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The impact of social innovation on environmentally friendly product involvement

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Received 20 November 2021
Revised 12 September 2022
18 June 2023
8 September 2023
Accepted 12 March 2024

Abstract

Purpose – Involvement plays a crucial role in understanding consumer behavior. In recent years, the concept of social innovation has gained momentum, resulting in the development of eco-friendly products and initiatives to tackle societal issues. This trend is driven by consumers, who are increasingly aware of the social benefits of the products they buy. The present study aims to investigate how socially innovative, environmentally conscious consumers can influence their engagement with eco-friendly products.

Design/methodology/approach – Researchers aimed to investigate the "impact of social innovation on involvement in environmentally friendly products." They selected active members of various environmental organizations operating in the country to conduct the study. Convenience sampling was used to reach out to these members, and the managers of these organizations sent an electronic questionnaire to all members' email addresses.

Findings – The study found that socially innovative, environmentally conscious consumers tend to be more interested in the symbolic meaning and pleasure of products, leading to a decrease in perceived risk and risk importance.

Originality/value – There are limited studies examining the relationship between social innovation and product innovation. Therefore, the novelty of this research lies in its exploration of the relationship between these two concepts. Unlike previous studies, this research found a negative relationship between the dimensions of risk importance and risk probability. This result was interpreted as environmentally friendly products being sensitive to public welfare and not being perceived as risky by environmentalists.

Keywords Environmentalism, Environmentally friendly product, Product involvement, Social innovation

Paper type Research paper

1. Introduction

The purchasing decision process depends on the purchased product and the individual's characteristics. However, there are many other factors that also play a role. Consumers make decisions based on how their characteristics match up with the features of the product. This connection is driven by consumers' cognitive and emotional evaluations of the product, which in

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This manuscript was made from a doctorate thesis at Ataturk University Social Science Institute/ TÜRKİYE.

Innovation & Management Review
Emerald Publishing Limited
2515-8961
DOI 10.1108/INMR-10-2021-0191

turn affect their behavior (Broderick & Foxall, 1999). The cognitive and emotional fit between consumer and product features is crucial to consumer interest in today's ever changing market. It can only be achieved if companies understand their clients well and create new products and services according to their needs, desires and values. The acceptance of the products offered to the market is possible with the ability of these products to stimulate consumer interest. At this point, consumer behavior is closely related to the concept of involvement, which is the consumer's interest in any subject or problem. The level of involvement impacts the experience of emotions (Pansari & Kumar, 2017). *Product involvement* can be defined as the degree of interest, arousal and motivation a consumer has toward a product (Baker & Lutz, 2000, p. 2). Thus, a product's performance directly impacts a consumer's level of involvement with it. In simpler terms, the better the product performs, the more likely a consumer will be involved and interested in it. Baker and Lutz (2000) explained that it is an essential concept for businesses wanting to increase consumer engagement.

Consumers are showing a greater interest in social benefits, such as environmental and ethical issues, as well as product technical aspects like pricing and quality. Based on Sehgal & Singh's findings in 2010, this trend has led to a significant increase in the demand for environmentally friendly goods, as confirmed by Brosdahl & Carpenter in 2010 and Guzmán Francisco & Rodríguez in 2021. Consumers nowadays are more interested in innovative products that can improve the well-being of society. They are looking for more effective and sustainable solutions to addressing social problems. Social innovation refers to developing and expanding innovative activities and services by social institutions to meet social needs (Mulgan, 2006, p. 9). Social innovation encompasses a range of strategies to tackle social issues, according to Haugh (2005, p. 5). These strategies include offering new services in areas such as health, culture, arts, employment, housing, education and environment, as well as seeking new ways to improve existing services. Other strategies include implementing new income-generating activities, expanding the reach of services and sourcing new resources (Özdemir and Ar, 2015). To excel at sustainable innovations, companies must concentrate on environmental and social expectations (Cillo, Petruzzelli, Ardito, & Del Giudice, 2019; Zeng, Hu, & Ouyang, 2017).

Most of the environmental problems we face today still need to be addressed by our current systems. However, social innovation can provide us with adaptable and dynamic solutions to tackle these problems effectively (Reeves, Lemon, & Cook, 2013). According to economic, social and environmental thinking, social innovation and social entrepreneurship are believed to be part of the solution for sustainable development (Testi, Biggeri, Bellucci, Roel, & Persson, 2018). Social innovation has been emphasized by social policy initiatives, such as HORIZON 2020, the SPREAD Sustainable Lifestyles 2050 project (Rjinhout & Lorek, 2012), the European Social Fund and the Progress Program (EU, 2014).

This study examines the relationship between social innovation and product interest in the context of green consumers and products. This study aims to reveal the impact of social innovation on the involvement of environmentally conscious consumers in ecologically friendly products. The research sought to determine the social innovation tendencies of consumers who are members of environmental organizations and their effect on engagement with environmentally friendly products.

The study has provided evidence that contradicts the findings of previous research conducted by Kambar in 2016. This counterexample has enabled a different perspective on explaining the phenomena. It suggests that people who make independent decisions when purchasing a product may increase the share of risk importance and the probability of errors.

2. Theoretical background

2.1 Social innovation and environmentally friendly products

As the market evolves and consumer awareness increases, their expectations of products also change. To achieve sustained growth, firms must consistently create new items. For success,

it is not enough for businesses to innovate; consumers should also accept and adopt it. A significant condition for the innovation to be marketed correctly is defining innovative consumers and understanding their behaviors (Özçifci, 2015, p. 136). The most essential condition for the sustainability of businesses is to develop innovative products, services and processes (Stocker, Sajjad, Raziq, & Pacheco, 2022). Innovation has a very comprehensive structure with social dimensions as well. One of them is social innovation.

Social innovation refers to creating and implementing new or improved initiatives, services, processes or products that aim to address the challenges individuals and society face. It involves collaboration among different segments of society to develop effective, efficient, sustainable and equitable solutions to social issues. In this structure, businesses, the public and consumers converge on a common ground (Gerometta, Haussermann, & Longo, 2005, p. 320). Social innovation is the idea that innovative initiatives involving businesses and consumers can help us find solutions to problems. Social innovation aims to create tangible ways to develop new services, processes, initiatives or products to change people's lives positively. This approach brings about changes that support social continuity and encourage businesses to explore new avenues for generating innovative solutions and increasing profitability.

The need to evaluate social innovation alongside technological innovation to satisfy needs and economic efficiency was introduced by Joseph Schumpeter in the 1930s (Bulut, Eren, & Halaç, 2014). In recent years, it has been observed that social innovation has spread across all sectors of society, with activities such as non-profit organizations, social entrepreneurship, the social economy, the service sector and corporate social responsibility practices (Özdemir and Ar, 2015).

The idea of social innovation, previously limited to the fields of management science and business administration, has now been recognized as a crucial aspect of innovative business strategy. Joseph Schumpeter (Schumpeter, 1942) was the first to highlight the presence of social innovation alongside technological innovation. Innovation should not be confined to technology alone but should be explored in different domains, including social change and reform (OECD, 2001). Social progress depends on social innovation as an alternative to market-oriented development. If social innovation falls short, other forms of innovation will not be able to improve economic and social conditions (Moulaert & Nussbaumer, 2005; Elçi, 2006). Social innovation works in tandem with technological innovations (Pot & Vaas, 2008, p. 469) to develop human resources, modernize industrial relations and promote product innovation. A study by the Rotterdam School of Management found that technological innovation accounts for only 25% of innovation success and social innovation for the rest.

Social innovation is an approach that aims to provide solutions to global issues such as climate change and the depletion of energy resources. This approach has been gaining the attention of environmentalists due to the impact of environmental factors, such as increased global warming, air pollution and the rapid depletion of natural resources. As a result, there has been a gradual increase in environmentalist consumer behavior across the world. According to a Boston Consulting Group (BCG) report released in July 2020, over 80% of consumers claimed they were content to stay more securely in the six Gulf Cooperation Council member states. In addition, 56% of participants agreed that living sustainably was necessary (BCG, Boston Consulting Group, 2021). The shifting consumer tastes are not just limited to Western or developed markets, as seen in the 2021 Voice of the Consumer: Lifestyles Survey, released by Euromonitor International. According to a report by Euromonitor International in 2021, it was found that almost 35% of those surveyed in underdeveloped or emerging markets prefer to buy sustainable products (Euromonitor International, 2021). Similarly, research from the NYU Stern School of Business on the Sustainable Market Share Index indicates that USA consumers are also shifting toward more sustainable product choices. The yearly proportion of products advertised as sustainable

increased from 13.7% in 2015 to 16.8% in 2020. (NYU Stern, 2021). At this stage, customers identify with goods that look for novel approaches to societal problems that are more effective, efficient, sustainable and fair. It is noteworthy that the involvement level of consumers is increasing for products that cause less harm to nature, can be recycled, save energy and provide social benefits by using natural resources efficiently (Elkington, 1994). These products are expressed as environmentally friendly products. *An environmentally friendly product* is a product that is created, manufactured and packaged with the minimum harm to nature in mind (Durif, Boivin, & Julien, 2010, p. 25). The increasing importance that eco-conscious consumers place on environmentally friendly products has caught the attention of marketers, leading to innovative initiatives in this field. The concept of "green innovation" has gained significance due to its impact on environmental effects, including the production of environmentally friendly products. "Green innovation" is a term that describes the creation of new products, services, management systems, processes or ideas that are environmentally friendly and address environmental concerns. This type of innovation differs from traditional innovation, which primarily focuses on improving the technical features and processes of products and services (Saunila, Ukko, & Rantala, 2018). *Green innovation* is a relatively new concept that has gained significant traction in recent times (Andersen, 2008). It is also referred to as "sustainable innovation", "ecological innovation," "environmental innovation" and "green innovation" (Schiederig, Tietze, & Herstatt, 2011, p. 3; Arfi, Hikkerova, & Sahut, 2018). Green innovation is closely linked to social innovation, and it leads to the creation of environmentally friendly products. Companies that prioritize the production of eco-friendly products demonstrate corporate social responsibility by catering to the needs of environmentally conscious consumers (Uhlig, Mainardes, & Nossa, 2019; Qiu, Jie, Wang, & Zhao, 2019).

2.2 The product involvement

One of the important issues used in understanding and explaining consumer behavior in the field of marketing is the concept of involvement (Coskun, Vacino, & Polonsky, 2017).

Consumers' level of interest, enthusiasm and excitement towards a specific category of products, along with their interest in the products within that category, is referred to as *product interest* (Baker & Lutz, 2000, p. 2). This interest can be measured by evaluating the consumer's motivation toward a product (Lyons & Henderson, 2005, p. 320). On the other hand, involvement refers to the importance consumers attach to the events, objects or products they perceive and their level of association with them (Ozansoy, 2009, p. 26). Understanding the concept of involvement helps marketers create more targeted and effective advertising campaigns to appeal to their target audience, according to Lyons and Henderson (2005, p. 320). *Involvement* can be understood as a result of various factors such as the personal characteristics of consumers (such as their interests, values and goals), situational factors (such as perceived risk related to the purchasing decision or the characteristics of product or stimulus) and the product category. For instance, the type of media used to communicate can also affect the level of involvement (Dölarslan, 2015, p. 26).

Kapferer and Laurent (1985) conducted crucial studies on measuring and dimensioning consumer involvement, such as the Consumer Involvement Profile (CIP) scale. The CIP scale comprises five fundamental sub-dimensions, namely: *Interest:* It refers to the personal interest of the consumer toward a certain product category. *Pleasure:* It indicates the hedonic value of the product and its capacity to create pleasure and fun. *Symbolic Sign:* It measures the symbolic value of the product and its ability to reflect the consumer's personality. *Risk Importance: It evaluates* the perceived significance of the negative consequences of an inappropriate purchase *and Risk probability:* It assesses the perceived likelihood of making a

poor purchase choice. These dimensions can also be evaluated as aspects, antecedents and types of involvement.

2.3 The model and hypothesis

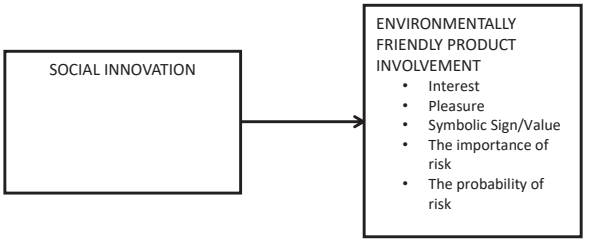
The research model is shown in Figure 1.

In today's world, due to the changes in society and the environment, consumers are becoming more conscious of environmental issues and place more value on protecting the environment. Companies and consumers have started to demonstrate sensitivity to these problems. It has been observed that technological innovation alone is not sufficient to find a solution, and social innovation is emphasized as much as technological innovation (Eren, 2020). Research conducted by Nakıboğlu (2003, p. 55) suggests that individuals who prioritize the cause of environmentalism also tend to have a keen interest in social innovation. *Social innovation* is defined as the implementation and development of novel or improved initiatives, services, processes, products or activities aimed at addressing the economic and social challenges faced by communities and individuals (Goldenberg, 2004a). Other researchers such as Goldenberg (2004a), Tanimoto and Doi (2007), Neamtan (2003) and Goldenberg (2004b, p. 3) have also explored the concept of social innovation.

The growing concern for the environment has recently led to the emergence of environmentally conscious consumers. These consumers are highly aware of the environment at every stage of their purchasing behavior. They exhibit environmental consciousness by making informed choices, using their consumer rights to ensure sustainable environmental conditions and feeling responsible for society and future generations (Nakıboğlu, 2003, p. 55). As a result, they prioritize the purchase of environmentally friendly products, as they believe that it is a socially responsible behavior (Qiu *et al.*, 2019).

According to Ozansoy (2009, p. 26), involvement refers to the degree to which consumers value events, objects, or products or how much they can relate them to themselves. When consumers make purchasing decisions, they convey their feelings and living standards, adding meaning to their lives beyond just consuming a benefit. The purchasing process requires a balance between consumer characteristics and product attributes, both cognitively and emotionally. As this balance increases, consumers become more interested in the products (Ozansoy, 2009, p. 11; 53). Consumers who prioritize the environment (Hussein & Cankül, 2010, p. 52) and want to benefit society by using environmentally friendly products are more interested in purchasing such products.

When purchasing, customers also consider their emotions and living standards. They want to consume a product for its benefit and that brings them value and meaning in their lives (Ozansoy, 2009, p. 11; 53). They will invest the time and effort needed to buy environmentally friendly products and pay the associated costs (Young, Hwang, McDonald, & Oates, 2010, p. 29). Consumer behavior is often influenced by the perception of the



Source(s): Figure by authors

Figure 1.
Research model

"consumer effect." This concept suggests that personal efforts can bring about a positive change; it is "the belief that one's own efforts will make a difference" (Rex & Baumann, 2006, p. 569). Environmentally conscious consumers are more likely to embrace social innovation trends and show greater interest in eco-friendly products.

Therefore, to investigate the "impact of social innovation on green product involvement," researchers developed the following hypotheses for each aspect of product involvement.

H1. The social innovativeness of green consumers has an impact on the relevance/importance dimension.

H2. The social innovativeness of green consumers has an impact on the dimension of pleasure.

H3. The social innovativeness of green consumers has an impact on the dimension of symbolic value.

H4. The social innovativeness of green consumers has an impact on the risk significance dimension.

H5. The social innovativeness of green consumers has an impact on the risk probability dimension.

3. Methodology of the research

3.1 Purpose and importance of the research

In terms of environmentally conscious consumers and products, this study discusses the challenges of social innovation and product engagement. Environmentalists should consider social innovation, which examines the idea of innovation in the context of resolving social issues. On the other hand, environmentally friendly products are those that serve this aspect of social innovation. Over time, consumers have shifted their product preferences towards environmentally friendly products due to the environmental damage caused by many products on the market. These products are developed to solve environmental problems as they are free from harmful elements. It is believed that individuals who are concerned about the environment are more likely to show interest in innovative products that can help address social problems while also being environmentally sustainable. Therefore, the purpose of this study is to examine the behavior of socially innovative and environmentally friendly conscious consumers and how they affect environmentally friendly product involvement.

3.2 Sampling and data collection process

The main focus of the research consists of environmentalist conscious consumers. To identify such consumers, the study considers those who are members of environmental organizations and actively volunteer for them. The sample includes active members of some environmental organizations operating in our country. The study aims to determine the level of interest in environmentally friendly products rather than in a specific product. The involvement of environmentally conscious consumers in product research has also been determined. The authors used the convenience sampling method. They sent the link to the questionnaire prepared electronically to the e-mail addresses of all members of these organizations. The study was carried out on 392 questionnaires.

3.3 Results and discussion

This study employed Cronbach alpha and exploratory and confirmatory factor analyses.

3.3.1 Reliability analysis for scales. Cronbach alpha was obtained because of reliability analysis applied for the scales, standard deviation and variance values, as shown in Table 1.

Cronbach's alpha test was conducted to assess the internal consistency of three scales: product involvement, social innovation and environmental behavior. The test results indicate that the product involvement scale has good dependability. Similarly, the social innovation variable also exhibits a high level of reliability.

3.3.2 Validity analysis for social innovation. The findings of the factor analysis regarding social innovation are outlined below. Table 2 shows the KMO and Bartlett sphericity test results related to the social innovation variable.

The authors applied factor analysis to 10 items in the social innovation scale. They also performed reliability analysis for these items, and 91.0% was found, which is a very high

Scales	Cronbach alpha coefficient	Mean	Standard deviation	Variance	Variable number
Product involvement dimensions	*0.744*	*3.3549*	*0.46723*	*0.218*	*16*
Interest	*0.895*	*3.4413*	*0.47256*	*0.223*	*3*
Purchasing environmentally friendly products is extremely important to me					
I am really interested in environmentally friendly product					
I am not interested in the issue of environmentally friendly products					
Pleasure	*0.841*	*4.0723*	*0.82007*	*0.673*	*3*
It is a kind of pleasure for me to purchase myself an environmentally friendly product					
Purchasing an environmentally friendly product is like giving myself a gift					
Purchasing an environmentally friendly product gives me happiness					
Symbolic Sign	*0.795*	*3.5587*	*0.92545*	*0.856*	*3*
The brand of the environmentally friendly product someone chooses gives clues about their personality					
The brand of the environmentally friendly product I chose reflects my personality					
I can tell something about someone by looking at the environmentally friendly product they have chosen					
The importance of risk	*0.864*	*3.5191*	*0.94220*	*0.888*	*3*
It's really annoying to purchase an environmentally friendly product that doesn't meet my needs					
If I find out that I made a bad choice after purchasing an environmentally friendly product, I get very angry with myself					
If I make a wrong decision when choosing an environmentally friendly product, it is not so important					
The probability of risk	*0.764*	*2.6752*	*0.89832*	*0.807*	*4*
I can never decide which one to choose while window dressing in environmentally friendly product stores					
When I purchase an environmentally friendly product, I don't know if I really should have purchased it (or someone else)					
Choosing an environmentally friendly product to buy is quite a difficult decision					
You can never be completely sure that you have made the right choice when purchasing an environmentally friendly product					
Social Innovation	*0.904*	*4.0376*	*0.67313*	*0.453*	*9*
I seek ways to increase social solidarity and social participation in society					
I would like to be useful to those around me without expecting any financial benefit					
I produce new ideas that will create social value and make society more effective					
I would like to develop scientific new educational techniques to increase the innovative power of society					
I believe that technological innovations do not improve the economy and living conditions without providing social, human, and organizational development					
I seek opportunities to make changes in social norms and rules					
I seek ways to create political and social change in society					
I use new technologies to meet social needs and find solutions to problems					
I would like to develop new products and services with social content to improve the quality of life of the society					

Note(s): Cronbach alpha, mean, standard deviation and variance values
Source(s): Table by authors – SPSS OUTPUT

Table 1.
Reliability analysis results for scales

Attitude factors	Eigenvalue	Percentage of variance
Social innovation		
Kaiser–Meyer–Olkin value: 0.915		
Bartlett sphericity test values: Chi-square: 1796,718 Sd: 28 Significance: 0.000		
Factor 1: Social innovation	4,932	61,654
Cronbach's alpha = 90.4		
TOTAL		61,654
Cronbach's alpha = 90.4		
Product involvement		
Kaiser–Meyer–Olkin value: 0.78		
Bartlett sphericity test values: Chi-square: 2626,025 Sd: 99 Significance: 0.000		
Factor 1: Interest-Importance/pleasure	3,599	25,708
Cronbach's Alfa = 85.5		
Factor 2: Symbolic Value	2,397	17,120
Cronbach's alpha = 79.5		
Factor 3: The importance of risk	2,396	17,115
Cronbach's alpha = 73.9		
Factor 4: Possibility of risk	1,394	9,954
Total		69,897
Cronbach's alpha = 81,1		
Chi-square = 171.49		
SD = 50		
Chi-square/Sd = 3.42		
RMSA = 0.079		
GFI = 0.93		
CFI = 0.95		
AGFI = 0.89		
RMSR = 0.077		

Source(s): Table by authors – SPSS and LISREL OUTPUT

Table 2.
Validity tests of social innovation and product involvement scales

value. As a result of the reliability analysis, one item was excluded from the analysis. Barlett's test was used to determine the relationships between items. The KMO test value was 0.915, which is suitable for factor analysis. As a result of factor analysis, a single factor was obtained for the social innovation variable. The fact that the total variance of the social innovation variable is 61,654% shows that this scale is sufficient.

The factor analysis discovered a single factor with an eigenvalue of less than one. The factor loads of the statements gathered under this factor ranged between 0.693 and 0.863. The original scale of product involvement had five dimensions: interest/importance, pleasure, symbolic sign, risk importance and risk probability. An independence test was conducted on these 16 items and found to be significant.

After conducting a confirmatory factor analysis, it became clear that the compliance values needed to be more satisfactory as to suitability. The items not aligning with the modification recommendations were removed. As a result of these modifications, at least 2 factors had to be eliminated. Subsequently, exploratory factor analysis of the 16-item product involvement scale was found to be appropriate.

Before conducting the exploratory factor analysis, the reliability of the items was examined, and it was found to be 78.8%. This value indicates high reliability for the research. Based on the reliability analysis, only two items were removed from the analysis. The Barlett's value for the product interest scale was found to be 2626.025, indicating a significant level of $p < 0$ 0.01. The KMO value of 0.789 is quite significant for factor analysis. The analysis resulted in obtaining four factors for the product involvement variable.

Table 2 displays the factor loadings for the dimensions of the product involvement variable. Originally, the product involvement scale had five factors. However, the factor analysis revealed four essential elements with an eigenvalue greater than 1.

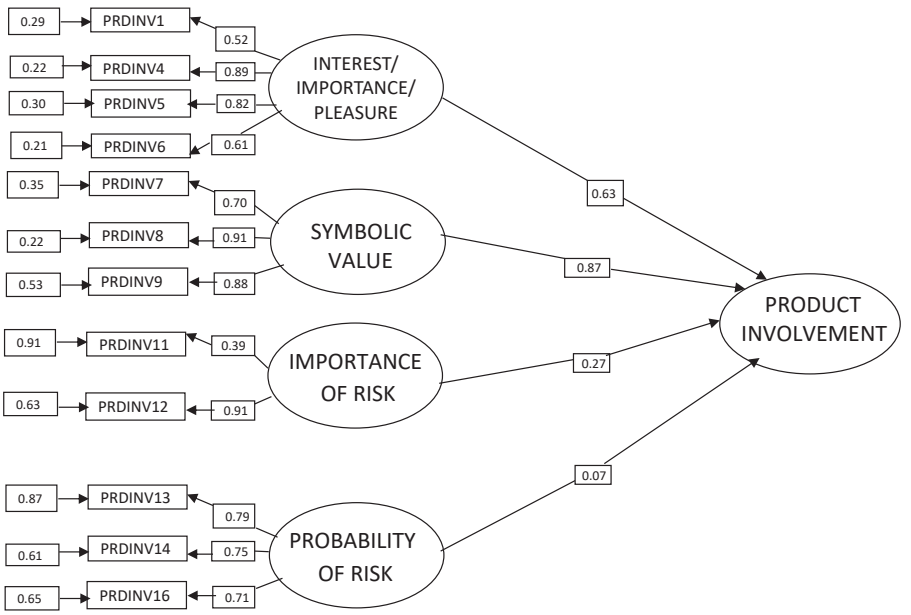
After conducting a factor analysis on 14 items, with 2 items excluded from the reliability analysis, the product involvement was found to have four factors instead of the original five. These factors include interest/importance-pleasure, symbolic sign, importance of risk and risk probability.

When the confirmatory factor analysis results are examined, it is found that the four factors obtained in the exploratory factor analysis results were obtained and verified in the same way. It is revealed that environmentally friendly consumers participating in the research perceive environmentally friendly products around the topics of interest/importance-pleasure, symbolic sign, risk importance and risk probability (Güven, 2019). The estimated model of product interest is shown in the figure below. The estimated model of product interest is shown in Figure 2 below.

3.3.3 The effect of social innovation on product involvement. The study aimed to determine if social innovation has a significant impact on product involvement. The study used "canonical correlation" analysis to investigate the mutual and multiple relationships between social innovation and environmentally friendly product involvement.

The social innovation scale, which consists of items shown in Table 3, was developed by Halaç, Eren and Bulut (2014). To measure consumers' product involvement, the authors used the CIP scale developed by Kapferer in 1985.

To examine the effect of social innovation on product involvement, the researchers considered social innovation as an independent variable and product involvement as a dependent variable. The criterion variables are the variables in the product involvement data set, and the predictor variables are the variables in the social innovation data set. The variables included in the data sets consist of the variables found to be significant due to factor



Source(s): Figure by authors-LISREL OUTPUT

Figure 2.
Estimation model of product involvement and dimensions

Functions Obtained as a Result of Canonical Correlation Analysis

Canonical Function	Canonicalcorrelation Coefficient (Rc)	(Eigenvalue) Canonical	Wilk's Lambda	Chi_ Square	Degree of Freedom	Statistical Significance
1	0.682	0.465	0.534	243.1115	4	0.000

Correlation Matrix

Product Involvement	Social Innovation
Interest /importance/pleasure	0.6506
Symbolic Sign	0.5030
Importance of risk	0.0866
Probability of risk	–0.0393

Canonical and Cross Loadings of Social Innovation

	Canonical Loadings	Cross Loadings
	1st Function	1st Function
Social Innovation	1.000	0.682

Relationship between Dependent Canonical Variable Set and Independent Canonical Set

Dependent Canonical Variable Set		Independent Canonical Variable Set	
Interest /importance/pleasure	0.782	Social Innovation	1
Symbolic sign	0.353		
Importance of risk	–0.049		
Probability of risk	–0.007		
Interest /importance/pleasure	0.782		

Canonical and Cross Loadings of Product Involvement

Product Involvement	Canonical Loadings	Cross Loadings
	1st Function	1st Function
Interest /importance/pleasure	0.953	0.651
Symbolic sign	0.737	0.503
Importance of risk	0.127	0.087
Probability of risk	–0.058	–0.039

Source(s): Table by authors-SPSS OUTPUT

Table 3.
Results of canonical correlation analysis

analysis. The five dimensions found in the original scale of product involvement emerged as four dimensions; interest/importance dimension and the pleasure dimension were gathered under a single dimension. Therefore, the H_1 and H_2 hypotheses were tested on one dimension.

The canonical correlation analysis was conducted to determine the effect of social innovation on product involvement. The results suggest that function 1 was obtained because the social innovation and product interest variables set had the lowest number of variables, which is 1. One can refer to Table 3 for the detailed results.

Table 3 shows the correlation coefficient for social innovation and product involvement was significant ($p < 0.01$). As a result, the canonical correlation coefficients between the data sets for these variables were also significant.

The correlation coefficient for the Wilks' lambda and canonical function is substantial, as shown by the estimated "Wilk's lambda and Chi-square" values ($p < 0.01$). The canonical function accounts for 46.5% of the total variance.

The correlation values between the social innovation data set (an independent variable) and product involvement data sets (dependent variables) are analyzed, and it was found that social innovation influences the interest and pleasure of the product, its importance to the product and the symbolic sign of the product.

Table 3 shows that social innovation has a high value, with a loading of 1 in the canonical loadings of the obtained function. The fact that social innovation is the only independent variable is a natural result of this situation. It also displays the canonical and cross-loadings

of product involvement. It can be shown that "the importance of interest/pleasure and after the symbolic sign, risk importance, and risk probability, respectively," present the highest cross-load values.

When examining the role of the canonical function, social innovation is closely tied to notions of interest, importance, pleasure and meaning, which are distinct from the dimensions of product involvement in environmentally friendly products. The level of social innovation among interviewees affects the importance of interest/pleasure and symbolic meaning based on the dimensions of product involvement. Those who place a high value on social innovation play a crucial role in determining the significance of interest/pleasure and symbolic meaning. The interest, importance and pleasure that people derive from environmentally friendly products are influenced by social innovation among environmentally conscious consumers. These types of products have high symbolic value, especially in the context of environmentalism, and social innovation plays a crucial role in driving people's involvement with them.

It has been found that social innovation is inversely related to the perceived risk of environmentally friendly products. It means that consumers who purchase socially innovative, environmentally friendly products do not believe these products are risky, even though they may carry some risks. Environmentally friendly products are those that are safe and compatible with nature. They are seen as a natural outcome of social innovation, which involves accepting responsibility for society and encourages consumers to choose products that are not perceived as a risk factor. In other words, environmental awareness and responsibility are crucial in shaping consumers' behavior when it comes to purchasing eco-friendly products (Uhlig *et al.*, 2019).

Based on this study, it was found that the social innovation of green consumers has a significant impact on their interest in environmentally friendly products. As a result, *all the hypotheses* were accepted. The canonical correlation analysis showed that those consumers who prioritize the "social innovation" factor over other factors while purchasing eco-friendly products are more interested in buying such products and derive emotional satisfaction from these purchases. Additionally, these products have symbolic value for them. Respondents who are socially innovative believe that environmentally friendly products are not risky.

4. Conclusion

Based on the results of both exploratory and confirmatory factor analysis, it was found that the environmentally conscious consumers who participated in the study perceived environmentally friendly products based on four main factors, which are interest/importance-pleasure, symbolic sign, risk importance and risk probability. It was observed that these consumers did not consider the pleasure aspect of their involvement with environmentally friendly products. Instead, they evaluated it together with the importance of the product. This situation is interpreted as the dimension of pleasure in environmentally friendly products resulting from the importance of the benefit provided to society.

The main objective of the study is to examine the effect of social innovation among environmentally conscious consumers on environmentally friendly product involvement. According to the result of the canonical correlation analysis, social innovation influenced product involvement. Social innovation, interest-importance/pleasure and symbolic signs were observed to have the strongest correlation. In conclusion, the study found that social innovation is highly associated with interest-importance/pleasure and symbolic signs.

According to the findings, respondents who value social innovation place a high importance on interest-importance/pleasure and symbolic signs. The study also found that environmentalist consumers' preference for socially innovative products is influenced by their interest, importance and pleasure in these products, as well as the symbolic meaning

attached to them. To put it simply, individuals who place a high value on social innovation tend to prioritize environmentally friendly products and show a preference for them based on their symbolic value. It has been observed that such products hold a strong symbolic value, especially in terms of promoting environmentalism, and that the degree of social innovation influences a person's level of involvement in environmentally friendly products. Despite this, very few studies have investigated the association between involvement and innovation. Alam (2002) examined how customers are involved in the innovation process. Magnusson, Matthing and Kristensson (2003) found that customers' new service ideas can be better than those produced by professional service designers. In Kambar's (2016) study on the mobile phone purchasing decisions of consumers, the relations between consumer innovation and product involvement were significant, and there was a positive relationship between the importance of risk and risk probability among the product involvement dimensions of individuals with high innovativeness. This shows that risk is an important factor in product involvement in products with functional features. In this study, contrary to the study of Kambar (2016), the relationship between risk importance and risk probability dimensions was negative. It suggests that environmentally friendly products are perceived as beneficial to public welfare and that environmentalists do not view them as risky.

4.1 Implications

Based on the results of this study, individuals who make independent decisions may increase the importance of risk and the probability of error when purchasing the product.

On the other hand, it was found that social innovation had a negative correlation with the perceived risk of environmentally friendly products and the risk in these products. It was concluded that socially innovative environmentalist consumers who purchased eco-friendly products did not consider them to be risky or potentially harmful. It is commonly believed that environmentally friendly products are safe and compatible with nature. This is because they are designed to avoid harm to the environment. A recent study found that people who value social innovation tend to view environmentally friendly products as completely risk-free and safe to use.

This study is a valuable contribution to the marketing literature as it explains the impact of social innovation on product involvement. It provides significant insights for professionals in the field. Accurate assessments of consumer profiles and market segments are crucial for the success of marketing campaigns. The research findings are expected to fascinate a broad audience and offer valuable clues for both academic and practical disciplines. The study sheds light on the role of social innovation in sustainable economic development.

The recommendations based on this research are as follows. In recent years, the increase in environmentalist tendencies and the power of environmentalist groups in the public have forced businesses to focus on these issues. It is estimated that the competition in the market of the enterprises will be based on environmentally friendly products. Businesses need to develop products that provide practical solutions to environmental problems. It would benefit companies to focus their innovative activities in this field. Companies must stand out by offering innovative products in today's competitive business landscape. Thus, it would be beneficial for businesses to focus on goods and services that reveal the social aspect of innovation and to look for new ways beyond social benefits. In this respect, it is recommended that businesses know their customers well and benefit from those with highly innovative qualities. The focus of social innovation on social problems makes environmentally friendly products an essential market. The increase in socially innovative consumers will also increase the demand for environmentally friendly products. From this point of view, environmentally friendly products can offer a significant market opportunity for businesses. It would be beneficial for companies to focus their attention on this area. Environmentally

friendly products, which are harmless and compatible with nature, cause consumers to see these products as risk-free. Therefore, businesses should carefully highlight their environmental aspects when designing new products and performing promotional activities. For new products to succeed in the market, the level of consumer interest in these products should also be high. As consumers associate themselves with a particular product group, so do their purchasing decisions. Given that social innovation is related to the interest-importance/pleasure dimensions and symbolic signs in engagement with environmentally friendly products, it will be appropriate for companies that produce green products to inform consumers that these products fulfill an essential responsibility. On the other hand, due to the high symbolic significance of environmentally friendly products in the minds of socially innovative consumers, it is suggested that the companies add value and meaning to this concept.

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Further reading

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