

Sustainable Apparels: Examining the Influence of Environmental Concern and Environmental Textile Knowledge on Attitude

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ABSTRACT

This study examines the influence of environmental concern and environmental textile knowledge on consumer's attitude towards sustainable apparels. This quantitative research examines environmental concern and environmental textile knowledge of 272 respondents using survey scale instrument. The data was collected data through snow ball and convenience sampling. Regression analysis using SPSS v.21 yielded a strong positive correlation between consumers' attitude and environmental concern but moderate positive correlation between consumers' attitude and environmental textile knowledge. Results revealed that in spite of having significant environmental concern in general, consumers had a limited level of knowledge of environmental issues of textile and apparel industry, thus limiting their usage of environment sustainable apparels. The study has implications for manufacturers, retailers and policy makers as better understanding about the consumers' attitude may be used to promote sustainable apparels. The research is new in context of Indian consumers' attitude towards environmentally sustainable apparels. The research study gives insight about the antecedents of consumers' attitude towards environmentally sustainable apparels.

Keywords: Consumers' attitude, environmentally sustainable apparels, environmental concern, environmental textile knowledge

Introduction

The continuous unsustainable development of the global economy has caused significant environmental concerns for the planet and eco-system (Wang, 2010). Textile industry has a prominent role in global economy ("Texprocil", 2018) but at the same time it has been criticized as one of

the most polluting industry having inconsiderate effect on the environment and human health. Today, the industry is responsible for huge amount of energy consumption, heat emission, water consumption and hazardous nature of various chemicals being used throughout from raw material extraction till disposal

phase and disturbing the eco system (Pal, Chatterjee, & Sharma, 2017). Textile industry covers a wide spectrum of manufacturing activities and is diverse in terms of raw materials used, techniques employed, chemicals used and the final products (Chavan, 2001). Raw Material cultivation requires water and energy consumption, removes nutrients from soil, and also pollutes water due to the usage of chemicals like pesticides, biocides and herbicides. Chemicals like defoliants spread in air and are dangerous to human health. Synthetic fiber production also consumes valuable resources like petroleum, coal and oil. Spinning, weaving and garmenting release solid waste in the form of fiber, yarn, fabric off-cuts, and dust. The loose fiber and micro dust if inhaled can affect respiratory system. These activities also employ chemicals like delustering, anti-static and other finishes. These manufacturing activities create noises, discharge smoke and effluents. Dyeing and finishing processes consumes substantial amount of water and is responsible for creating waste water effluents. Water is contaminated by detergents, soaps and bleaches. Finishing process gives birth to toxic by-products and gases from chemicals, dyes and resins. Apart from it, various utilities in the textile units like water treatments plants, workshops, cooling towers, boilers, thermo pack, diesel generators etc., are also responsible for carbon and water footprints in textile industry (Tiwari & Babel, 2013). Process of distribution also pollutes the air with fuel, which are natural energy resources ("Fibre2fashion", 2017).

Due to the increase in the environmental concern posed by the textile industry, the demand for sustainable apparel has risen particularly in the West, signaling shifts in knowledge, beliefs and attitudes (Albloushy, 2016; Hustvedt & Dickson, 2009). This shift in the consumer attitude pushed the manufacturers and retailers to move towards the development of environmentally sustainable apparel to solve the environmental problem to some extent. Keeping all these facts in mind, the purpose

of this research study was to examine the antecedents to consumer attitude, validate and establish the association of the variables to investigate the influence of these on consumers' attitudes towards environmentally sustainable apparels.

Influence of Environmental Concern on Consumers' attitude

Environmental and ethical concern came to public awareness during 1970s and acknowledged widely during 1980s and 1990s (Birtwistle & Moore, 2007; Doane, 2001; Sanne, 2002). With time, the environmental awareness and demand to take strict measures to safeguard the environment enhanced due to the movements and protests led by the environmentalist and through various discussion forums on ecological havoc (Birtwistle & Moore, 2007; Jones, Hillier, Comfort, & Eastwood, 2005). Environmental Concern (EC) was considered as an important psychographic variable and one of the most commonly studied parameters associated with environmental consumer behavior.

Environmental concern refers to the anxiety about the environment and its degradation done by human beings. It is defined as "*Environmental concern refers to the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution*" (Dunlap & Jones, 2002). Environmental concern (EC) is an attitudinal disposition which is interceded by the belief one has about the environment. It is a sort of desire which comes out of social behavior to care for the environment, to protect the health of self & other living beings and to also safeguard the interests of future generations. It is described as a "Unidimensional construct ranging from unconcerned about the environment at the low end to concerned at the high end, as measured by the new environmental paradigm" (Mostafa, 2009, Albloushy, 2016). Benton (1994) has described ecological concern as degree of emotional

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attachment of an individual to the environment.

Literature review revealed a growing environmental concern among consumers, which seems to translate into demand for sustainable products. However, studies have also indicated that there are certain barriers like, high costs of eco-friendly products, which influence the conversion of these environmental concerns into actual buying behavior of environmentally friendly products. Although some consumers, assert the importance of sustainability, yet they do not behave in an environmentally responsible manner. Therefore, environmental concern alone is not sufficient to motivate consumers to purchase environmentally friendly products (Brosdahl, 2010; Williams 2008; Carey, 2009).

There have been very few studies on *environmental concern(*EC*)* related to consumers' apparel (Albloushy, 2016, Brosdahl 2011; Brosdahl & Carpenter, 2010; Kim & Damhorst, 1998; Butler & Francis, 1997; Shim, 1995). Kim and Damhorst (1998) in their study showed that *environmental concern (EC)* of the consumers as measured by New Environmental Paradigm(NEP) Scale was not directly linked with their environmental apparel behavior however they were able to predict their environmental attitude ($\beta = 0.39$), which in turn predicted the apparel specific environmental behavior ($\beta = 0.67$) (Hustvedt & Dickson, 2009;). Studies on *environmental concern (EC)* and *attitude* have reported a positive correlation between ecological concern and behavior. Environmental disposition can affect the intention to be exhibited in different environmental behaviors like recycling and purchasing environmentally friendly products. High level of environmental concern possessed by an individual may translate into long-lasting pro-environmental behavior (Brosdahl & Carpenter, 2010; Santa, 2007).

Influence of Environmental Textile Knowledge on Consumers' Attitude

Knowledge about the environmental impact of any product, is a key component in facilitating consumers in taking decision at an understanding for the consequences of his action and provides a rationale to consume environmentally friendly products for which the study is being sought. "Environmental knowledge" describes how informed a consumer is about environmental issues. According to Blackwell et al, (2006) , 'Knowledge' is a characteristic which has a significant influence on almost every facet of consumers' behavior. Arcury and Johnson (1987) defined environmental knowledge as "factual information that individuals have about the environment, the ecology of the planet, and the influence of human actions on the environment/ecology" (Arcury & Johnson, 1987; Brosdahl & Carpenter, 2010; Blackwell, Miniard, & Engel, 2006). Studies revealed that desire to buy sustainable apparels are largely a function of education level. As the education towards environmental aspects increases, so does the desire to purchase environmentally sustainable apparels build up (Albloushy, 2016; McFarlane & Ogazon, 2011). If the consumer has knowledge about the causes of environmental pollution and the harm it could do to the planet earth, the awareness level would enhance the favorable attitude towards sustainable products. Therefore, it would be advisable to disseminate the information about the impact of the production process affects the environment (D'Souza, 2006, Brosdahl & Carpenter, 2010).

Environmental knowledge is a means to empower consumers to build the motivation to adopt sustainable fashion and goods. They must be able to appreciate that their purchase decisions can bring the change in the society by considering the integrated component within the broader system they live in. Studies indicated that lack of knowledge of consumers regarding life cycles of the apparels they buy prevents them from seeing the utilities of

environmentally sustainable apparels (Thompson, Harden, Clauss, Fox, & Wild, 2012; Hiller Connell, 2010; Albloushy, 2016). Several studies reported a positive correlation between knowledge and behavior indicating environmental knowledge as a precursor to increased environmentally friendly behavior (Brosdahl, 2010; Chan, 1999; Park, Mothersbaugh, & Feick, 1994; Hoch and Deighton, 1989). Hines, Hungerford and Tomera (1987) examined 128 studies and found significant moderate correlation (0.30) between knowledge and behavior. However, Kim and Damhorst (1998) reported that many consumers are making purchase decision with the desire to protect the environment yet their studies revealed that *environmental knowledge* was not prognostic of consumers' sustainable apparels consumption behavior (Kim & Damhorst, 1998).

Environmental attitudes are a result of several beliefs that a person embrace towards the environment. Environmental knowledge also affects attitude formation amongst consumers. Yan et al (2010) concluded in their study that the respondents who had preexisting knowledge of ethical trade apparel appreciated the company more when it advocated fair trade practices in the advertisement. This made their beliefs strong towards environmentalism and they expressed a greater purchase intention to shop from American Apparel (Yan, Ogle, & Hyllegard, 2010). Roberts (1996) refers Perceived Consumer Effectiveness (PCE), as an attitude in sustainable consumer behavior studies and define it "as the degree that consumers belief that their behavior will effectively mitigate environmental problems". Hence, if a consumer believes that his purchase of environmentally sustainable apparel will contribute in reducing the negative environmental impact of the apparel industry, then that consumer may more likely purchase environmentally sustainable apparel (Albloushy, 2016, Roberts, 1996). Studies have also reported that environmentally aware consumers believe that their personal behavior contributes to resolving environmental

problems. Therefore, they are more likely to engage in environmentally positive behavior (Albloushy, 2016; Balderjahn, 1988; Hiller Connell & Kozar, 2014).

Hypotheses Postulation

In this section, relevant hypotheses for this study have been discussed. There are two hypotheses that have been tested to address the issues discussed in the study. They are as:

Hypothesis 1

H₀₁: There is no influence of Environmental Concern (EC) on consumers' attitude towards environmentally sustainable apparels.

Hypothesis 2

H₀₂: There is no influence of Environmental Textile Knowledge (ETK) on consumers' attitude towards environmentally sustainable apparels.

Research Methodology

This section defines the instrument design, sampling method and data collection method. Reliability and Validity of the scales was also conducted to ensure that the instrument used for data collection was valid and reliable.

Questionnaire Design

Research methodology involves quantitative analysis of the data collected through questionnaire. Questionnaire design is based on established scales to measure environmental concern, level of knowledge of the impact of textile manufacturing activities on environment, consumers' attitude and purchase intention. The survey instrument in this research study utilized four different scales and the respondents were required to answer 34 questions with five-point Likert-scale options wherein "1" represented "strongly agree" and "5" represented "strongly disagree."The

reliability and validity of survey instrument was established

Sampling and Data Collection Method:

The sample unit for the study was any individual who has acquired education at least of graduate level. Survey instrument included demographics: gender, age, income, education, geographic location, marital status, occupation.

Questionnaire survey was conducted using convenience and snow ball sampling with 500 respondents. However 304 filled up self-administered questionnaire were received from consumers' living in northern region of India. After a general review of completed questionnaires, 32 questionnaires were disregarded because they were incomplete and majority of the answers were not filled up. So 272 valid questionnaires out of 500 surveys, with a response rate of 54.4 %, are included in the data analysis. Data analysis was conducted using SPSS v. 21.0. Regression analysis was used to determine the influence of *environmental concern* on consumers' *attitude*, the influence of the *environmental textile knowledge* level on consumers' *attitude* towards environmental sustainable apparels.

Scales Used

New Ecological Paradigm (NEP) scale: This scale, developed by Dunlap, Van Liere, Mertig, and Jones (2000), measures environmental concerns in general. The NEP scale was originally created by Riley Dunlap and K.D. Van Liere in 1978, but revised in the year 2000 by Dunlap et al. (2000). The scale features 15 items to know respondents' beliefs about the environment and human-environment interactions. Items have been categorized under five broad constructs: limits to growth, human domination, balance of nature, anti-exemptionalism and eco-crises.

Environmentally Textile Knowledge Scale: The scale developed by Kim and Damhorst measure the knowledge level of the respondents to enquire about the impact of the textile industry on environment. This

formative scale originally has 11 questions, but based on the feedback and responses of participants during pre-pilot study along with experts' opinions, 9 items were considered in revised scale with minor revision in few terms. The environmental impact of natural and synthetic fibers, dyeing, finishing is considered in the survey instrument apart from biodegradability and sustainability of fibers and processes.

Attitude Scale: Attitude towards Environmental Sustainable Apparels Scale was determined through Luna and Peracchio's (2001) and Perrachio and Meyers Levy's (1994; 1995; 1997) attitude scale towards brand/product. The scale has been altered in various other studies to apply it specific to environmental sustainable apparels (Lauren, 2015). The scale features 8 items instrument which includes the opinions and belief of consumers about the quality of environmental sustainable apparels.

Environmentally sustainable apparel purchase intention scale: This two-item scale adapted from a survey by Hyllegard et al. (2012), measure consumers' intentions to purchase environmentally sustainable apparels. It includes the consumers' intention to purchase sustainable apparels and their willingness to promote it to their friends.

Pilot Study of the Survey Instrument

Before conducting the formal pilot study, the questionnaire was used to collect data of 20 randomly chosen participants with different educational and financial background. It was observed that participants whose education levels were below graduation faced difficulty in understanding few statements of questionnaire relevant to human-environment interaction. So, it was decided to conduct the study of consumers whose education level was at least of graduate level. Few terms of the survey instruments were revised based on participants' feedback and subsequently discussion with eminent

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academicians and experts. To test the reliability of the revised scales used in the survey instrument, a pilot study was conducted. The pilot study was carried out with 55 participants and the data collected from the completed questionnaires were analyzed. There was no notable ambiguity in the revised questionnaire. The pilot study data was analyzed using Cronbach's alpha reliability tests using SPSS, v21. Different construct of NEP were also tested for its reliability during pilot study. Results indicated that pilot study data had enough internal reliability and consistency. The results of the pilot study confirmed the reliability of the research instrument.

Reliability Analysis

Reliability Analysis of various scales used: New Ecological Paradigm (NEP) Scale, Environmental textile knowledge (ETK), Consumers' Attitude and

Purchase intentions towards environmental friendly clothing is determined through Cronbach's alpha measurement. Cronbach's alpha scores for NEP, ETK, Attitude and Purchase intention scale are 0.809, 0.713, 0.812 and 0.763 respectively. Overall reliability of survey instrument for all the 34 items is 0.875. Since all Cronbach' alpha score are above 0.70, which indicate an acceptable reliable data (Cronbach, 1951).

Validity Analysis: Content, Face, Convergent and Discriminant Validity

Validity refers to accuracy of an instrument to measure what it intends to measure. Various types of validity tests were considered to validate the survey instrument like: content, Face, Convergent and Discriminant Validity (Table 1).

Table 1: Convergent Validity: Composite Reliability and Average Variance Explained

Scale	Sub-Construct variables	Average factor loading value	Variance Extracted	Error
NEP*	V1 (Limits to Growth)	0.7776	0.6046	0.3954
	V2 (Human Domination)	0.7476	0.5589	0.4411
	V3 (Balance of Nature)	0.736	0.5416	0.4584
	V4 (Anti-exemptionism)	0.7656	0.5861	0.4139
	V5 (Eco-Crisis)	0.7523	0.5659	0.4341
	Sum	3.7791	2.8571	2.1429
	Sum Square	14.2815		
	Average		0.5714	
	Composite Reliability*	0.8695		
	* CR = Square of sum of Beta Values / (Square of sum of Beta Values+ Sum of errors)			
ATT*	V1 (Pro-Sustainable)	0.7628	0.5818	0.4182
	V2 (Unavailability of sustainable apparels)	0.929	0.863	0.137
	Sum	1.6918		0.5552
	Sum Square	2.8621		
	Average		0.7224	
	Composite Reliability	0.837		

* NEP – New Ecological Paradigm, ATT – Attitude scale towards Sustainable Apparels

Content and face validity of the research instrument was established through review of literature, established scales as well as experts and eminent academician from institutes of repute. Convergent validity of survey instrument for various

constructs is analyzed using SPSS v21 and MS Excel. Results indicate that for New Ecological Paradigm scale, the calculated value of composite reliability (CR) is 0.8695, which is above 0.7 and more than average variance explained (0.5714).

Average variance explained, as per the validity condition is also more than 0.5. So the validity of New Ecological Paradigm scale of the survey instrument is established. Environmental textile knowledge scale was formative in nature, so content and face validity was considered based on the literature review and adopting established scale. The content validity was also verified through expert's opinions. However, the convergent validity of Consumers' Attitude scale being reflective indicator was examined. The calculated value of composite reliability (CR) is 0.837, which is above 0.7 and more than average variance explained (AVE). The value of average

variance explained is 0.7224, which is above 0.50 as per the validation condition. So the result indicates that Attitude scale considered in survey instrument is statistically valid to measure the variable.

Discriminant validity of survey instrument for various constructs is analyzed using SPSS v21 and MS Excel. Results are shown in Table 2. Discriminant validity consider two measures to validate the research instrument: a) Average Variance Explained (AVE) > Maximum Shared Variance (MSV) b) Average Variance Explained (AVE) > Average Shared Variance (ASV).

Table 2: Discriminant Validity: AVE, MSV and ASV

Construct	Average Variance Explained (AVE)	Maximum Shared Variance (MSV)	Average Shared Variance
Environment Concern	0.5714	0.3147	0.246
Attitude	0.7224	0.3147	0.209

Discriminant validity of survey instrument for various constructs is analyzed using SPSS v21 and MS Excel. Results revealed that for NEP scale Average Variance Explained (0.5714) was higher than Maximum Shared Variance (0.3147) and Average Shared Variance (0.246), similarly for Attitude scale, the value of Average Variance Explained (0.7224) was higher than Maximum Shared Variance (0.3147) and Average Shared Variance (0.206). So discriminant validity for both the reflective construct is established.

Sample Adequacy and Data Suitability Test: KMO and Bartlett's Test

Kaiser-Meyer-Olkin test was used to measure sample adequacy for each variable

in the model and for the complete model. SPSS v21 was used to perform KMO and Bartlett's test of sphericity, Table 3 shows the two tests that indicate the sample adequacy and suitability of the data for structure detection. For KMO test, High values (close to 1.0) generally indicate that a factor analysis may be useful with your data. If the value is less than 0.50, the results of the factor analysis probably won't be very useful. Since the value of Kaiser-Meyer-Olkin for all the variables are equal to or more than 0.500, which indicates that sample size is adequate. For Bartlett's test, less than 0.05 of the significance level indicate that a factor analysis may be useful with collected data ("IBM", n.d.).

Table 3: KMO and Bartlett's Test for all Variables and overall

KMO and Bartlett's Test		NEP	ETK	ATT	PI	Overall
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.765	0.801	0.868	0.500	0.838
Bartlett's Test of Sphericity	Approx. Chi-Square	1133.067	321.210	945.901	139.355	3109.232
	df	105	36	28	1	561
	Sig.	.000	.000	.000	.000	.000

NEP- Environmental Scale, ETK-Knowledge Scale, ATT - Attitude Scale, PI - Purchase Intention Scale

Bartlett's test of sphericity indicates that the significance level is less than 0.05 which further support the usefulness of data.

Influence of Environmental Concern and Knowledge on Consumers' Attitude

Influence of Environmental Concern and Knowledge on Consumers' Attitude is investigated through the summed mean variables of environmental concern, environmental textile knowledge and attitude towards environmentally sustainable apparels through correlation analysis and regression analysis.

Before conducting the correlation analysis, preliminary analysis was performed to ensure normality and linearity of the data. Analysis conveyed that Environmental Concern, Environmental textile knowledge and Attitude had normal distribution. So, Pearson correlation was used to find out the relationship between

environmental concern as measured by New Environment Paradigm scale, Knowledge level as measured by Environmental textile knowledge scale and consumers' attitude as measured by Attitude Scale.

Hypothesis Testing

Hypothesis 1: Environmental Concern and Consumers' Attitude

Results showed that there was a strong positive correlation between environmental concern and attitude ($r = .561, p=0.01$). Since the correlation was significant, the null hypothesis was rejected. This demonstrates that as the concern towards environment increases, the consumers' attitude towards environmental sustainable apparels increases. Since the correlation coefficient r suggests a positive correlation, Regression analysis was used to obtain a relationship between variables.

Table 4: Model Summary (SPSS v.21 results output)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.561 ^a	.315	.313	.48804	.315	124.247	1	270	.000

a. Predictors: (Constant), Environmental Concern

Table 5:ANOVA (SPSS v.21 results output)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	29.594	1	29.594	124.247	.000 ^b
	Residual	64.310	270	.238		
	Total	93.904	271			

a. Dependent Variable: Consumers' Attitude

b. Predictors: (Constant), Environmental Concern

Table 6: Coefficients^a (SPSS v.21 results output)

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		
	B	Std. Error	Beta			Lower Bound	Upper Bound	
1	(Constant)	1.000	.115		8.691	.000	.773	1.226
	Environmental Concern	.601	.054	.561	11.147	.000	.495	.707

a. Dependent Variable: Attitude

Regression Analysis

All model summary shows that overall strength of association between *environmental concern* and consumers' *attitude* is noteworthy. The coefficient of determination i.e. R^2 is 0.313 which indicates that 31.3 % of variation in consumers' *attitude* towards environmental sustainable apparels is explained by environmental concern. Coefficient Table 6 also reveals the influence of environmental concern on consumers' attitude. Entire model coefficients differ significantly, so environmental concern can be used as predictor for Consumers' attitude towards environmental sustainable apparels. From the table of coefficients, the regression equation can be obtained as:

$$\text{Consumers' Attitude} = 1 + 0.601 * \text{Environmental Concern}$$

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Hypothesis 2: Environmental Textile Knowledge and Consumers' Attitude

The correlation between environmental textile knowledge and consumer attitude ($r = 0.354, p=0.01$) is positive but moderate. Since the correlation is significant so null hypothesis is rejected which means that environmental textile knowledge influence consumers' attitude towards environmental sustainable apparels. This indicate that as the knowledge level of the consumers about the impact of textile and manufacturing activities increases, there is moderate increase in attitude of consumers towards environmental sustainable apparels. Since the correlation coefficient r suggests a positive correlation, Regression analysis is used to obtain a relationship between variables.

Table 7: Model Summary (SPSS v.21 results output)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.354 ^a	.126	.122	.55144	.126	38.808	1	270	.000

a. Predictors: (Constant), Environmental textile knowledge

Table 8: ANOVA^a(SPSS v.21 results output)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.801	1	11.801	38.808	.000 ^b
	Residual	82.103	270	.304		
	Total	93.904	271			

a. Dependent Variable: Attitude

b. Predictors: (Constant), Environmental textile knowledge

Table 9: Coefficients^a(SPSS v.21 results output)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.432	.134		10.717	.000	1.169	1.695
	ETK	.356	.057	.354	6.230	.000	.244	.469

a. Dependent Variable: Attitude

The model summary shows that there is association between the knowledge level about the impact of textile industries on environment and consumers' *attitude* towards environmental friendly apparels. Correlation coefficient $R = 0.354$ indicates moderate relationship between the two variables. The coefficient of determination (R^2) is 0.122, which is mild but significant and 12.2 % of variation in consumers' *attitude* towards environmental sustainable apparels is explained by *environmental textile knowledge* level as held by Indian nationals. From the Table of coefficients (Table 7), the regression equation between can be obtained as:

$$\text{Consumers' Attitude} = 1.432 + 0.356 * \text{Environmental textile knowledge}$$

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Regression Analysis to investigate the influence of environmental concern and environmental textile knowledge on consumers' attitude

Since the results discussed indicates that Environmental concern and Environmental textile knowledge both influence consumers' attitude. Hence multiple regressions was performed to test the combined influence of independent variables (*environment concern* and *environmental textile knowledge*) on dependent variable (*consumers' attitude*). The results of regression model are mentioned in Table 10. Here, $R^2 = 0.331$ indicate that environment concern and environmental textile knowledge level of the consumers accounts for 33.1 % of the variance in consumers' attitude. So overall the regression model accounts for 33 % of the variance which is adequate in practice.

Table 10: Research Model Summary^b of Env. Concern and Env. Textile Knowledge

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.575 ^a	.331	.326	.48336

a. Predictors: (Constant), ETK, NEP

b. Dependent Variable: Attitude

ANOVA (Test using alpha = 0.05):

Table 11: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	31.056	2	15.528	66.462	.000 ^b
	Residual	62.848	269	.234		
	Total	93.904	271			

a. Dependent Variable: Attitude

b. Predictors: (Constant), ETK, NEP

Since the p value is less than 0.5 which indicates that the regression is significant and the independent variable or the predictor (*Environment Concern* and *Environmental Textile Knowledge* level of consumers) accounts for significant amount of variance in consumers' attitude towards environmental sustainable apparels. So, overall the regression model was significant,

$$F(2,269) = 66.46, p < 0.001, R^2 = 0.331$$

Both, model summary and ANOVA table results indicates that regression analysis is statistically significant and the independent

variables: level of *environment concern* and *environmental textile knowledge* of consumers can predict the consumers' attitude significantly.

J Coefficient Analysis

T Coefficient Table 12 reveals the influence of each independent variable on dependent variables individually. P-value for each of the independent variable is less than 0.05 which indicate that the influence of each variable if considered individually is significant.

Table 12: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.817	.135		6.033	.000
1 NEP	.537	.059	.502	9.078	.000
ETK	.139	.056	.138	2.501	.013

Beta (Standardized regression coefficient) value for NEP (environment concern), is 0.502 which is strong enough indicating that *environment concern* (independent variable) influences the consumers' attitude (dependent variable). Beta value for ETK (environment textile knowledge) is 0.138 which has very weak influence on consumers' attitude.

Entire model coefficients differ significantly, so *environmental concern* and *environmental textile knowledge* can be used as predictor for Consumers' attitude towards environmental sustainable apparels. From the table of coefficients, the regression equation can be obtained as:

Consumers' Attitude = 0.817 + 0.537 * Env. Concern + 0.139 * Env. Textile Knowledge

Conclusion

The study revealed that *Environmental knowledge* and *environmental concern* are two major components influencing consumers' *attitude*. *Environmental knowledge* describes how informed a consumer is about environmental issues. *Environmental concern* refers to the degree to which the people are aware of the problems regarding the environment and support their efforts to solve them and/or indicate a willingness to contribute personally to their solution. Results indicated overall strength of association among *environmental concern*, *environmental knowledge* and consumers' *attitude* is significant. Results revealed a strong positive correlation between environmental concern and consumers' attitude but moderate positive correlation between environmental textile knowledge and consumers' attitude held by Indian consumers. Regression analysis yielded that environmental concern of Indian consumers has strong and significant influence while environmental textile knowledge has weak influence on consumers' attitude towards environmentally sustainable apparels. This demonstrate that in spite of having huge environmental concern in general, Indian consumers had a limited level of the knowledge of the impact of textile and apparel manufacturing activities on environment which may further aggravate the environmental issues in the textile industry and may limit the consumption of environment sustainable apparels.

Implications

Investigation of consumers' attitude and its antecedents: Environmental Concern and Environmental Textile Knowledge, towards environmental sustainable apparels revealed that dissemination of the knowledge of the impact of textile manufacturing activities on environment is

needed to encourage consumers to embrace environmental sustainable apparels. Although Indian consumers had concerns for environment, the lack of environmental textile knowledge has limited their consumption behavior towards sustainable apparels. The data obtained from this study would facilitate educators/policy makers to tailor curricula towards the knowledge, attitudes, and beliefs of Indian nationals to promote environmental awareness in textile and apparel industry. Educating and implementing environmental policies firmly is the need of time to curb the environmental pollution and develop more positive consumers' attitude which could lead the nation towards environmental sustainability. With the increasing awareness among consumers' towards harmful impact of the existing practices in textile production activities on environment, the role of manufacturers and apparel brands are going to be crucial and demanding in pushing up the environmental sustainable apparels in Indian market.

Limitations and Future Scope

The research study has few limitations like the data were collected in Northern India, limiting findings to the geographical region; hence the results cannot be generalized for all consumers. The antecedents to consumers' attitude considered in this study are environmental concern and knowledge, while other variables which relate to attitude formation, such as subjective norms and past experience are areas to consider for future research. Other factors that may moderate the effect of consumer's attitude like pricing, brand image, eco labeling, perceived quality are worthy of examination. Research can be extended on consumers to examine their actual purchase behavior towards environmentally sustainable apparels. Research study identified the lack of knowledge of the impact of textile and manufacturing activities on environment among consumers thus demonstrating limited environmental concern. Hence,

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further research could be investigated to develop strategies to promote and disseminate environmental education for all levels and make it mandatory in the interest of the environment and our future generations.

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