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RESEARCH ARTICLE

Factors Influencing Purchasing Behavior of Sustainable Fashion Products from Organic Cotton among Working-Age Consumers in Thailand

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ABSTRACT

This research explores the motivations and behaviors behind the purchase of organic cotton sustainable fashion products among the working-age population in Thailand. The study tests these hypotheses; the relationship between environmental attitude, value perception, health consciousness, social influence, and actual purchasing behavior via purchase intention as a mediator. Structural equation modeling was developed and tested based on data collected from 400 survey respondents from Thailand. The results show that environmental attitude, perceived value and social influence have strong impact on the purchase intention of the consumers, with social influence even being rated the strongest predictor. The total model effect explains 54% of the actual purchasing behavior. These results assist marketers, producers and policymakers in understanding how best to market sustainable fashion and other strategies that would promote and encourage usage of organic cotton in Thailand.

INTRODUCTION

Sustainability is an expanded notion that encompasses the responsible management of resources to meet current needs without endangering the ability of the future generations (Brundtland Commission, 1987). It integrates environmental, social and economic elements aimed at achieving a well balanced developmental strategy that fosters greater ecological health and human welfare (Purvis, Mao, & Robinson, 2019). Increased awareness of the finiteness of the planet's resources and the impact of humankind on nature today further justifies the importance of sustainability. With the increase of the world population, the necessity for resources such as water, energy, and food increases as well, which leads to resources depletion and deterioration of the environment (UN, 2019). These trends are not only unsustainable, but they also have serious implications for ecosystems and human societies.

To solve the future unpredictable impact, Díaz et al. (2019) state that the environmental aspect of sustainability deals with the protection of natural ecosystems and biodiversity. This means reducing pollution, protecting natural ecosystems, and promoting a sustainable use of resources (UNEP, 2021) respectively. For instance, sustainable agriculture practices try to reduce pesticide application, conserve water resources, enhance soil quality, all of which support environmental health (FAO, 2018).

With the development of sustainable agriculture, the organic cotton industry , for example, is directly linked to sustainability goals including some of the United Nation's Sustainable Development Goals (SDGs). As evidenced by a survey by Textile Exchange (2022), production of organic cotton contributes in a positive most towards at least eight out of the 17 SDG targets which are clean water and sanitation as well as climate action. The causes of the industry's commitment to sustainability can be traced to its practices that improve soil and water health as well as biodiversity. Based on a survey conducted by the Rodale Institute; organic cotton grow-out systems are capable of sequestering about 2,000 pounds per acre per annum which helps significantly in combating climate change(Rodale Institute, 2020). Moreover, it has been said that the shift

towards the organic production of cotton has shown to increase the resilience of farmers against climate change as organic systems are more flexible. (FAO, 2021).

Although organic cotton provides a number of ecological benefits, it is clear that the growth of the industry impacts the people's quality of life, and their health and business for the better. Thus, organic cotton production does not expose farmers and adjacent communities to the risk of pesticide poisoning and its related health issues. This is highly important in developing countries, where safety measures and access to healthcare might be limited. As per the Organic Trade Association, organic cotton farming contributes to better working conditions and does lessen farmers' exposure to toxic chemicals (Organic Trade Association, 202).

Even the customers benefit from organic cotton as it brings a health and ethical solution in the clothing industry. Organic cotton products do not have any chemical remnants thus are suitable for people with sensitive skin or allergies. The increasing awareness of and demand for such products led to a high increase in the number of producers integrating organic cotton into their lines and fueling the growth of the sector. By buying cotton that is organic, consumers are creating positive impact with respect to farming practices and the fashion landscape. As the industry continues to develop, the incorporation of organic cotton will be of great importance in the reduction of the carbon footprint in the textile industry and the enhancement of the lives of the participants in the production chain (Strawberry & Cream,2020).

Especially in Thailand, organic cotton generates a more sustainable solution. This completely removes employment of dangerous pesticides and synthetic fertilizers strenuous cotton farming in Thailand improving soil and biological diversity (Sriwichailamphan et al., 2007). In addition, the Thai organic cotton industry places the emphasis on socially responsible production and community support which tackles the environmental and social concerns (Becchetti et al., 2012). Pornpratansombat et al. (2011) noted that in Thailand, especially in the production of cotton, organic farming practices are win-win strategies for the farmers and the environment. As Rattanasuteerakul and Thapa (2012) note, organic farming practices in Thailand improve both soil health and cut back on production costs for the farmers.

Though organic cotton is produced in Thailand, there are a number of barriers that Thai consumers need to clear before they can purchase clothes made out of organic cotton. The price differential between clothes made of organic cotton and ordinary clothes is a serious issue. According to a study by Kianpour et al. (2014), price sensitivity is an important factor in Thai customers' willingness to purchase eco-friendly products such as organic cotton cloths. The study found that many Thai customers understand the benefits to the eco-system but refrain from buying such sustainable and organic clothes because of the cost associated with them.

Thai customers face major barriers to adopting apparel made from organic cotton because of the low supply and the limited variety present in the market. According to research by Poolthong and Mandhachitara (2009), it appears that the factors of usability and location, relative to both the product and target market, determine purchasing behavior among Thai consumers. Their findings indicated that selling organic cotton products in traditional shops greatly enhances the likelihood of customers actively seeking these products out. Furthermore, the work of Tangkitvanich and Sereenonchai (2018) highlights the inadequate understanding of Thai consumers of the environmental and social impacts of their clothing, which adversely affects the sale of organic cotton products. For the purpose of marketing these items, it is necessary to know the purchase intention for organic cotton items.

Studies of this nature have also led to a deeper understanding of individual behavior and attitudes of people in the working-age group towards purchase of organic cotton. Ritch (2015) noted that working age clients are becoming more aware of the sustainable fashion initiative, but are often unable to put this knowledge into practice. Style, price, and brand are aspects most valued by consumers within this demographic when purchasing clothing and apparel. However, according to Kang et al. (2013), working age customers socially above average and holding a higher educational level are more likely to purchase organic and other sustainable fashion products.

Furthermore, Henninger et al. (2017) discovered that working-age consumers in metropolitan regions are more likely to purchase organic cotton clothes, owing to characteristics such as health consciousness, environmental concerns, and socioeconomic position. Nonetheless, the study found that even among this group, there is a considerable attitude-behaviour gap, with good views toward sustainable fashion not necessarily resulting in real purchases. Given these findings, it is critical to investigate the factors that influence the purchase behaviour of sustainable fashion products derived from organic cotton among Thai working-age customers. Such research can provide useful information for businesses attempting to shift their product lines to organic cotton. This allows them to establish successful marketing strategies and gain a competitive advantage in this growing market sector.

Research Objectives

1. To investigate the relationships between environmental attitude, perceived value, health consciousness, social influence, and purchase intention for organic cotton products.

2. To analyze the mediating role of purchase intention between environmental attitude, perceived value, health consciousness, social influence, and actual purchasing behavior.

3. To develop and test a structural equation model of environmental attitude, perceived value, health consciousness, and social influence on actual purchasing behavior of organic cotton products through the mediating role of purchase intention.

Research Methods

Population and sample

The target population for this study includes those working age consumers aged between 18 – 64 years in Thailand who have had a previous purchase of organic cotton products and have a level of knowledge and awareness with regards to environmental conservation.

Due to the undefined nature of the population, a non probability sampling technique of convenience sampling is used, and the formula for Taro Yamane population size (Kanlaya, 2011) was applied at a 95 percent confidence level and a 5 percent maximum estimation error. As per, total 400 respondents were collected from all the six regions of Thailand including north, central, northeast, east, west and south parts. Such comprehensive sampling from various regions across Thailand has the purpose to provide a representative sample of the population.

Sample Size

Hair and his colleagues (1995) and Lindeman and colleagues (1980) recommend that the number of respondents should dead end at least 20 per each of the observed variables in the model. Given the number of variables that are available in the conceptual framework, assuming that a constructing is composed of at least three indicators, the sample size is estimated to be 360 respondents. This figure represents the minimum number of participants needed for the research. It does not take into consideration the possibility of having some participants that will not complete the questionnaire. The aim for sample size of 400 also strengthens the statistical analysis of the results.

Research Instrument

The use of questionnaires is common in research as an instrument. Construction of the questionnaire consists of a number of steps elaborated below.

1. Review of Literature: Identify and comprehensively study the literature, concepts, theories, and other related research to further understand how the questionnaire is constructed.

2. Questionnaire Design: Create the framework of the intended research and come up with questions for the questionnaire.

3. Questionnaire Testing: Before making a questionnaire available to the subjects, it is subjected to a series of tests to check whether it is valid and reliable.

- Content Validity: Content validity criteria have been set and expert opinion is sought about the instrument using the IOC method. Item Oblitivity scores below 0.5 are disregarded.
- Construct Validity: This is evaluated using Confirmatory Factor Analysis (CFA) which seeks to find out the co relations between the variables i.e. whether the observable variables fit the structural model.
- Reliability Testing: The reliability of the revised questionnaire is tested on a pilot sample includng 40 subjects that are not part of the sample population of the study. Constructs with a target alpha of less than 0.70 based on test retest reliability regression analyses are recorded. Substantial firm coefficient of 0.9467 demonstrates reliability.

4. It is necessary to modify the wording of the questionnaire to make it constructively accurate and suitable for the next stage .

DATA ANALYSIS METHODOLOGY

To successfully test the hypotheses and attain the objectives of the study, in this case, the following analysis procedures will be employed:

1. Descriptive and Inferential Statistics

This research will apply descriptive statistics techniques such as frequency and percentage, mean and standard deviation, skewness and kurtosis, coefficient of variations and Z scores. These metrics will aid in providing an ample insight into the characteristics and distribution of the data.

2. Confirmatory Factor Analysis (CFA)

Achieve CFA in any of its forms in order to explore the construct validity of any of the components within each measurement model. This technique will attempt to demonstrate the level of measurement of the observed variables to the underlying latent constructs so as to enhance the theoretical framework of the instrument used.

3. Structural Equation Modeling (SEM)

Conduct SEM in order to carry out the hypothesis regarding the causality among the variables in the model by empirically depicting the relationship between the variables. This statistical technique enables the evaluation of several interacting relationships at the same time according to a delineated conceptual model and theory (Dumrong, 2011). The analysis on the SEM analysis will be conducted in the following manner:

a) Model Specification: Specify a structural model which is consistent with theoretical and research hypotheses.

b) Model Estimation: Utilize relevant techniques of estimation in order to provide parameter estimates that are most consistent with the data.

c) Model Evaluation: Evaluate the accuracy of the model by using two approaches;

i) Overall Model Fit: Use global fit indices to test whether the model postulated is in agreement with the data collected.

ii) Component Fit: Assess the adequacy of the fit of the specified model including level of significance of the factor loadings, path coefficients and the residual variances.

d) Contributor Modification endeavours to address specific gaps in the model by making changes to it through theoretical and practical aspects with the aim of making it more useful.

This strengthened analytical paradigm will facilitate the testing of the research questions comprehensively and allow for a better understanding of the intricate interconnections between the variables under study, warranting further enhancement of the theory and cross-industry applications.

RESULTS

The demographic analysis of the sample population (N = 400) revealed significant characteristics. Female respondents constituted the majority, accounting for 71.75% (n = 287) of the sample. The predominant age group was 18-24 years, representing 54.25% (n = 217) of participants. In terms of educational attainment, 74% (n = 296) of respondents held a bachelor's degree. Regarding monthly income, the largest segment (42.75%, n = 171) reported earnings of 15,000 baht or less. Geographically, the central region was the most common place of residence, with 53.25% (n = 213) of respondents hailing from this area. These findings provide a comprehensive overview of the sample's demographic composition, offering insights into the characteristics of the study population.

The researcher conducted an analysis of the casual relationships between environmental attitude, perceived value, health consciousness, and social influence on the actual purchasing behavior of organic cotton products, with purchase intention serving as a mediating variable. The structural equation modeling (SEM) approach was employed, utilizing a two-step process. The initial step involved assessing the model based on theoretical concepts and hypotheses, using sample data to refine the model until it achieved congruence with the analytical data.

The results of the analysis revealed highly favorable model fit indices. The Goodness of Fit Index (GFI) of 0.993 indicated excellent harmony between the model and empirical data. Similarly, the Adjusted Goodness of Fit Index (AGFI) of 0.954 and the Comparative Fit Index (CFI) of 0.996 both demonstrated strong model-data congruence. The Chi-square/degrees of freedom ratio (χ^2/df) of 2.654 further corroborated the model's high level of harmony with the empirical data. The Root Mean Square Error of Approximation (RMSEA) value of 0.065 fell within the acceptable range, indicating good absolute fit.

In aggregate, the causal component variables explained 54% of the variance (R^2 = 0.54) in the outcome variable, specifically the actual purchasing behavior of organic cotton products among Thailand's working-age consumer population. These results are graphically illustrated in Figure 1.

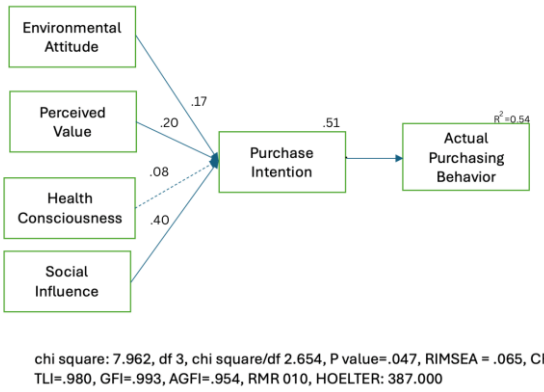

Figure 1 the relationships between environmental attitude, perceived value, health consciousness, and social influence on the working-age consumers' actual purchasing behavior of organic cotton products, with purchase intention serving as a mediating variable

The iterative refinement of the model yielded the following outcomes:

1. The model demonstrated significant correlations among all variables, with the exception of health consciousness.

2. The internal structure of the model revealed statistically significant causal relationships between four pairs of latent variables.

3. Collectively, the causal component variables accounted for 54% of the variance ($R^2 = 0.54$) in the outcome variable, specifically the actual purchasing behavior of organic cotton products among working-age consumers.

4. Analysis of the linear structural correlation model, based on the sample group data, indicated that environmental attitude, perceived value, social influence, and purchase intention exerted the most substantial total effects (TE). Environmental attitude, perceived value, and social influence exhibited the strongest direct effects (DE), while purchase intention demonstrated the most pronounced indirect effect (IE). Table 2 illustrates the consistency of these influence weights across the sample data.

Table 2 Compare the impact of the cause variable on the model's effect

Casual Variables	**Effect Variables**				**Total**
	Direct Effect		Indirect Effect		
Environmental Attitude	0.199	Purchase Intention	0.164	Actual Purchasing Behavior	0.363
Perceived Value	0.246	Purchase Intention	0.203	Actual Purchasing Behavior	0.449
Social Influence	0.378	Purchase Intention	0.311	Actual Purchasing Behavior	0.689

To assess the model's congruence and alignment with empirical data, ten distinct indicators were employed. These indicators Chi-square)χ^2(, Chi-square /DF (CIMIN/df) , Goodness of Fit Index: GFI, Root Mean Square Residual: RMR,Root Mean Square Error of Approximation: RMSEA, Adjusted Goodness of Fit Index: AGFI, Hoelter's Critical N: HOELTER, Tucker-Lewis Index: TLI. As illustrated in Table 3, the model, when applied to the sample, utilized these ten indices to evaluate its conformity and harmony with the observed data, adhering to established criteria for model fit assessment.

Table 3 The Fit Indices of the Research Model in Relation to Empirical Data Following Modification Indices

Fit Indices	**Criterion Consideration**	**Statistical Value**	**Results**
Chi-square (χ^2)	$p > 0.05$	7.962	✓
Chi-square /DF (CIMIN/*df*)	< 2.00	2.654	✓
Goodness of Fit Index: GFI	> 0.90	0.993	✓
Root Mean Square Residual: RMR	< 0.05	0.01	✓
Root Mean Square Error of Approximation: RMSEA	< 0.08	0.065	✓
Adjusted Goodness of Fit Index: AGFI	> 0.90	0.954	✓
Hoelter's Critical N: HOELTER	> 200	387	✓
Tucker-Lewis Index: TLI	> 0.95	0.98	✓

(M.I.) Adjustment

In conclusion, environmental attitude, perceived value, and social influence demonstrated direct effects on purchase intention for organic cotton products. Notably, social influence exhibited the most substantial impact on purchase intention among working-age consumers. Conversely, health consciousness did not significantly influence purchase intention. Purchase intention demonstrated a predictive capacity of 70% for consumers' actual purchasing behavior. However, the comprehensive model's explanatory power for forecasting behavior was limited to 54%.

DISCUSSION

The findings of this study demonstrate that there are direct relationships between environmental attitude, perceived value and social influence and purchasing intention for organic cotton products. These results are in line with previous research by Chen and Chang (2012) who recognized similar determinants of green purchase intentions. Among all the factors under study, it was social influence which had the most impact on purchase intention towards the organic cotton products among working age consumers. These findings are consistent with Kang et al. (2013) who indicated the role of social factors as crucial for sustainable fashion consumption.

Surprisingly, health consciousness appears not to have a bearing on the intention to purchase organic cotton products. This is different in part with some studies that were mentioned earlier such as Kim and Chung (2011) who articulated health consciousness as a strong predictor of making purchases for organic products. Nevertheless it is also consistent with Hwang et al. (2016) who explicitly mentioned that health concerns are secondary in some cases to the environmental issues when eco-friendly clothes are purchased. This implies that consumers do not include health benefits in their definitions of organic cotton, or there are other more salient variables when purchasing organic cotton that make health concerns unimportant. The research shows that approximately 70% of the variance in actual purchasing behaviour can be accounted for by purchase intention and this is a strong relationship. This strong relationship is borne out of the Theory of Planned Behavior where Ajzen (1991) states that intentions are the immediate precursors to behavior. This underlines the necessity to explore and actively seek to shape purchase intention as it has a way of determining actual consumer behavior in the organic cotton market. Nevertheless, it is necessary to highlight that even though the model yields substantial results, the total model effect accounts for 54% of the variance of the actual purchasing intention. This suggests that while the variables identified are essential, there are probably other factors not accounted for in this model that determine consumer behavior in this case. This finding agrees with that of Carrington et al. (2014) who made similar recommendations stating that wider factors must be considered when explaining the intention-behavior discrepancies in ethical consumption.

Recommendations

Considering the results of this specific study, it is suggested to organic cotton marketers and producers to avoid the health claims and instead focus their advertising strategies on social and environmental concerns. Given how social factors affect purchase intention, it would be wise for such companies to take advantage of social media and peer endorsement to market organic cotton products. Moreover, the communication strategy would seek improvement of the perceived value of the organic cotton products through emphasis on their quality, lifespan and cost savings in the long run as they turned out to be significant determinants of purchase intention.

On the other hand, the government guys as well as the industry heads should also join hands to activist the masses on the importance of organic cotton in the preservation of the environment. This can be done by come up with awareness campaigns and teaming up with environmental bodies. Since the study established a strong association between purchase intention and behavior, concentrating on strategies which enhance intention will in return improve sales. More research should however be done to identify other factors which may account for the gap between intention and behavior in the independent model which only

explained 54% of the variance of actual purchasing behavior. This suggests there are other variables at play that warrant further investigation to develop more comprehensive marketing and policy strategies for promoting organic cotton products.

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