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Fair trade information eliminates the positive brand effect: product choice behavior in Japan

Masaya Ota , Yusuke Sakata and Takao Iijima

* Correspondence: mota@fuk.kindai.ac.jp

Department of Business and Management, KINDAI University, 820-8555 11-6, Kayanomori, Iizuka-city, Fukuoka, Japan

Abstract

We examine whether Fair Trade information affects the Japanese consumer's willingness to pay. We provide information on agroforestry and poverty resolution for chocolate products to test consumer behavior. We use an online survey and the Discrete Choice Experiment (DCE) method for hypothesis verification. The results show that brand has a positive effect on consumer willingness to pay, a negative effect in combination with agroforestry information, and no effect in combination with poverty resolution. In light of our results and discussions, to alleviate the above mentioned negative effect, we concluded that Japanese companies and universities should develop their corporate brand image along with their engagement in activities concerning Fair Trade and Japanese government should support to create their image to be engaged in activities concerning Fair Trade.

Keywords: Ethical marketing, Ethical consumers, Choice experiment, Brand trust, Cause-related marketing

Introduction

The 2030 Agenda for Sustainable Development of United Nations has 17 Sustainable Development Goals (SDGs). Goal 12 of SDGs focuses on sustainable consumption and production. This goal asks companies to reduce resource use, degradation, and pollution along the whole life cycle. Additionally, target 12.8 requires people to “have the relevant information and awareness for sustainable development and lifestyles in harmony with nature” by 2030 (United Nations 2015). Recently, a new type of consumer, the ethical consumer, has emerged, who considers the ethical attributes of a product at the manufacturing stage. Companies implement so-called ethical marketing strategies to appeal to this type of consumer. Ethical marketing is a type of cause-related marketing (Barone et al. 2000). The rise in this type of consumers and marketing would help achieve goal 12 of the SDGs.

Fair Trade products are a type of products preferred by ethical consumers. Fair Trade is a trade method that emphasizes on factors such as the well-being of the producer, or concern for the living things in an ecosystem within which the commodity is produced. Fair Trade was originally introduced as a critique of historically rooted international trade inequalities and had a small market in the 1960s and 1970s (Moore 2004; Raynolds 2009). As its market increased to 7.88 billion Euro (947 billion yen) in

2016, Fair Trade came to be known as market-based initiatives (Fairtrade International 2017; Raynolds 2009).

In the 1980s, a Fair Trade label for coffee was introduced to reach the broader public (World Fair Trade Organization 2017). As pointed out by them, “Labeling has helped Fair Trade to go into mainstream business. Currently, over two-thirds of Fair Trade products are sold by mainstream catering and retailing.”

Fair Trade includes many aspects, ranging from elimination of child poverty to environmentally friendly production methods. The World Fair Trade Organization (WFTO) prescribes ten principles that Fair Trade organizations must follow in their day-to-day work (World Fair Trade Organization 2017). The fifth principle prescribes elimination of child labor, which is caused by poverty (World Fair Trade Organization 2017; Harrison et al. 2005; Newholm and Shaw 2007). Principle 10 prescribes respect for the environment and requires agricultural commodity producers to “minimize their environmental impact by using organic or low pesticide production methods wherever possible” (World Fair Trade Organization 2017). This study focuses on these two principles in order to gauge consumer response to Fair Trade products.

While Japan accounted for 6% of the world’s GDP, its share in the world Fair Trade market was only 1.2% in 2016.¹ On the other hand, 25.7% of Japanese consumers were aware of Fair Trade products in 2011, and this increased to 29.3% in 2015 (Japan Fair Trade Forum 2015).

The small Fair Trade market and the rising awareness of the concept in Japan might suggest that Fair Trade awareness does not necessarily result in actual purchases.

In other words, while consumers understand the concept of Fair Trade, they do not necessarily choose a Fair Trade product while shopping. In this regard, Carrigan and Attalla (2001) and Tallontire et al. (2001) point out that, although consumers consider Fair Trade at the time of product selection, the weight of this criterion is not significant in their choice.

Recent literature has shown the effectiveness of Fair Trade information on the products’ choice. For example, according to Lee et al. (2019), green certificates and awards have a positive impact on a company’s brand image, and the brand image in turn increases its perceived value. De Pelsmacker, Driesen, & Rayp (De Pelsmacker et al. 2005a, b) investigate the relative importance of different attributes on consumers’ coffee-buying decision and confirm that brand attribute has the highest relative importance, followed by the Fair Trade label, which is the second highest by a small margin. De Pelsmacker et al. (2005a, b) also point to the effectiveness of combining a manufacturer brand with a Fair Trade label. Hustvedt and Bernard (2010) found that the stronger the Fair Trade interest is, the greater is the positive influence of social responsibility labeling on the willingness to pay for apparel. Additionally, the positive influence increases with the addition of brand names.

Although recent studies have shown that Fair Trade information has positive effects, none of them have tried to reveal the effectiveness of Fair Trade information on the products’ choice in Japan. Therefore, this study tries to answer the following research questions.

¹The estimated market size of international Fair Trade certified products is about 7.88 billion Euro, or about 947 billion yen according to the average exchange rate in 2016. Further, the market size in Japan increased by 13% to 11,360 million yen in 2016 compared to the previous year. (Fairtrade Label Japan 2016).

- a. Whether Fair Trade information (organic farming and poverty or child labor resolution) is effective on Japanese consumer's willingness to pay.
- b. Whether Japanese consumers can process multiple Fair Trade information.
- c. How do Japanese consumers perceive Japanese companies and universities that have the brand power to use Fair Trade information for their products.

The Japanese universities are included in the third research question because the Institute for International Trade and Investment (2017) has suggested the promotion of Fair Trade in Japan by local governments, citizens, companies, universities, and schools. The Japan Fair Trade Forum set the standards for Fair Trade universities in 2017. Fair Trade universities promote the concept of Fair Trade through various college-level classes, and their purpose is to enhance the understanding of Fair Trade in their respective regions by organizing awareness activities. Shizuoka University of Art and Culture was the first to be certificated in 2018 in Japan (Hamamatsu Keizai shinbun 2018), and some other universities are also aiming for the Fair Trade certification. Shizuoka University of Art and Culture develops their original Fair Trade products (Hamamatsu Keizai shinbun 2018), and thus, there is a possibility that other Fair Trade universities will also develop such products from now on. Therefore, we included Japanese universities in the abovementioned third research question. In addition, no study has tried to investigate the relationship between university brand, Fair Trade information, and willingness to pay. Understanding this relationship can contribute to the Fair Trade universities, along with universities around the world considering the Fair Trade certification.

The structure of this article as follows. In Section 2, we formulate hypotheses about the effect of Fair Trade information (organic farming and poverty or child labor resolution) and brand on consumer willingness to pay. Section 3 explains our research methods to verify the hypotheses defined earlier, and Section 4 presents the results and discussions. Section 5 provides the conclusion of the study and outlines options for future research.

The effect of fair trade information and brand on willingness to pay

Organic farming

Agroforestry² provides appropriate levels of income to producers and maintains forest ecosystems and can be considered a type of organic farming. This type of farming has been widely used for cacao and coffee cultivation in recent years. Cacao cultivation by agroforestry improves farm ecosystems and productivity. For instance, Van Bael et al. (2007) point out that, with agroforestry, the ecosystems of cacao farms greatly improved, and more birds inhabit the forests. Further, Tscharntke et al. (2011) showed that agroforestry, in addition to improving biodiversity, mitigates various climate change effects by producing carbon sinks, while Armengot et al. (2016) reveal that agroforestry doubles productivity compared with traditional farming.

The important factors of organic farming that consumers are mostly concerned about are their health and the preservation of the ecosystem (Ghvanidze et al. 2017). Many

²Agroforestry is a type of managing trees by an environmentally friendly method to protect natural ecosystems. Forests managed under agroforestry systems resembles natural forest. People can harvest multiple crops, such as coffee, timber woods, fruits and vegetables. (Van Bael et al. 2007; Pardon et al. 2018)

studies reveal that organic farming improves the ecosystem of the farmland. For instance, the heavy use of pesticides in large-scale plantations such as those for cacao in developing countries negatively affects the area's ecosystems (Sigel et al. 2006). On the other hand, it is generally difficult to establish whether organic products are healthier for consumers than ordinary products.

Rousseau and Vranken (2011) reveal that organic labels increase consumer WTP, even without considering any possible health effects. Our research follows previous work which evaluates consumer WTP for organic products in regard to ecosystem improvement, as in Rousseau and Vranken (2011).

Thus, we may make the assumption that agroforestry attracts ethical consumers, especially those interested in environmental issues. We formulate hypothesis 1 as follows:

H1: Information about agroforestry on product packaging raises consumer WTP.

Poverty and child labor

Some forms of ethical consumption benefit poverty or child labor resolution while others benefit natural environment (De Pelsmacker et al. 2005a, b). When ethical consumers buy chocolate bars, they likely also care about poor children in the world because raw materials for chocolate are produced in some of the impoverished areas on the globe (Schrage and Ewing 2005; Baradaran and Barclay 2011).

Cote d'Ivoire and Ghana accounted for 42% and 17% of the world's cocoa production in 2014 and 2015 respectively (International Cocoa Organization 2017). However, in 2013, Sub-Saharan nations accounted for 50.7% of the poor who live below the international poverty line, which is 1.90 US dollars per day (World Bank 2016). In that same year, 41% of the region's population was impoverished (World Bank 2016), with poverty directly affecting 22.4% of the region's children aged 5 to 17, thus leading to increased rates of child labor. Moreover, the agricultural sector accounts for 85.1% of child labor in Africa (International Labour Office 2017).

De Pelsmacker et al. (2005a, b) found that the average price premium that the consumers were willing to pay for a Fair Trade label was 10% in the Belgian coffee market. Chocolate is the second largest product after coffee in the Fair Trade market in Japan (Fairtrade Label Japan 2016, 2017). Thus, ethical consumption is also likely to be observed in the Japanese chocolate market, and this is likely to increase purchasing probability when a chocolate product package includes information on poverty and/or child labor reduction.

Therefore, we formulate hypothesis 2 as follows:

H2: Information on poverty and/or child labor reduction on product packaging increases consumer WTP.

Producers, manufactures, and retailers often use certification marks for Fair Trade and ethical marketing. Such certification marks embody Fair Trade values, which include several concepts such as an organic farming and poverty elimination. However, when consumers recognize the value of both organic farming and poverty elimination simultaneously, their WTP from the simultaneous recognition of both values might be lower than the sum of the WTP upon recognition of each value, owing to their budget constraints.

In other words, consumers have limited ability to pay for the product's combined economic and ethical values. While they are willing to pay a certain amount for each value (i.e., either organic farming or poverty elimination), they are less willing to pay for both ethical values when they are simultaneously presented.

Regarding this point, Didier and Lucie (2008) verify the hypothesis that the joint application of organic and Fair Trade labels on a product induces sub-additively to the WTP compared with the case when the two labels are applied separately. In their study, WTP increased to 1.25 Euro with the organic label, 1.31 Euro with the Fair Trade label but remained at 1.61 Euro with the joint label. On the contrary, Poelman et al. (2008) resulted that the consumer's attitudes toward attributes of organic and Fair Trade for pineapples were uncorrelated. Then, we evaluated the correlations and the additivity of ethical values by formulating hypothesis 3 as follows:

H3: When a product's packaging is labeled with multiple ethical values, consumer WTP is the sum of the WTP from each value or less.

Brand

Keller (1993) defines brand as that a brand "the differential effect of brand knowledge on consumer response to the marketing mix of the brand" (Keller 1993, p.8). In addition, a brand has positive (negative) customer-based brand equity, "when the consumer is familiar with the brand and holds some favorable, strong, and unique brand associations in memory" (Keller 1993, p.2). Most brand-related studies conclude that positive brand equity increases the willingness to pay a price premium for the brand (Dwivedi et al. 2018; Netemeyer et al. 2018; Jina et al. 2011; Kalra and Goodstein 1998; Aaker 1996; Park and Srinivasan 1994; Keller 1993). Park and Srinivasan (1994) reveal that major brands in the toothpaste market, which accounts for 80% of the share in the United States, are able to charge above the price of an identical product with a store brand. Kalra and Goodstein (1998) also verify the effect of brand equity on the willingness to pay for photographic cameras. As a result, consumers were more willing to pay for the premium brand (Nikon) relative to the minor brand (Sigma), despite using the same advertising contents. Further, Jina et al. (2011) show similar results to Park and Srinivasan (1994) and Kalra and Goodstein (1998) for various other product categories (electronics, clothing, processed food, and fresh produce). Thus, we formulate hypothesis 4 as follows to ensure our survey follows the previous studies;

H4: When a product brand is familiar to a consumer, consumer WTP increases.

Fatma and Rahman (2017) point out that brands that consumers perceive as engaging in ethical behavior significantly influence consumer behavior. For instance, Singh et al. (2012) confirm that the stronger the consumer ethical recognition of a brand (the extent to which they think a brand to be ethical), the greater the positive influence of brand trust on brand loyalty will be, expressed in terms of brand repurchase intention. Hustvedt and Bernard (2010) verify that the combined effect of brand and social responsibility labelling (labor-related labels like "sweatshop free") have a positive effect on WTP for apparel, and this positive effect is enhanced when brand attributes are added. Therefore, the effect of brand familiarity on consumer product choice may be enhanced by a brand's ethical behavior (e.g., as indicated by information provided on agroforestry or poverty). Thus, we formulate hypothesis 5 as follows:

H5: The effect of brand familiarity on consumer WTP increases when combined with information about the brand’s ethical values.

Research design

Research methodology: discrete choice experiment and decision of attributes and levels

In order to test above hypotheses, we need to know consumer’s preference and WTP for each attribute about Fair Trade information (organic farming, and poverty and child labor) and brand. So, we used Discrete Choice Experiment (DCE) method which involves asking individuals to state their preference over hypothetical alternative scenarios, goods or services (Mangham et al. 2009). DCE is a type of conjoint analysis which was originally developed for marketing research (Louviere and Woodworth 1983; Louviere et al. 2010). DCE is the preferred method for evaluating added-value products with multiple attributes simultaneously, such as the ones we consider in this study (Aizaki et al. 2015).

In the DCE analysis, respondents choose one of several products presented, each of which has a number of attributes. We assume that the chosen alternative maximizes buyer utility. This process is similar to actual buying behavior. Thus, DCE is considered to produce results that are the closest to actual consumption behavior.

DCE also enables the estimation of consumer WTP. The method is consistent with economic theory, and random utility theory reveals the marginal utility of each attribute. (Lancaster 1966; McFadden 1974; Louviere 1988; Green and Srinivasan 1990; Hensher 1994).

Based on our hypotheses, the following attributes were evaluated in the DCE, such as agroforestry practice (hereafter “*Organic*”), producer standard of living (hereafter “*Poverty*”), manufacturer brand (hereafter “*Brand*”), and university brand (hereafter “*University*”).

The levels for each attribute are set as follows. *Organic* was set to two levels, namely, “implementation of forest farming method considering ecological protection” (“Ecological protection” in Table 1) and “conventional agriculture method not particularly concerned with ecological protection” (“Conventional” in Table 1). *Poverty* was set to two levels indicating “adequate standard of living” and “child labor owing to poverty.” *Brand* was set to two levels indicating “major confectionery manufacturers” (“Major” in Table 1) and “unknown manufacturers” (“Unknown” in Table 1). Finally, *University* was also set to two levels according to the “existence of collaboration with familiar universities” (“With collaboration” and “No collaboration” in Table 1). The product package did not feature labels for “Conventional,” “Adequate standard of living,” or “No collaboration,” but featured a label for “Unknown.”

Profile design

We constructed profiles for our DCE based on five attributes (four attributes and price [hereafter “*Price*”). We set *Price* to three levels (i.e., 125-yen, 150-yen, and 100-yen,

Table 1 Profile Design for the experiments

Price	Organic	Poverty	Brand	University
100 yen	Conventional	Adequate standard of living	Unknown	No collaboration
125 yen	Ecological protection	Poverty and child labor	Major (e.g., Morinaga)	With collaboration
150 yen	–	–	–	–

which is assumed as the price of a standard chocolate bar). The level of each attribute is shown in Table 1.

From the total of 48 combinations of the above attribute levels, 16 profiles were extracted by orthogonal planning using the AlgDesign package for the R Statistical Software implementation (R Core Team 2018; Wheeler 2006). We randomly extracted two of these profiles and set 16 questions for three choice formulas, which include “Neither.”³

Survey

Our research was conducted through an online survey entitled “A Survey on Chocolates” on December 11, 2017. Questant, a service of Macromill, Inc., implemented our online survey with their monitors.

We implemented a pilot test from 15 to 17 September. Thirty four university students cooperated to the test. We improved images of Chocolate products because some respondents claimed that the explanation was difficult to understand.

We split the respondents into Groups A and B. As Table 2 shows, the demographic attributes of both groups were very similar.

Our survey sheet has four parts. The first part introduced agroforestry and child labor. The second part collected attitudes toward environmental problems. The third part contained choice experiments, for which we provided different choice sets with eight choices for Groups A and B. The last part collected demographic features. The results show that male respondents accounted for over 50% of the total. The descriptive statistics show that we had a rather flat distribution for age groups, except for the group under 19 years of age, and almost 50% of the respondents had at least a bachelor's degree.

Correspondence between analysis model and hypotheses

We analyze the data using a conditional logit model, which is the most widely used basic model in DCE analysis. In DCE analysis, the utility of an option may be confirmed according to the sign and magnitude of the coefficient estimate of the variable. A positive sign of a coefficient estimate indicates a positive value and consequently, a positive utility of the option. Conversely, when the sign of each coefficient estimate value is negative, it indicates that the smaller its value, the smaller the utility of that option (Aizaki and Nishimura 2007).

We set a base model (Model 1), which includes five attributes: *Price*, *Organic*, *Poverty*, *Brand*, and *University*. V in the model indicates measurable utility:

$$\begin{aligned} \text{(Model 1) } V_1 = & \beta_{pri} \cdot PRICE + \beta_{org} \cdot ORGANIC + \beta_{pov} \cdot POVERTY \\ & + \beta_{bra} \cdot BRAND + \beta_{umi} \cdot UNIVERSITY \end{aligned}$$

With Model 1, hypothesis 1 is supported if the coefficient estimate of *Organic* is significantly positive, hypothesis 2 is supported if the coefficient estimate of *Poverty*

³The option to respond “Neither” was provided in questions that involve the purchase of a 100-yen chocolate bar that is produced by an unknown manufacturer and that does not provide information on farming method, producer standard of living, or university collaboration.

Table 2 Demographic attributes of Groups A and B

	Group A		Group B	
Sex				
Male	315	57.0%	311	55.8%
Female	238	43.0%	246	44.2%
Total	553	100%	557	100%
Age				
Under 19	6	1.1%	4	0.7%
20–39	40	7.2%	40	7.1%
30–39	97	17.5%	82	14.8%
40–49	142	25.6%	163	29.2%
50–59	130	23.5%	138	24.8%
60–69	99	17.9%	98	17.6%
70–	39	7.1%	32	5.7%
Total	553	100%	557	100%
Education				
Master's or doctoral degree	26	4.7%	21	3.8%
Bachelor's degree	252	45.6%	239	42.9%
Junior college	51	9.2%	58	10.4%
Vocational school	52	9.4%	60	10.8%
High school	156	28.2%	157	28.2%
Others	16	2.9%	22	3.9%
Total	553	100%	557	100%

is significantly positive, and hypothesis 4 is supported if the coefficient estimate of *Brand* and/or *University* is significantly positive. By using a cross-term, it is possible to check how variable A is influenced by variable B in terms of the option utility (Aizaki and Nishimura 2007). For example, a positive coefficient estimate of the cross-term of *Poverty* and *Brand* (*PovBra*) means that people who are concerned about the issue of poverty have a good impression of the brand and have a strong tendency to select the brand's products.

We set Model 2 by adding the cross-term of *Organic* and *Poverty* (*OrgPov*) to Model 1 to analyze consumer understanding and attitudes toward the concept of ethics (i.e., being ethical):

$$\begin{aligned}
 (\text{Model 2}) \quad V_2 = & \beta_{pri} \cdot PRICE + \beta_{org} \cdot ORGANIC + \beta_{pov} \cdot POVERTY \\
 & + \beta_{bra} \cdot BRAND + \beta_{uni} \cdot UNIVERSITY + \beta_{orgpov} \cdot ORGANIC \cdot POVERTY
 \end{aligned}$$

In Model 2, we verify that hypothesis 3 is supported if the coefficient estimate of the cross-term is significantly positive. Analogously, to analyze the relationship between brands and ethical advertisements, we set Model 3 by adding the cross-term of *Organic* and *Brand* (*OrgBra*) to Model 1, Model 4 is obtained by adding the cross-term *PovBra* to Model 1, Model 5 is obtained by adding the cross-term of *Organic* and *University* (*OrgUni*) to Model 1, and Model 6 is obtained by adding the cross-term of *Poverty* and *University* (*PovUni*) to Model 1:

$$\begin{aligned} \text{(Model 3)} \quad V_3 &= \beta_{pri} \cdot PRICE + \beta_{org} \cdot ORGANIC + \beta_{pov} \cdot POVERTY \\ &+ \beta_{bra} \cdot BRAND + \beta_{uni} \cdot UNIVERSITY + \beta_{orgbra} \cdot ORGANIC \cdot BRAND \end{aligned}$$

$$\begin{aligned} \text{(Model 4)} \quad V_4 &= \beta_{pri} \cdot PRICE + \beta_{org} \cdot ORGANIC + \beta_{pov} \cdot POVERTY \\ &+ \beta_{bra} \cdot BRAND + \beta_{uni} \cdot UNIVERSITY + \beta_{povbra} \cdot POVERTY \cdot BRAND \end{aligned}$$

$$\begin{aligned} \text{(Model 5)} \quad V_5 &= \beta_{pri} \cdot PRICE + \beta_{org} \cdot ORGANIC + \beta_{pov} \cdot POVERTY \\ &+ \beta_{bra} \cdot BRAND + \beta_{uni} \cdot UNIVERSITY + \beta_{orguni} \cdot ORGANIC \cdot UNIVERSITY \end{aligned}$$

$$\begin{aligned} \text{(Model 6)} \quad V_6 &= \beta_{pri} \cdot PRICE + \beta_{org} \cdot ORGANIC + \beta_{pov} \cdot POVERTY \\ &+ \beta_{bra} \cdot BRAND + \beta_{uni} \cdot UNIVERSITY + \beta_{povuni} \cdot POVERTY \cdot UNIVERSITY \end{aligned}$$

In Models 3, 4, 5, and 6, we verify that hypothesis 5 is supported if the coefficient estimate of each cross-term is significantly positive.

To estimate Models 1–6, we added error terms ε_i , i represented model number, and got the following observable utility, U_i .

$$U_i = V_i + \varepsilon_i$$

We estimated Models 1–6 using the conditional logit model with the R Statistical Software (R Core Team 2018). We can use the conditional logit model to estimate the probability when the random terms have an identified independent distribution. (McFadden 1974).

In the DCE, WTP can be obtained by dividing the coefficient estimate of the non-price attribute variable (*Organic*, *Poverty*, *Brand*, and *University*) by the coefficient estimate of the price attribute variable (*Price*) and then multiplying the result by -1 . This WTP represents the utility of non-price attribute variable options in monetary terms (Aizaki and Nishimura 2007). Therefore, regarding Model 1, in addition to the above items, WTP was also calculated and the validity of each hypothesis was tested.

Results and discussion

Results

We aggregated the survey responses and estimated the parameters of each model (Table 3 and Table 4). We calculated the WTP for each attribute in Model 1, and the individual WTPs are: 19.8 yen (*Organic*), 22.5 yen (*Poverty*), 27.3 yen (*Brand*), and -2.5 yen (*University*) (Table 3).

Using Models 1 and 2, we examine the relationship between *Organic* and *Poverty*. The estimation results in Model 1 show that the coefficients of *Organic* and *Poverty* were both significant and positive, thus supporting hypotheses 1 and 2.

Next, we examine the cross effects of *Organic* and *Poverty* to test hypothesis 3. The cross-term was assumed to represent Fair Trade. The results show that the cross-term was significantly positive as the coefficients of *Organic* and *Poverty*.

The estimation results from Model 2 show that the sum of the coefficients of *Organic*, *Poverty*, and *OrgPov* was 0.90, which is smaller than the sum of the coefficients of *Organic* and *Poverty* (0.93) from Model 1. This result supports hypothesis 3.

Next, we discuss the relationships between *Brand*, *Organic*, and *Poverty*. The results from Model 1 show a significant positive influence of *Brand* on consumer purchase intention,

Table 3 Parameter estimation results (Models 1 and 2)

	Model 1			Model 2	
	Coef.	p	WTP	Coef.	p
<i>Price</i>	-0.021865	0.000***		-0.020054	0.000***
<i>Organic</i>	0.433919	0.000***	19.8	0.272668	0.000***
<i>Poverty</i>	0.492928	0.000***	22.5	0.314347	0.000***
<i>Brand</i>	0.599516	0.000***	27.4	0.637816	0.000***
<i>University</i>	-0.055038	0.041**	-2.5	-0.028807	0.3
<i>OrgPov</i>				0.315809	0.000***

Notes*** $p < .01$, ** $p < .05$, and * $p < .10$

Coef. Coefficient

OrgPov Cross-term of *Organic* and *Poverty*

WTP Willingness to pay

indicating that hypothesis 4 is supported. However, Model 3, which includes the interaction term of *Brand* and *Organic* (*OrgBra*), and Model 4, which includes the interaction term of *Brand* and *Poverty* (*PovBra*), indicate the use of certification marks by a major confectionery manufacturer and produced different results regarding hypotheses 5.

The results for *University* were the same as those for *Brand*. Significant negative effects were observed from both Model 5, which includes the interaction term of *University* and *Organic* (*OrgUni*), and Model 6, which includes the interaction term of *University* and *Poverty* (*PovUni*), thus indicating the use of certification marks by universities. The coefficient of *OrgUni* in Model 5 (-0.301346) is larger than that of *OrgBra* in Model 3 (-0.239969). In other words, *University's* reliability is significantly impaired when the variable is combined with *Organic*, just as the case when *Brand* is combined with *Organic*. *PovUni* in Model 6 has a significant negative influence at the 10% level but a small coefficient (-0.11707).

Discussion

The variables *Organic* and *Poverty* have a significant positive effect on consumer purchase intention, and the WTPs for both attributes are 19.5 yen in *Organic* and 22.5 yen in

Table 4 Parameter estimation results (Models 3–6)

	Model 3		Model 4		Model 5		Model 6	
	Coef.	p	Coef.	p	Coef.	p	Coef.	p
<i>Price</i>	-0.021111	0.000***	-0.021833	0.000***	-0.023641	0.000***	-0.02189	0.000***
<i>Organic</i>	0.508233	0.000***	0.435342	0.000***	0.551634	0.000***	0.41788	0.000***
<i>Poverty</i>	0.468075	0.000***	0.482128	0.000***	0.488216	0.000***	0.54266	0.000***
<i>Brand</i>	0.694876	0.000***	0.587296	0.000***	0.586736	0.000***	0.5898	0.000***
<i>University</i>	-0.086798	0.002***	-0.0528	0.055*	0.077635	0.07762*	-0.00599	0.877
<i>OrgBra</i>	-0.239969	0.000***						
<i>PovBra</i>			0.025004	0.674				
<i>OrgUni</i>					-0.301346	0.000***		
<i>PovUni</i>							-0.11707	0.079*

Notes*** $p < .01$, ** $p < .05$, and * $p < .10$

Coef. Coefficient

OrgBra The cross term of *Organic* and *Brand*

PovBra The cross term of *Poverty* and *Brand*

OrgUni The cross term of *Organic* and *University*

PovUni The cross term of *Poverty* and *University*

Poverty. Tully and Winer (2014) verified whether the beneficiary of the social responsibility program (humans, animals, or the environment) affects WTP using a meta-analysis. As a result, WTP is greater for products where the social responsibility benefits humans and animals compared to products that benefit the environment. Our result is consistent with the results from Tully and Winer (2014). Japanese consumers place more value on package information about eliminating poverty than about maintaining ecosystems. However, the combined effect of *Organic* and *Poverty* is negative on consumer purchase intention. This result is consistent with Didier and Lucie (2008), who confirm that some French consumers prefer an organic product to an organic and Fair Trade product, and the results from Poelman et al. (2008), who confirm that a single message about organic production or about Fair Trade production is preferable to multiple messages for British and Dutch consumers. Japanese consumers also prefer a single message about maintaining forest ecosystems, or about eliminating poverty, as opposes to a combined message.

The results from Model 3 show a significantly negative effect of *OrgBra*, while those from Model 4 do not show a significant influence of *PovBra*. These results show that *Brand* has a positive effect on general merchandise sales on its own, but a negative effect in combination with *Organic*, and no effect whatsoever in combination with *Poverty*. In recent years, many companies have stated their contributions to improving society and the environment. However, they have not disclosed the outcomes of their contributions, and thus Japanese consumers still appear to be skeptical of such companies (Nyilasy et al. 2014; Poelman et al. 2008).

OrgBra's significant negative impact is probably due to the great skepticism on the part of Japanese consumers about the claim that major confectionery manufacturers use agroforestry. In a survey of 1000 consumers, The Soil Association (2017) found that 72% of respondents believed beauty brands labeled "organic" were "not reliable," and it pointed out that the cause of this skepticism was made by major beauty brands such as intentionally misleading or deceiving consumers with false claims about maintaining forest ecosystems. Meanwhile, *PovBra*'s insignificant influence is also due to the same type of skepticism. Fatma and Rahman (2017) show that brands recognized as having ethical behavior positively influence consumer behavior. Lee et al. (2019) also show that brand image recognized as practicing green management has positive impact on brand perceived value, and then which value leads to positive behavioral intentions. Therefore, we consider that Japanese consumers may judge whether the companies using Fair Trade information on their product labels are actively engaged in maintaining forest ecosystems and/or eliminating poverty as a whole or not. If Japanese consumers recognize a company as actively being engaged in activities concerning Fair Trade, they may not doubt their claims about their use of agroforestry or their contribution to poverty elimination, thus increasing their purchasing intention. If they are not recognized in this manner, Japanese consumers may be skeptical of their claims and therefore their purchase intention may decline. This effect is especially apparent when a company introduces its agroforestry initiatives. De Pelsmacker et al. (2005a, b) point out the importance to include extra information about Fair Trade label on the back of package. In Japan, companies should need to provide not only Fair Trade label but also information of their efforts on Fair Trade. The same line of thought applies to university brand. For universities, developing products in collaboration with the industrial sector that use agroforestry and that help eliminate poverty is not a very effective way to improve

purchase intentions. Instead, becoming a certified Fair Trade University may be a more effective way to improve purchase intentions, as the certification of Fair Trade University proves that the specific school is actively engaged in activities concerning Fair Trade.

Conclusions and future research

This study revealed the following:

- a) Fair Trade information (organic farming and poverty or child labor resolution) is effective on Japanese WTP.
- b) Japanese consumers cannot process multiple Fair Trade information. They prefer a single message about maintaining forest ecosystems or eliminating poverty, as opposed to a combined message.
- c) Japanese consumers are skeptical toward Fair Trade information promoted by companies and universities that have brand power.

Fair Trade information such as maintaining forest ecosystems and eliminating poverty are effective tools in ethical marketing for Japanese consumers, but ethical marketing and brand image had a small synergistic effect on WTP. This latter finding is consistent with previous studies (Fatma and Rahman 2017; Hustvedt and Bernard 2010; Singh et al. 2012; De Pelsmacker et al. 2005a, b).

As mentioned above, Japan's share in the world Fair Trade market is small in spite of a high GDP. Japanese companies have introduced Fair Trade information such as maintaining forest ecosystems and eliminating poverty to marketing activities for their products in recent years. However, in light of our results, they should simultaneously develop their corporate brand images to engage in activities concerning Fair Trade. In addition, Japanese universities should develop their images to engage in activities concerning Fair Trade. Fair Trade University policy appears to be helpful in developing such images.

Japanese government has actively pursued SDGs since the launch of SDGs Promotion Headquarters on May 20, 2016 (Ministry of Foreign Affairs of Japan 2017), but their activities are not recognized by Japanese consumers. According to the survey by DENTSU MACROMILL INSIGHT, INC. (2019), 16% of Japanese consumers were aware of SDGs and only 4.2% recognized and understood SDGs.⁴ To resolve this problem, Japanese government should support the development of company and university image for engaging in activities concerning Fair Trade, such as providing a subvention for those who want to promote their activities concerning Fair Trade.

Our research findings may not be generalizable, as it involved only one product type (chocolate). Therefore, it is necessary to conduct similar research on other product types or categories. Additionally, consumer characteristics should be considered. Confirming the generalizability of our findings is important to help policy makers, business sectors, and educators—in the same situation as Japan—improve the effectiveness of their Fair Trade efforts in changing consumer buying behavior.

⁴This survey was conducted to 6576 Japanese people from teenage to seventies (Hayashi 2019).

Abbreviations

Brand: Manufacturer brand; Conventional: Conventional agriculture method not particularly concerned with ecological protection; DCE: Discrete Choice Experiment; Ecological: Implementation of forest farming method considering ecological protection; GDP: Gross Domestic Product; Major: Major confectionery manufacturers; Organic: Forest farming practice implementation; OrgBra: The cross-term of Organic and Brand; OrgPov: The cross-term of Organic and Poverty; OrgUni: The cross-term of Organic and University; PovBra: The cross-term of Poverty and Brand; Poverty: Producer standard of living; PovUni: The cross-term of Poverty and University; U: Observable utility; University: University brand; Unknown: Unknown manufacturers; V: Measurable utility; WFTO: The World Fair Trade Organization; With (No) collaboration: The existence of collaboration with familiar universities; WTP: Willingness to Pay

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Authors' contributions

First author conducted the brand related literature review, data collection and the statistical analysis. Second author conducted the organic related review, data collection and the statistical analysis. Third author conducted the poverty and child labor related literature review, data collection and the statistical analysis. All the authors read and approved the final manuscript.

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Availability of data and materials

Please contact author for data requests.

Competing interests

The authors declare that they have no competing interests.

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