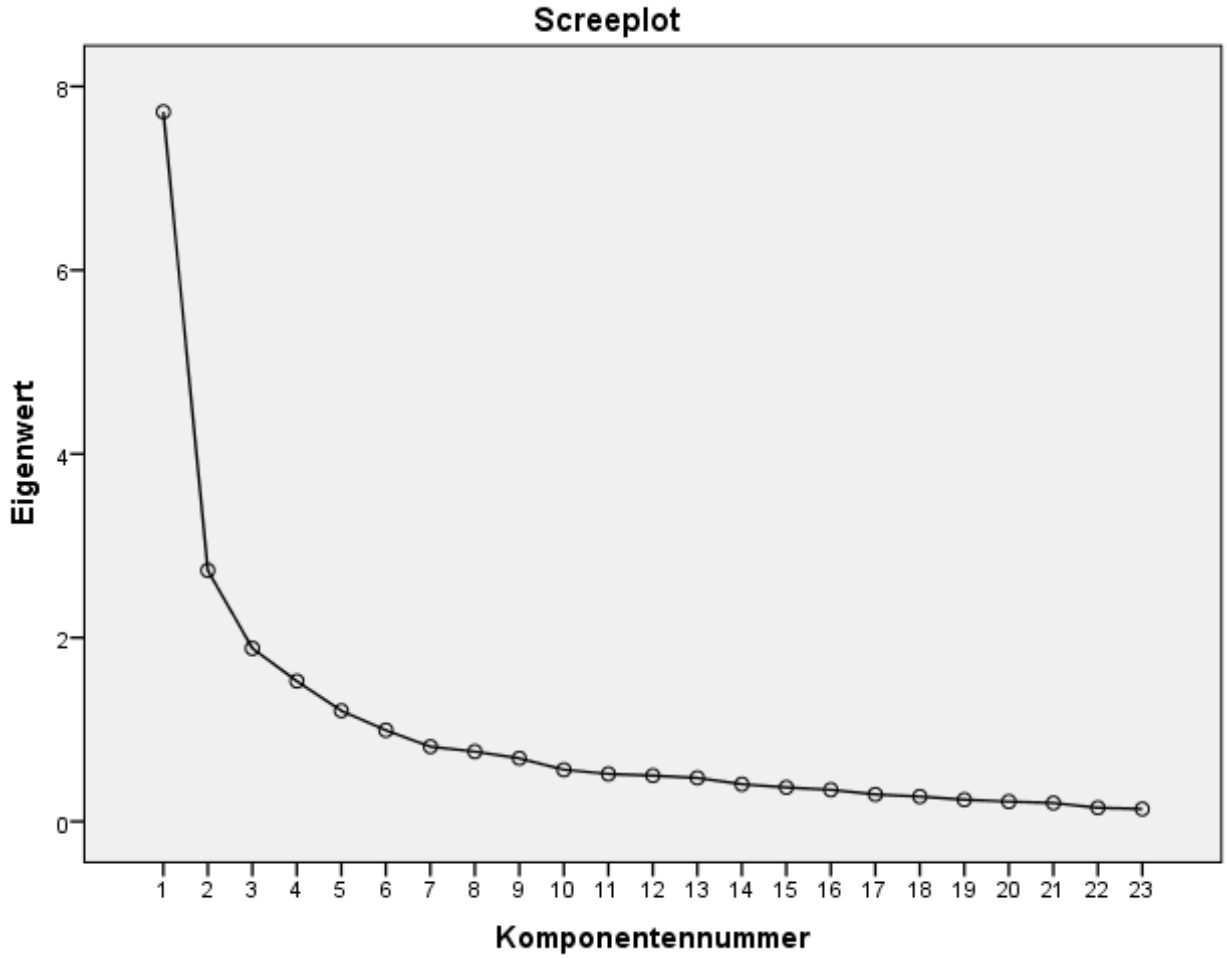
	Anfänglich	Extraktion
Trust_1	1,000	,676
Trust_2	1,000	,708
Trust_3	1,000	,725
Trust_4	1,000	,530
Trust_5	1,000	,718
Trust_6	1,000	,540
InfoQu_1	1,000	,565
InfoQu_2	1,000	,623
InfoQu_3	1,000	,731
InfoQu_4	1,000	,731
InfoQu_5	1,000	,627
InfoQu_6	1,000	,519
Credibility_1	1,000	,672
Credibility_2	1,000	,789
Credibility_3	1,000	,772
PI_1.0	1,000	,768
PI_2.0	1,000	,848
PI_3.0	1,000	,778
PI_4.0	1,000	,614
scepticism_1re	1,000	,534
scepticism_2re	1,000	,544
scepticism_3re	1,000	,520
Scepticism_4	1,000	,540

Extraktionsmethode: Analyse der Hauptkomponente.

Erklärte Gesamtvarianz

Komponente	Anfängliche Eigenwerte			Extrahierte Summen von quadrierten Ladungen			Rotierte Summen von quadrierten Ladungen		
	Gesamtsumme	% der Varianz	Kumulativ %	Gesamtsumme	% der Varianz	Kumulativ %	Gesamtsumme	% der Varianz	Kumulativ %
1	7,723	33,579	33,579	7,723	33,579	33,579	3,824	16,628	16,628
2	2,732	11,877	45,456	2,732	11,877	45,456	3,547	15,423	32,051
3	1,884	8,191	53,647	1,884	8,191	53,647	3,197	13,901	45,952
4	1,528	6,642	60,288	1,528	6,642	60,288	3,025	13,151	59,103
5	1,204	5,236	65,524	1,204	5,236	65,524	1,477	6,421	65,524
6	,993	4,316	69,840						
7	,814	3,539	73,380						
8	,760	3,305	76,685						
9	,687	2,988	79,673						
10	,563	2,447	82,120						
11	,517	2,246	84,366						
12	,499	2,168	86,534						
13	,474	2,059	88,593						
14	,405	1,761	90,354						
15	,371	1,613	91,967						
16	,345	1,498	93,465						
17	,294	1,280	94,745						
18	,271	1,178	95,923						
19	,236	1,027	96,950						
20	,216	,939	97,889						
21	,201	,873	98,762						
22	,149	,650	99,412						
23	,135	,588	100,000						

Extraktionsmethode: Analyse der Hauptkomponente.



Komponentenmatrix[a]

	Komponente				
	1	2	3	4	5
Trust_1	,652	,238	-,427	-,052	-,095
Trust_2	,599	,364	-,457	-,054	-,071
Trust_3	,661	,250	-,467	-,031	-,084
Trust_4	,608	,145	-,346	,105	,095
Trust_5	,720	-,043	-,420	-,037	,141
Trust_6	,596	,253	-,320	,102	,087
InfoQu_1	,569	,457	,116	-,070	-,116
InfoQu_2	,556	,450	,244	-,114	-,198
InfoQu_3	,615	,358	,412	-,099	-,211
InfoQu_4	,558	,414	,437	-,237	-,028
InfoQu_5	,616	,265	,418	-,038	,028
InfoQu_6	,584	,117	,237	-,303	,127
Credibility_1	,609	-,428	,191	-,230	,169
Credibility_2	,664	-,484	,135	-,294	,093
Credibility_3	,651	-,499	,025	-,245	,198
PI_1.0	,642	-,176	,131	,555	-,024
PI_2.0	,668	-,235	,208	,551	-,024

PI_3.0	,661	-,239	,172	,504	,005
PI_4.0	,646	-,378	-,032	,228	-,015
scepticism_1re	-,363	,462	,042	,239	,361
scepticism_2re	,022	,242	,186	,082	,666
scepticism_3re	-,114	,444	-,012	,113	,545
Scepticism_4	,352	-,420	-,167	-,357	,290

Extraktionsmethode: Analyse der Hauptkomponente.

a. 5 Komponenten extrahiert.

Rotierte Komponentenmatrix[a]

	Komponente				
	1	2	3	4	5
Trust_1	,769	,228	,118	,095	-,099
Trust_2	,804	,243	,025	,023	-,029
Trust_3	,809	,206	,106	,103	-,086
Trust_4	,653	,126	,151	,244	,076
Trust_5	,706	,070	,405	,225	,005
Trust_6	,663	,195	,079	,209	,112
InfoQu_1	,386	,636	-,028	,097	,025
InfoQu_2	,279	,731	-,032	,088	-,045
InfoQu_3	,155	,813	,047	,194	-,076
InfoQu_4	,119	,830	,129	,045	,094
InfoQu_5	,119	,706	,166	,271	,115
InfoQu_6	,183	,555	,409	,049	,087
Credibility_1	,049	,229	,731	,277	-,075
Credibility_2	,103	,226	,791	,257	-,186
Credibility_3	,174	,111	,805	,268	-,099
PI_1.0	,211	,166	,109	,827	-,028
PI_2.0	,147	,197	,163	,872	-,045
PI_3.0	,169	,176	,196	,824	-,032
PI_4.0	,263	,051	,399	,595	-,170
scepticism_1re	-,080	-,052	-,428	-,116	,573
scepticism_2re	-,051	,098	,086	,037	,723
scepticism_3re	,092	,030	-,172	-,108	,685
Scepticism_4	,175	-,102	,706	-,029	-,003

Extraktionsmethode: Analyse der Hauptkomponente.

Rotationsmethode: Varimax mit Kaiser-Normalisierung.

a. Rotation konvergierte in 5 Iterationen.

Appendix G: SPSS Outcome Reliability Analysis

Trust:

Zusammenfassung der Fallverarbeitung

		N	%
Fälle	Gültig	238	100,0
	Ausgeschlossen[a]	0	,0
	Gesamtsumme	238	100,0

a. Listenweiser Ausschluss basierend auf allen Variablen in der Prozedur.

Auswertung der Itemstatistik

	Mittelwert	Minimum	Maximum	Bereich	Maximum / Minimum	Varianz	Anzahl der Items
Item-Mittelwerte	4,791	4,294	5,168	,874	1,204	,125	6

Item-Skala-Statistik

	Mittelwert skalieren, wenn Item gelöscht	Varianz skalieren, wenn Item gelöscht	Korrigierte Item-Skala-Korrelation	Quadrierte multiple Korrelation	Cronbach-Alpha, wenn Item gelöscht
Trust_1	23,71	19,652	,663	,512	,827
Trust_2	23,58	18,827	,708	,646	,817
Trust_3	23,70	18,674	,739	,645	,812
Trust_4	24,28	19,307	,581	,368	,841
Trust_5	24,45	18,519	,625	,439	,834
Trust_6	24,02	19,683	,552	,317	,846

Reliabilitätsstatistik

Cronbach-Alpha	Cronbach-Alpha für standardisierte Items	Anzahl der Items
,854	,857	6

Product Information Quality

Zusammenfassung der Fallverarbeitung

		N	%
Fälle	Gültig	234	98,3
	Ausgeschlossen[a]	4	1,7
	Gesamtsumme	238	100,0

a. Listenweiser Ausschluss basierend auf allen Variablen in der Prozedur.

Reliabilitätsstatistik

Cronbach-Alpha	Cronbach-Alpha für standardisierte Items	Anzahl der Items
,856	,858	6

Auswertung der Itemstatistik

	Mittelwert	Minimum	Maximum	Bereich	Maximum / Minimum	Varianz	Anzahl der Items
Item-Mittelwerte	5,183	4,825	5,479	,654	1,136	,065	6

Item-Skala-Statistik

	Mittelwert skalieren, wenn Item gelöscht	Varianz skalieren, wenn Item gelöscht	Korrigierte Item-Skala-Korrelation	Quadrierte multiple Korrelation	Cronbach-Alpha, wenn Item gelöscht
InfoQu_1	25,81	21,821	,610	,384	,838
InfoQu_2	25,94	19,958	,652	,477	,832
InfoQu_3	25,70	21,773	,721	,552	,821
InfoQu_4	26,27	19,195	,728	,547	,816
InfoQu_5	25,62	21,739	,630	,467	,835
InfoQu_6	26,15	22,837	,551	,355	,848

Credibility:

Reliabilitätsstatistik

Cronbach-Alpha	Cronbach-Alpha für standardisierte Items	Anzahl der Items
,837	,841	4

Itemstatistik

	Mittelwert	Standardabweichung	N
Credibility_1	4,56	1,035	154
Credibility_2	4,50	1,133	154
Credibility_3	4,25	1,234	154
Scepticism_4	4,21	1,210	154

Auswertung der Itemstatistik

	Mittelwert	Minimum	Maximum	Bereich	Maximum / Minimum	Varianz	Anzahl der Items
Item-Mittelwerte	4,383	4,214	4,565	,351	1,083	,031	4

Item-Skala-Statistik

	Mittelwert skalieren, wenn Item gelöscht	Varianz skalieren, wenn Item gelöscht	Korrigierte Item-Skala-Korrelation	Quadrierte multiple Korrelation	Cronbach-Alpha, wenn Item gelöscht
Credibility_1	12,97	9,051	,680	,576	,792
Credibility_2	13,03	7,862	,820	,715	,726
Credibility_3	13,28	7,640	,761	,630	,750
Scepticism_4	13,32	9,499	,455	,241	,888

Purchase Intention

Zusammenfassung der Fallverarbeitung

		N	%
Fälle	Gültig	234	98,3
	Ausgeschlossen[a]	4	1,7
	Gesamtsumme	238	100,0

a. Listenweiser Ausschluss basierend auf allen Variablen in der Prozedur.

Reliabilitätsstatistik

Cronbach-Alpha	Cronbach-Alpha für standardisierte Items	Anzahl der Items
,866	,867	4

Auswertung der Itemstatistik

	Mittelwert	Minimum	Maximum	Bereich	Maximum / Minimum	Varianz	Anzahl der Items
Item-Mittelwerte	4,177	3,607	4,624	1,017	1,282	,186	4

Item-Skala-Statistik

	Mittelwert skalieren, wenn Item gelöscht	Varianz skalieren, wenn Item gelöscht	Korrigierte Item-Skala-Korrelation	Quadrierte multiple Korrelation	Cronbach-Alpha, wenn Item gelöscht
PI_1.0	12,09	13,581	,697	,518	,837
PI_2.0	12,36	13,218	,808	,658	,793
PI_3.0	12,58	12,905	,758	,604	,812
PI_4.0	13,10	14,247	,612	,403	,871

Scepticism:

Reliabilitätsstatistik

Cronbach-Alpha	Cronbach-Alpha für standardisierte Items	Anzahl der Items
,480	,478	3

Itemstatistik

	Mittelwert	Standardabweichung	N
scepticism_1re	2,8101	,93857	158
scepticism_2re	2,7278	,84196	158
scepticism_3re	2,4557	,93478	158

Auswertung der Itemstatistik

	Mittelwert	Minimum	Maximum	Bereich	Maximum / Minimum	Varianz	Anzahl der Items
Item-Mittelwerte	2,665	2,456	2,810	,354	1,144	,034	3

Item-Skala-Statistik

	Mittelwert skalieren, wenn Item gelöscht	Varianz skalieren, wenn Item gelöscht	Korrigierte Item-Skala-Korrelation	Quadrierte multiple Korrelation	Cronbach-Alpha, wenn Item gelöscht
scepticism_1re	5,1835	1,871	,340	,117	,308
scepticism_2re	5,2658	2,273	,253	,065	,456
scepticism_3re	5,5380	1,944	,309	,101	,365

Appendix H: SPSS Outcome Normality

EU flower // little info

Tests auf Normalverteilung[a]

	Kolmogorow-Smirnow[b]			Shapiro-Wilk		
	Statistik	df	Sig.	Statistik	df	Sig.
PI	,105	35	,200*	,952	35	,134
InfoQual	,146	35	,057	,971	35	,472
Trust	,122	35	,200*	,907	35	,006

*. Dies ist eine Untergrenze der tatsächlichen Signifikanz.

a. Condition = EULessInfo

b. Signifikanzkorrektur nach Lilliefors

EU flower // much info

Tests auf Normalverteilung[a]

	Kolmogorow-Smirnow[b]			Shapiro-Wilk		
	Statistik	df	Sig.	Statistik	df	Sig.
PI	,147	36	,048	,976	36	,620
InfoQual	,114	36	,200*	,956	36	,163
Trust	,095	36	,200*	,980	36	,733

*. Dies ist eine Untergrenze der tatsächlichen Signifikanz.

a. Condition = EUMuchInfo

b. Signifikanzkorrektur nach Lilliefors

Fairtrade // little info

Tests auf Normalverteilung[a]

	Kolmogorow-Smirnow[b]			Shapiro-Wilk		
	Statistik	df	Sig.	Statistik	df	Sig.
PI	,057	43	,200*	,989	43	,945
InfoQual	,102	43	,200*	,978	43	,581
Trust	,131	43	,060	,954	43	,081

*. Dies ist eine Untergrenze der tatsächlichen Signifikanz.

a. Condition = FTLessInfo

b. Signifikanzkorrektur nach Lilliefors

Fairtrade // much info

Tests auf Normalverteilung[a]

	Kolmogorow-Smirnow[b]			Shapiro-Wilk		
	Statistik	df	Sig.	Statistik	df	Sig.
PI	,154	39	,021	,917	39	,007
InfoQual	,113	39	,200*	,971	39	,404
Trust	,152	39	,024	,957	39	,137

*. Dies ist eine Untergrenze der tatsächlichen Signifikanz.

a. Condition = FTMuchInfo

b. Signifikanzkorrektur nach Lilliefors

No Label // little info

Tests auf Normalverteilung[a]

	Kolmogorow-Smirnow[b]			Shapiro-Wilk		
	Statistik	df	Sig.	Statistik	df	Sig.
PI	,096	39	,200*	,982	39	,759
InfoQual	,102	39	,200*	,973	39	,448
Trust	,214	39	,000	,932	39	,021

*. Dies ist eine Untergrenze der tatsächlichen Signifikanz.

a. Condition = NoLabelLessInfo

b. Signifikanzkorrektur nach Lilliefors

No Label // Much info

Tests auf Normalverteilung[a]

	Kolmogorow-Smirnow[b]			Shapiro-Wilk		
	Statistik	df	Sig.	Statistik	df	Sig.
PI	,120	38	,181	,981	38	,754
InfoQual	,081	38	,200*	,989	38	,962
Trust	,116	38	,200*	,972	38	,442

*. Dies ist eine Untergrenze der tatsächlichen Signifikanz.

a. Condition = NoLabelMuchInfo

b. Signifikanzkorrektur nach Lilliefors

Appendix I: Testing of Hypothesis

H1: High trust in the product website of an online shop leads to a higher purchase intention of the consumers.

Dependent variable: Purchase Intention

Independent variable: Trust

Analysis: Linear Regression

Eingegebene/Entfernte Variablen[a]

Modell	Eingegebene Variablen	Entfernte Variablen	Methode
1	Mean_Tru[b]	.	Aufnehmen

a. Abhängige Variable: Mean_PI

b. Alle angeforderten Variablen wurden eingegeben.

Modellübersicht

Modell	R	R-Quadrat	Angepasstes R-Quadrat	Standardfehler der Schätzung
1	,432[a]	,187	,183	1,08237

a. Prädiktoren: (Konstante), Mean_Tru

ANOVA[a]

Modell		Quadratsumme	df	Mittel der Quadrate	F	Sig.
1	Regression	62,470	1	62,470	53,324	,000[b]
	Residuum	271,795	232	1,172		
	Gesamtsumme	334,265	233			

a. Abhängige Variable: Mean_PI

b. Prädiktoren: (Konstante), Mean_Tru

Koeffizienten[a]

Modell		Nicht standardisierte Koeffizienten		Standardisierte Koeffizienten	t	Sig.
		B	Standardfehler	Beta		
1	(Konstante)	1,294	,401		3,226	,001
	Mean_Tru	,601	,082	,432	7,302	,000

a. Abhängige Variable: Mean_PI

H2: High product information quality leads to higher trust of consumers in the product website of an online shop.

Dependent variable: Trust

Independent variable: Product Information Quality

Analysis: Linear Regression

Eingegebene/Entfernte Variablen[a]

Modell	Eingegebene Variablen	Entfernte Variablen	Methode
1	Mean_IQ[b]	.	Aufnehmen

a. Abhängige Variable: Mean_Tru

b. Alle angeforderten Variablen wurden eingegeben.

Modellübersicht

Modell	R	R-Quadrat	Angepasstes R-Quadrat	Standardfehler der Schätzung
1	,532[a]	,283	,280	,73626

a. Prädiktoren: (Konstante), Mean_IQ

ANOVA[a]

Modell		Quadratsumme	df	Mittel der Quadrate	F	Sig.
1	Regression	49,630	1	49,630	91,556	,000[b]
	Residuum	125,761	232	,542		
	Gesamtsumme	175,391	233			

a. Abhängige Variable: Mean_Tru

b. Prädiktoren: (Konstante), Mean_IQ

Koeffizienten[a]

Modell		Nicht standardisierte Koeffizienten		Standardisierte Koeffizienten	t	Sig.
		B	Standardfehler	Beta		
1	(Konstante)	2,161	,279		7,733	,000
	Mean_IQ	,508	,053	,532	9,568	,000

a. Abhängige Variable: Mean_Tru

H3: A governmental eco-label on a product website of an online shop will lead to higher consumers' trust in the product website than an institutional label.

Dependent variable: Trust

Independent variable: Eco-label

Analysis: Linear Regression

Regression

Modellübersicht

Modell	R	R-Quadrat	Angepasstes R-Quadrat	Standardfehler der Schätzung
1	,060[a]	,004	-,001	,86208

a. Prädiktoren: (Konstante), Label

Modellübersicht

Modell	R	R-Quadrat	Angepasstes R-Quadrat	Standardfehler der Schätzung
1	,060[a]	,004	-,001	,86208

a. Prädiktoren: (Konstante), Label

ANOVA[a]

Modell		Quadratsumme	df	Mittel der Quadrate	F	Sig.
1	Regression	,635	1	,635	,854	,356[b]
	Residuum	175,390	236	,743		
	Gesamtsumme	176,024	237			

a. Abhängige Variable: Mean_Tru

b. Prädiktoren: (Konstante), Label

Koeffizienten[a]

Modell		Nicht standardisierte Koeffizienten		Standardisierte Koeffizienten	t	Sig.
		B	Standardfehler	Beta		
1	(Konstante)	4,937	,168		29,452	,000
	Label	-,109	,118	-,060	-,924	,356

a. Abhängige Variable: Mean_Tru

H4: Much written information will lead to higher product information quality of the product website of an online shop than little written information.

Independent Variable: Amount of Product Information

Dependent Variable: Product Information Quality

Analyses: Regression, Mann-Whitney-Test

Regression

Eingegebene/Entfernte Variablen[a]

Modell	Eingegebene Variablen	Entfernte Variablen	Methode
1	AmountIn[b]	.	Aufnehmen

a. Abhängige Variable: Mean_IQ

b. Alle angeforderten Variablen wurden eingegeben.

Modellübersicht

Modell	R	R-Quadrat	Angepasstes R-Quadrat	Standardfehler der Schätzung
1	,073[a]	,005	,001	,90789

a. Prädiktoren: (Konstante), AmountIn

ANOVA[a]

Modell		Quadratsumme	df	Mittel der Quadrate	F	Sig.
1	Regression	1,014	1	1,014	1,231	,268[b]
	Residuum	191,228	232	,824		
	Gesamtsumme	192,243	233			

a. Abhängige Variable: Mean_IQ

b. Prädiktoren: (Konstante), AmountIn

Koeffizienten[a]

Modell		Nicht standardisierte Koeffizienten		Standardisierte Koeffizienten	t	Sig.
		B	Standardfehler	Beta		
1	(Konstante)	5,379	,186		28,873	,000
	AmountIn	-,132	,119	-,073	-1,109	,268

a. Abhängige Variable: Mean_IQ

Mann-Whitney Test

Ränge

	AmountIn	H	Mittlerer Rang	Summe der Ränge
Mean_IQ	Less Info	120	122,74	14729,00
	Much Info	114	111,98	12766,00
	Gesamtsumme	234		

Teststatistiken[a]

	Mean_IQ
Mann-Whitney-U-Test	6211,000
Wilcoxon-W	12766,000
U	-1,217
Asymp. Sig. (2-seitig)	,224

a. Gruppierungsvariable: AmountIn

H5: The presence of an eco-label on a product website will lead to a higher product information quality.

Dependent variable: Product Information Quality

Independent variable: Eco-label

Analysis: Regression

Eingegebene/Entfernte Variablen[a]

Modell	Eingegebene Variablen	Entfernte Variablen	Methode
1	Label[b]	.	Aufnehmen

a. Abhängige Variable: Mean_IQ

b. Alle angeforderten Variablen wurden eingegeben.

Modellübersicht

Modell	R	R-Quadrat	Angepasstes R-Quadrat	Standardfehler der Schätzung
1	,065[a]	,004	,000	,90840

a. Prädiktoren: (Konstante), Label

ANOVA[a]

Modell		Quadratsumme	df	Mittel der Quadrate	F	Sig.
1	Regression	,800	1	,800	,969	,326[b]
	Residuum	191,443	232	,825		
	Gesamtsumme	192,243	233			

a. Abhängige Variable: Mean_IQ

b. Prädiktoren: (Konstante), Label

Koeffizienten[a]

Modell		Nicht standardisierte Koeffizienten		Standardisierte Koeffizienten		
		B	Standardfehler	Beta	t	Sig.
1	(Konstante)	5,348	,178		30,021	,000
	Label	-,124	,126	-,065	-,985	,326

a. Abhängige Variable: Mean_IQ

H6: A product website including the combination of a governmental eco-label and little written information will result in a more positive influence on the product information quality than the combination of an institutional eco-label with little information.

Dependent variable: Product Information Quality

Independent variable: Eco-label, Amount of Information

Analysis: Univariate linear model

Zwischensubjektfaktoren

		Wertbeschriftung	H
Label	1,00	Label	157
	2,00	kein Label	77
AmountIn	1,00	Less Info	120
	2,00	Much Info	114

Tests der Zwischensubjekteffekte

Abhängige Variable: Mean_IQ

Quelle	Typ III Quadratsumme	df	Quadratischer Mittelwert	F	Sig.
Korrigiertes Modell	4,494[a]	3	1,498	1,835	,142
Konstanter Term	5499,947	1	5499,947	6737,646	,000
Label	,729	1	,729	,893	,346
AmountIn	,143	1	,143	,176	,676
Label * AmountIn	2,695	1	2,695	3,302	,071
Fehler	187,749	230	,816		
Gesamtsumme	6478,417	234			
Korrigierter Gesamtwert	192,243	233			

a. R-Quadrat = ,023 (Angepasstes R-Quadrat = ,011)

Dependent variable: Product Information Quality

Independent variable: Condition

Analysis: Regression

Zwischensubjektfaktoren

		Wertbeschriftung	H
Condition	1,00	EULessInfo	38
	2,00	EUMuchInfo	37
	3,00	FTLessInfo	43
	4,00	FTMuchInfo	39
	5,00	NoLabelLessInfo	39
	6,00	NoLabelMuchInfo	38

Tests der Zwischensubjekteffekte

Abhängige Variable: Mean_IQ

Quelle	Typ III Quadratsumme	df	Quadratischer Mittelwert	F	Sig.
Korrigiertes Modell	6,441[a]	5	1,288	1,581	,166
Konstanter Term	6267,477	1	6267,477	7690,930	,000
Condition	6,441	5	1,288	1,581	,166
Fehler	185,801	228	,815		
Gesamtsumme	6478,417	234			
Korrigierter Gesamtwert	192,243	233			

a. R-Quadrat = ,034 (Angepasstes R-Quadrat = ,012)

H7: A governmental eco-label with high credibility and low scepticism will result in higher trust in a product website than an institutional eco-labels with high credibility and low scepticism.

Variables: Credibility, Trust

Analysis: Correlation

Korrelationen

		Mean_Cre	Mean_Tru
Mean_Cre	Pearson-Korrelation	1	,377**
	Sig. (2-seitig)		,000
	N	154	154
Mean_Tru	Pearson-Korrelation	,377**	1
	Sig. (2-seitig)	,000	
	N	154	238

**. Korrelation ist bei Niveau 0,01 signifikant (zweiseitig).

Dependent variable: Trust

Independent variable: Responsible Organization

Covariate: Credibility

Analysis: Covariate analysis – Univariate linear model

Zwischensubjektfaktoren

		Wertbeschriftung	H
respOrg	1,00	governmental	71
	2,00	institutional	83

Tests der Zwischensubjekteffekte

Abhängige Variable: Mean_Tru

Quelle	Typ III Quadratsumme	df	Quadratischer Mittelwert	F	Sig.
Korrigiertes Modell	20,038[a]	2	10,019	14,536	,000
Konstanter Term	74,897	1	74,897	108,669	,000
Mean_Cre	19,964	1	19,964	28,966	,000
respOrg	2,374	1	2,374	3,444	,065
Fehler	104,073	151	,689		
Gesamtsumme	3724,944	154			
Korrigierter Gesamtwert	124,110	153			

a. R-Quadrat = ,161 (Angepasstes R-Quadrat = ,150)