Examining the role of consumption values for food, clothes, and mobile phones

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This study examines the relationship between consumers' perceived consumption values and sustainable choices. Using data from an online survey of 404 respondents, it examines the prevalence of consumption values and their influence on sustainable purchase intentions for food, clothes, and mobile phones. Functional value, price value, and non-monetary costs are more prevalent than social and emotional values across all product categories. The impact of these values on sustainable purchase intentions varies by product category. The findings suggest cognitive-related consumption values are more dominant than hedonic ones, indicating that marketing managers and policymakers should focus on promoting hedonic values to enhance sustainable behaviour. This research contributes by assessing the prevalence of consumption values, investigating their relationships with sustainable purchase intentions, and highlighting the importance of distinguishing between functional and price values within quality value.

Keywords: Sustainability, Consumption values, Product Type

Track: Sustainability, CSR, and Marketing

1. Introduction

In today's world, consumption patterns are increasingly recognized as critical for shaping a sustainable society (Suki, 2016; Sun & Wang, 2020) and have become a central goal for policymakers, businesses, and consumers alike. However, studies examining how consumption values differ across product categories are scarce. Further most studies on consumption values focus on the relationship between perceived values and green consumption without reporting mean scores for the prevalence of each value on the investigated products (e.g., Amin & Tarun, 2021; De Silva et al., 2021; Suki, 2016). Therefore, more knowledge about consumers' perceived values for specific product categories is needed.

To address these gaps and provide a better understanding of sustainable consumption behaviour, this study aims to answer the following research questions:

- What are consumers' perceived consumption values in sustainable food, clothes, and mobile phone purchases?
- How are these consumption values related to sustainable purchase intentions for food, clothes, and mobile phones?

These three product categories are chosen due to the common belief that they are among the leading industries contributing to carbon pollution.

2. Theoretical background

2.1 Defining consumers' perceived value

Zeithaml (1988) defined perceived value as the trade-off between perceived gain (quality) and loss (price), describing it as "the consumer's overall assessment of the utility of a product based on the perception of what is received and what is given" (p.14). This definition has been criticized for being too simplistic and focusing solely on cognitive and utility aspects (Sheth et al., 1991; Sweeney & Soutar, 2001). Critics argue that Zeithaml's unidimensional approach fails to encompass intrinsic and emotional values, which have since been incorporated into the theory of consumption values.

2.2 The theory of consumption values

The theory of consumption values explains consumer behaviour based on certain internal values that guide consumption decisions (Amin & Tarun, 2021). In his multi-dimensional theory of consumption value (TCV), Sheth *et al.* (1991) proposed that consumers choices are a function of various consumption values, including functional value, social value, emotional value, conditional and epistemic value (Sheth et al., 1991; Sweeney & Soutar, 2001). These values represent different aspects of the consumer's inner world. The TCV theory builds on three assumptions (Sheth *et al*., 1991, p.160):

1. "Consumer choice is a function of multiple values.
2. The consumption values make a differential contribution in any given choice situation.
3. The consumption values are independent."

Functional value reflects the perceived utility acquired from a product's salient attributes, including both quality features and price (Amin & Tarun, 2021; Sheth et al., 1991). A product attains functional value through consumers' perception of its capacity for functional, utilitarian, or physical performance (Sheth et al., 1991).

Social value influences how product consumption aligns or distances individuals from social groups (Sweeney & Soutar, 2001).

Emotional value refers to the feelings or affective states that a consumer derives from purchasing and using a product (Sheth et al., 1991; Sweeney & Soutar, 2001). Emotional value encompasses joy, delight, happiness, pride, anxiety, and guilt, and has been shown to have a significant positive influence on green consumption (Joibi & Annuar, 2021; Khan & Mohsin, 2017). Betzler et al. (2022) found that guilt was the only significant predictor relevant to sustainable consumption of food, fashion, and mobile phones.

2.3 The Role of Product Category

Research within the theory of planned behaviour (Ajzen, 1991) shows product categories influence which aspects are salient (Jørgensen et al., 2024). Examining knowledge-based, value-based, emotional, and rational factors in predicting green consumption behaviour for food, mobile phones, and fashion, Betzler et al. (2022) classified the specific categories based on the availability of sustainable options and the expected level of consumer involvement.

Food was classified as a low-involvement product with a high availability of sustainable options, fashion as medium involvement with a moderate availability of sustainable options, and mobile phones as having high involvement with limited availability of sustainable alternatives. Considering these differences, we investigate whether the theory of consumption values shows variations across those three product categories.

3. Methodology

3.1 Measurement instrument

Purchase involvement was measured by two items, namely, how important the purchase of the given product is perceived. The items were measured on a five-point Likert scale from 1 = very much disagree to 5 = very much agree.

Consumption values were measured in five aspects: functional value, price value, non-monetary costs, social value, and emotional value, based on the work of Amin and Tarun (2021), Sheth et al. (1991), Sweeney and Soutar (2001), and Zeithaml (1988). In line with Sweeney *et al.*'s argument of epistemic value being less relevant for purchases of goods and conditional value being only relevant when studying contexts where situational factors are at stake we excluded those two values from our study. Zeithaml (1988) suggests that consumers' perceived value is an overall assessment of perception of what is received (i.e. quality) and what is given (i.e. costs). Therefore, quality value in this study is divided into functional value and price value (i.e. lower costs). Zeithaml (1988) also emphasises the importance of considering non-monetary costs (i.e. efforts). We have therefore added non-monetary as an aspect of consumption value.

All aspects of consumption values were measure by two or more items, mostly adapted from Sweeney and Soutar (2001), Lin and Huang (2012), and Suki (2016). Inspired by Vining and Ebreo (2002) we measured emotional value by two items representing pride and guilt, respectively. All consumption value-related items were measured on a five-point Likert scale ranging from 1 = very much disagree to 5 = very much agree. The items are displayed in Table 1.

Sustainable purchase intention was measured by two items about how important sustainability issues are in the consumers' future purchases of the given product and how likely they are to purchase a sustainable alternative in their next purchase of the given product. The items are displayed in the bottom part of Table 1.

All items, except those for functional value, were framed identically for the three product categories, replacing 'food' with 'clothes' and 'mobile phones', respectively. Acknowledging, that functional value attributes differ among product types, we framed items representing the functional value attributes for each product; for example, sustainable food tastes just as good as non-sustainable food' and 'sustainable clothes are just as good as non-sustainable clothes' for food and clothes, respectively. The precise wording of each item is presented in Table 1.

Table 1: Reliability of measurement scales for food, clothes and mobile phones

Constructs and corresponding measurement items	Cronbach's alpha		
	Food	Clothes	Mobile
Purchase involvement [1]	0.69	0.68	0.68
My food choices are not important to me (reversed)			
It is very important to me what food I buy			
Functional value [2]	0.61	0.65	0.82
Sustainable food has an acceptable quality			
Sustainable food tastes just as good as non-sustainable food			
Sustainable food is healthier than non-sustainable food			
Price value	0.58	0.72	0.58
Sustainable food offers good value for money			
Replacing conventional food with sustainable ones will be good for the economy			
Non-monetary costs	0.53	0.68	0.66
The selection of sustainable foods is not good enough			
It's too difficult to find sustainable alternatives to the foods I usually buy			
Social value	0.85	0.89	0.90
Buying sustainable foods will make a good impression on my friends/family			
Buying a sustainable food will improve the way I am perceived			
Buying sustainable foods will give me social recognition			
Emotional value	0.85	0.89	0.90
Buying sustainable food will make me proud to help the environment			
Not buying sustainable food will give me a bad conscience			
Purchase intentions[3]	0.80	0.83	0.77
Sustainability will be an important factor in my future food purchases[3]			
How likely are you to buy sustainable food in the future? [4]			

Notes: [1] Purchase involvement and the five consumption value scales were measured on a 5-point Likert scale from 1 = very much disagree to 5 = very much agree.
All items, except for the second and third item of functional value, were framed identical for the three product categories, replacing 'food' with 'clothes' and 'mobile phones', respectively.
[2] Second and third item for clothes were "Sustainable clothing is just as good as non-sustainable clothing" and "Sustainable clothing meets all my needs/requirements for design and durability", Second and third item for mobile phones were "Sustainable mobile phones have an acceptable quality and utility value" and "Sustainable mobile phones meet all my needs/requirements for apps and features for my mobile phone", respectively
[3] The two items were measure on the 5-point scales of 1 = very much disagree to 5 = very much agree and 1 = very unlikely to 5 = very likely, respectively

Source: Created by the authors

3.2 Data collection and sample

The data used in the present study is part of a large online survey focusing on Danish consumers' perceived consumption values regarding purchasing sustainable food, mobile phones, and clothes. Invitations to participate in the study were distributed by university students via social media and email. To increase sample heterogeneity, students were encouraged to share the link to as broad a response group as possible in relation to gender, age, and occupation. A total of 404 usable cases were available for analysis.

The sample is skewed in terms of gender, age and income with 67.8% of the total sample being females, 44% being younger than 30 years of age, and 63.8% having personal income below 400.000 DDK (approx. 54.000 EUR), reflecting the fact that links to our questionnaire were distributed by university students on their social media sites and by mails.

Finally, mean scores for purchase involvement were 3.48 for food, 3.34 for clothes, and 3.55 for mobile phones, respectively (refer to the first row in Table 2). These statistics evidence a moderate to high degree of purchase involvement with clothes having the lowest mean score.

4. Results

Prior to examining consumption values and their relationship with purchase intention regarding sustainable food, clothes, and mobile phones, we created summated scales for each of the six subscales across the three product categories by averaging variable scores for each dimension. Also, internal consistency estimates were computed for each construct for each product category.

Table 1 shows that Cronbach's alpha scores were above or close to the .70 level for 15 of the 21 constructs, indicating satisfactory reliability. Five of the remaining six constructs were above or close to the .60 level, which suggesting an acceptable reliability for exploratory research (Hair et al., 2019). The non-monetary cost construct scored 0.53, below the 0.60 level. The low score may be justified as it is a two-item construct and a more formative than reflective scale (Stadler et al., 2021). Items in formative constructs are not assumed to be correlated; for example, consumers may find the selection of sustainable food adequate but still difficult to find.

4.1 Consumption values

Construct mean scores and their corresponding standard deviations are shown in Table 2. Starting with the first row, the mean scores for purchase involvement are 3.48, 3.34, and 3.56

for food, clothes, and mobile phones, respectively. This indicates a moderate to high level of purchase involvement across the three product categories. Interestingly, consumers report higher level of involvement in purchasing food and mobile phones than clothes.

Table 2: Means (and standard deviations (stdv)) of constructs across product categories

Constructs	*Food*	*Clothes*	*Mobile phones*
Purchase involvement	3.48^{A} (1.03)	3.34^{B} (1.06)	3.56^{A} (1.10)
Functional value	3.53^{A} (0.79)	3.23^{B} (0.80)	2.93^{C} (0.88)
Price value	2.80^{C} (0.89)	3.58^{A} (0.90)	3.20^{B} (0.81)
Non-monetary cost	3.04^{A} (0.80)	3.07^{A} (0.92)	3.16^{A} (0.91)
Social value	1.97^{A} (0.89)	1.93^{A} (0.89)	1.77^{B} (0.80)
Emotional value	2.65^{A} (1.03)	2.47^{B} (1.02)	2.19^{C} (0.95)
Purchase intention	3.40^{A} (0.95)	3.10^{B} (1.06)	2.46^{C} (0.96)

Notes: Means with different superscripts are significant from one another ($p<.05$).
Source: Created by the authors

Mean scores for consumption values are displayed in the next five rows. Functional value, price value, and non-monetary costs all have mean scores above or close to 3.0, while social and emotional values are significantly below 3.0. This suggests the first three values are more important than the latter two. Paired t-tests examined the importance of consumption values across the three product categories, with significant differences indicated by superscripts in Table 3. All three categories differ significantly in functional and price values. Food has the highest functional value mean score, followed by clothes and mobile phones. Clothes have the highest price value mean score, followed by mobile phones and food. Non-monetary costs are perceived similarly across categories. Social value is higher for food and clothes compared to mobile phones. Emotional value differs significantly among all categories, highest for food, then clothes, and least for mobile phones.

Regarding sustainable purchase intention, the categories differ significantly, with food having the highest mean, followed by clothes and mobile phones.

4.2 Relationships between consumption values and sustainable purchase intentions

The relationship between consumption values and sustainable purchase intentions was examined by conducting three multiple-regression analyses. For each product category, the six consumption values were used as independent variables and sustainable purchase intention was used as the dependent variable. F-values in Table 3 show that all three regressions were significant at a 0.001 level. The adjusted R^2 values indicate that the six consumption values explain 63%, 63%, and 55% of the variance for food, clothes, and mobile phones, respectively.

Tabel 3: Relationships between consumption values and sustainability purchase intentions

	Food		Clothes		Mobile Phone	
	β	SE	β	SE	β	SE
Constant	0.226	0.173	- 0.098	0.226	0.190	0.173
Functional value	0.452***	0.044	0.368***	0.051	0.315***	0.044
Price value	0.253***	0.044	0.295***	0.042	0.156**	0.044
Non-monetary cost	- 0.034	0.037	- 0.089*	0.037	- 0.068	0.037
Social value	- 0.026	0.042	0.088*	0.043	0.047	0.042
Emotional value	0.389***	0.037	0.429***	0.038	0.444***	0.037
F	134.856***		136.366***		97.676***	
Adj. R^2	0.629		0.631		0.551	

*Notes: * p < 0.05, ** p < 0.01, *** p < 0.001*

Source: Created by the authors

Functional value, price value, and emotional value have a positive and significant effect on consumers' intentions to purchase sustainable food (β = 0.452, p < 0.001; β = 0.253, p < 0.001; and β = 0.389, p < 0.001, respectively). Non-monetary cost and social value have no effect on intentions to purchase sustainable food.

Functional value, price value, social value, and emotional value all have a positive and significant effect on consumers' intentions to purchase sustainable clothes (β = 0.368, p < 0.001; β = 0.295, p < 0.001; β = 0.088, p < 0.05; and β = 0.429, p < 0.001, respectively). Non-monetary cost has a negative and significant effect on intentions to purchase sustainable clothes.

Functional value, price value and emotional value have a positive and significant effect on consumers' intentions to purchase sustainable mobile phones (β = 0.315, p < 0.001; β = 0.156,

$p < 0.001$; and $\beta = 0.444$, $p < 0.001$, respectively). Non-monetary cost and social value have no effect on intentions to purchase sustainable mobile phones.

5. Discussion and conclusion

This study assessed consumers' perceptions of consumption values when purchasing food, clothes, and mobile phones, and examined their relationship with sustainable purchase intentions. Functional value, price value, and non-monetary costs were the most important consumption values, suggesting cognitive values are more significant than hedonic values. Regression analyses showed that consumption values explained 63%, 63%, and 55% of the variance in sustainable purchase intentions for food, clothes, and mobile phones, respectively.

All consumption values were significantly related to sustainable purchase intentions for at least one product category, supporting Sheth et al. (1991)'s propositions that consumption behavior is influenced by multiple values, and these values vary across product categories. Sustainable purchase intentions for food were positively influenced by functional value, price value, and emotional value, with functional value having the strongest effect. Surprisingly, social value did not influence food purchase intentions. For clothes, sustainable purchase intentions were positively influenced by functional value, price value, social value, and emotional value, with emotional value having the strongest effect. Non-monetary costs negatively affected intentions to purchase sustainable clothes. For mobile phones, sustainable purchase intentions were positively influenced by functional value, price value, and emotional value, with emotional value having the strongest effect. The lack of influence from social value suggests mobile phone choice does not signify identity like clothes.

Consumers' perceptions of cognitive-related consumption values are more prevalent than hedonic-related values. Marketing managers and policymakers may promote hedonic values to enhance consumers' perception of sustainable options. Perceived consumption values varied across product categories, suggesting future research should focus on a broader range of products.

6. Limitations and future research

First, data for this study was collected through convenience sampling, which resulted in a skewed sample. Future research may use a more generalizable sampling method to ensure the generalizability of the results. Second, this study focused on food, clothing, and mobile phones. Future studies may explore other products or a broader range of products to enhance our knowledge about product-related differences in consumption values.

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