

# Bridging Sustainable Shopping, Personalization and Data Privacy

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# **Bridging Sustainable Shopping, Personalization and Data Privacy**

## **Abstract:**

This paper investigates how customers' sustainable values impact intention to provide personal information in return for personalized sustainable offers and the connection to received value for personalization and privacy concerns. Hypotheses are developed and tested through a scenario-based survey. The results show that customers' sustainable values impact customers' willingness to provide information in return for personalized sustainable offers. The effect is mediated by the expected value for personalization received from providing information. The results provide implications for retailers as they can design sustainable customer loyalty programs that maximizes personalization value, which might mitigate potential privacy concerns. Moreover, the paper answer calls for research investigating customers' responses to organizational use of customer data and opens up for further research inquiries bridging the sustainability, personalization and data privacy literature.

*Keywords: Personalization, Sustainability, Data Privacy*

*Track: Retailing & Omni-Channel Management*

## 1. Introduction

This paper investigates how customers' sustainable values impact intention to provide personal information in return for personalized environmentally sustainable offers and the connection to received value for personalization and privacy concerns. Due to an increasing demand, more retailers are working to make their businesses more sustainable (Vadakkepatt et al, 2020). However, research shows a remaining gap between customers' positive attitudes towards sustainability and their actual behaviour, known as the intention-behaviour gap (Carrington, Neville, and Whitwell, 2014). This gap can be explained by customers lacking motivation, ability and opportunity to act sustainably (Vadakkepatt et al, 2020). More specifically, White, Habib, and Hardisty (2019) note that sustainable behaviour can be viewed as effortful and companies need to lower the effort to enhance sustainable behaviour.

Naidoo and Gasparatos (2018) state that retailers can develop their corporate environmental sustainability strategies using data generated from tracking customer behaviour. One example of this could be using the information for personalization. Personalization refers to a customer-oriented marketing strategy aiming at delivering the right content to the right person at the right time in order to maximize a company's business opportunities and minimize customers' effort (Tam & Ho, 2006). According to Murthi and Sarkar (2003) there are three personalization stages: learning, matching and evaluation, where the first stage includes the collection and analysing of customer data to understand their needs and preferences. However, there are obstacles for retailers in collecting customer data. As companies' marketing tactics are becoming more sophisticated and potentially intrusive, customer backlash to data use appears to be growing (Martin & Murphy, 2017) and customers can experience discomfort about the risk of data breaches. These concerns are heightened during turbulent times, such as the COVID-19 pandemic (Martin et al, 2020). Despite this, research shows that customers value personalized experiences (Aguirre, Mahr, Grewal, Ruyter, and Wetzels, 2015) and technologies enabling the provision of personalized experiences offer an important source of competitive advantage for retailers (Inman & Nikolova, 2017). In addition, relevant offers based on customers' digital shopping traces can lead to positive effects on shopping behaviour (Blom, 2019).

As customers prioritize different ethical concerns that impacts their shopping behaviour (Carrington et al, 2014), there is potential in utilizing customer data for a personalization strategy in order to increase sustainable shopping. Nevertheless, Naidoo and Gasparatos (2018) highlight a lack of research on how retailers can utilize big data to decrease the

environmental impact. Customer data is considered the most important currency in commerce today (Evans, 2018) and Martin and Murphy (2017) suggest that future research should investigate customer reactions related to organizational use of customer data. The authors note that disclosure willingness is an important customer outcome in the data privacy literature and is connected to other important outcomes such as purchase intent. Thus, this paper investigates customers' willingness to provide information in return for personalized sustainable offers and the impact of customers' sustainable values, received value for personalization and privacy concerns. As customers that have sustainable values is expected to value personalization for sustainability purposes, the negative effects of privacy concerns can potentially be mitigated. Hence, this paper is beginning to explore the potential use of personalization as a strategy to increase sustainable shopping.

## **2. Theory**

### *2.1 Sustainable values*

Sustainable values, i.e., the tendency to value sustainability when shopping (Haws, Winterich and Naylor, 2014), is a customer trait affecting attitudes, intentions and behaviours. Customers with sustainable values have been shown to have a stronger preference for sustainable products (Haws et al, 2014), evaluate sustainable advertising more positively (Grimmer & Wolley, 2014), evaluate stores that act sustainably more positively, and have stronger shopping intentions, word-of-mouth intentions and willingness to pay in such stores (Hofenk, van Birgelen, Bloemer, and Semeijn, 2019). This can be explained by customers with sustainable values being motivated by a higher purpose, as well as egoistic motives, connected to sustainability (Birch, Memery, and Kanakaratne, 2018). As customers want to appear consistent, sustainable behaviour at one point often leads to sustainable behaviour in the future (White et al, 2019). Thus, we argue that sustainable values influences intention to provide personal information in return for personalized sustainable offers positively.

H1: Sustainable values influence intention to provide information in return for personalized sustainable offers positively.

## 2.2 Value for personalization

Data privacy literature has shown that customers are more prone to provide information to companies in return for personalization when they expect to receive value from doing so (Chellappa & Sin, 2005; Schumann, von Wangenheim, and Groene, 2014; Martin & Murphy, 2017). When customers expect high utility of personalized advertising, it is also less likely to create reactance among customers (White, Zahay, Thorbjornsen, and Shavitt, 2008). As appeals to the self-interest can guide environmental behaviour (White et al, 2019), customers who have sustainable values is assumed to receive higher value for personalization from providing information in return for personalized sustainable offers. Thus, we argue that value for personalization is assumed to mediate the positive effect of sustainable values on intention to provide information.

H2: The effect of sustainable values on intention to provide information in return for personalized sustainable offers is mediated by value for personalization.

## 2.3 Privacy concerns

In the data privacy literature, one of the key trade-offs for providing customer information in return for personalization is reduced privacy (Martin & Murphy, 2017; Wirtz & Lwin, 2009). Privacy concerns has been conceptualized as a mediator in investigations of data privacy relationships, where privacy concerns mediate e.g., click through and tendency to falsify information (Martin & Murphy, 2017). One factor hindering customers to act in a sustainable way is that other, self-interest related, aspects might be more important (Vitell, 2015). Hence, privacy concerns are hypothesized to mediate the effect of sustainable values on intention to provide information leading to lower disclosure willingness.

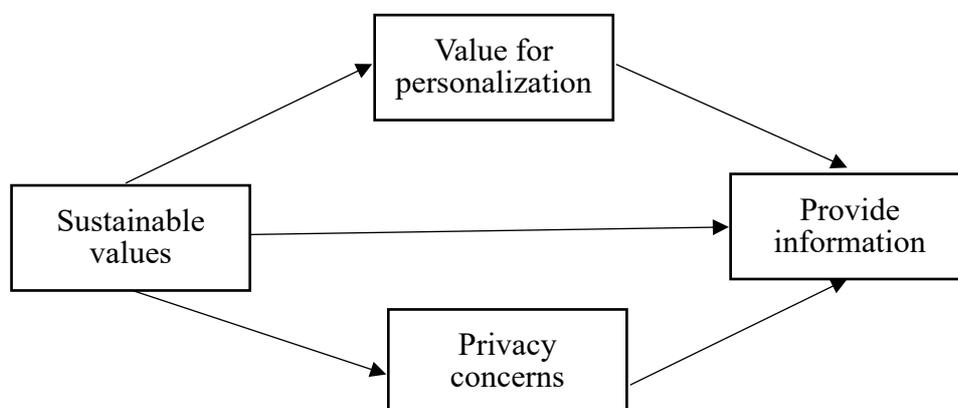


Figure 1. Conceptual model.

H3: The effect of sustainable values on intention to provide information in return for personalized sustainable offers is mediated by privacy concerns.

### 3. Method

The hypotheses were tested using a scenario followed by a survey. In the scenario, it was described how a grocery retailer asked for permission to collect customer data in order to personalize sustainable offers (with e.g., products that are locally produced, ecologically produced or has generated low CO<sub>2</sub> emissions) to the customer on the retailer's website. The study was conducted within a grocery retail setting as around 30% of greenhouse gases and 70% of freshwater used globally can be connected to food production (Wilette et al, 2019). Also, 25% of the average Swedish customers' climatic effect derives from food consumption (Lehner, Mont, and Heiskanen, 2016). Stimulus sampling was used to increase generalizability (Wells & Windschitl, 1999). The companies used in the scenario were six major online or multichannel grocery retailers in Sweden that covers above 86% of the Swedish Market (Swedish Competition Authority, 2018).

The data was collected through an online survey distributed via e-mail to 264 students at a Swedish business school. Although this can be considered a convenience sample, Atkinson and Rosenthal (2014) argues that college students are appropriate for sustainability studies as they are primary stakeholders, catalysts for change, and have high environmental values impacting all facets of their lives. A total of 68 responses were recorded, resulting in a response rate of 26%. Nine responses were removed due to not finishing the survey, resulting in a total of 59 responses used when examining the hypotheses. The mean age of the respondents was 22.58 years and 71% of the sample were women. The companies used in the scenario were evenly randomized between the respondents.

Value for personalization was measured by four items from Martin, Borah, and Palmatier (2017) (Cronbach's alpha = .89). Privacy concerns was measured by four items from Martin et al (2017) (Cronbach's alpha = .91). Sustainable values were measured by six items from Haws et al (2014) (Cronbach's alpha = .93). Intention to provide information was measured by one item from Schoenbachler and Gordon (2002) and two items from Chellappa and Sin (2005) (Cronbach's alpha = .96). All items were measured on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree).

#### 4. Results

Variables	Mean	SD	1	2	3	4
1. Provide information	5.10	1.64	-			
2. Sustainable values	4.98	1.18	.40*	-		
3. Value for personalization	4.66	1.41	.73*	.52*	-	
4. Privacy concerns	4.29	1.40	-.37*	.05	-.09	-

\*  $p < .01$  (2-tailed)

Table 1. Descriptive statistics and correlations

In order to test the hypotheses, we conducted an analysis using Hayes (2018) script PROCESS (Model 4, 5,000 bootstrapping samples, 95% CI). Consistent with hypothesis 1, sustainable values have a positive direct effect on intention to provide information (.56,  $p < .01$ ). Further, the analysis supported hypothesis 2, a mediation whereby sustainable values positively influenced value for personalization (.62,  $p < .01$ ), which in turn positively affected intention to provide information (.77,  $p < .01$ ). The mean indirect effect was .48 (95 percent CI [0.25, 0.75]). A nonsignificant direct effect (.10, ns) suggests that the effect of sustainable values on intention to provide information is mediated fully by value for personalization. For hypothesis 3, there was no significant mediation where sustainable values negatively influence privacy concerns (.06, ns). The mean indirect effect was -.02 (95 percent CI [-0.15, 0.09]) However, privacy concerns appear to have a significant negative effect on intention to provide information (-.38,  $p < .01$ ). See table 2 for complete results from the analysis.

In sum, the results show a partial support for hypothesis 1 as there is a direct effect of sustainable values on intention to provide information, however, this effect is fully mediated

	Value for personalization			Privacy concerns			Provide information		
	Coeff.	SE	p	Coeff.	SE	p	Coeff.	SE	p
Sustainable values	.62	.14	.00	.06	.16	.71	.10	.13	.47
Value for personalization	-	-	-	-	-	-	.77	.11	.00
Privacy concerns	-	-	-	-	-	-	-.38	.10	.00
Constant	1.58	.69	.03	4.00	.80	.00	2.61	.74	.00
	R2 = .27 F (1, 57) = 21.17, p = .00			R2 = .00 F (1, 57) = .14, p = .71			R2 = .63 F (3, 55) = 31.29, p = .00		

Table 2. Parallel mediation

by value for personalization. Hypothesis 2 is fully supported where value for personalization fully mediates the effect of sustainable values. Lastly, hypothesis 3 is not supported, meaning that privacy concerns does not mediate the effect of sustainable values. However, privacy concerns have a significant direct negative effect on intention to provide information.

## 5. Conclusions

Although the explorative nature of this study, it is a first step in bridging the research areas of sustainability, personalization and data privacy as it shows that sustainable values affect intention to provide information. Nevertheless, it is an important step as customer big data potentially can be of use for developing corporate environmental sustainability strategies (Naidoo & Gasparatos, 2018). Additionally, a personalization strategy lowering customer efforts (Tam & Ho, 2006) has the potential to enable customers' sustainable habit formation and closing the intention-behaviour gap (White et al, 2019). Further, this study answers the call for more research on customers' responses to organizational use of data (Martin & Murphy, 2017) as it investigates customers' responses to an organization's intended use of data for a sustainability purpose.

Martin et al (2020) indicates that for certain industries, products or services, personalization benefits outweigh privacy losses. The results from this study confirms this; in a grocery setting and for a sustainability purpose, value for personalization has stronger effect than privacy concerns in regard to intention to provide information. This can be explained by the dual motivations, egoistic and altruistic, attributed by a personalized sustainable experience (Birch et al, 2018). The lacking mediation of privacy concerns may have to do with the fact that shoppers that value sustainability prioritizes this and hence other aspects, such as privacy concerns, is of little concern. However, it is important for retailers to be aware of all three aspects tested for as they all impact disclosure willingness. Swedish grocery retailer Hemköp recently announced a revision of their customer loyalty club where members are rewarded points when purchasing sustainable products (Björk, 2020). This study provides insights for retailers' aiming to implement similar sustainability strategies. The results are advantageous as retailers can design customer loyalty programs to maximize customer value, which might mitigate any potential privacy concerns among customers.

Finally, the bridging of the sustainability, personalization and data privacy literature opens up for future research inquiries. An experimental design could help to further explore how the sustainability aspect versus the personalization aspect adds value to customers. As

both egoistic and altruistic motivations have been shown to affect sustainable purchase decisions (Birch et al, 2018), sustainable values and personalization value can be assumed to be driven by altruistic and egoistic motivations respectively. Moreover, the potential of a personalization strategy as a tool for closing the intention-behaviour gap needs to be investigated further in order to understand what the opportunities and pitfalls might be, and how to best implement such a strategy.

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