Oncioiu, Ionica

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The Future of Sustainable Fashion Consumption: an Empirical Investigation

Ionica Oncioiu[1]

Abstract: Small online businesses around the world are facing an immense challenge: to respond to economic opportunities and, at the same time, to address increasing environmental pressures. This research deals with the consumer's attitude and awareness towards organic clothing and it suggests that the most people are aware of some of the environmental dilemmas in fashion consumption. The data obtained from the survey were analysed using multiple linear regression, Chi-Square, ANOVA and Correlation Analysis to examine possible results that bring about the understanding of consumer knowledge, belief, perceptions and willingness to purchase organic clothes. Moreover, this paper also provides some useful recommendations for promoting organic clothing products and growing the sustainable online market for them.

Key words: Behaviour; clothing; eco-fashion; sustainable development

JEL Classification: M31

1. Introduction

In the past major decade, fashion designers have focused on organic clothing product solutions and have changed the course of fashion consumption, but, at the same time, online shoppers have proven that better choices do exist.

On the other hand, in all European documents, a distinct space is given to the white biotechnology, which is considered to be a key driver of the competitiveness of products and services. In the 2010 Environmental Technologies Action Plan[2] the European Commission recognises the ability of biotechnology to provide environmental benefits while reducing costs and thus improving competitiveness for Small and Medium Enterprises. By the year 2025, Europe will have made substantial progress regarding the use of biotechnology in the conversion of agricultural feedstock into a wide variety of "fine" clothing and accessories.

Therefore, the basic purpose of Smith's (2006, 2011, 2012b) research effort is to help business practitioners identify areas of improvement for online buyers, especially in customizing the customers' satisfaction via electronic means.

The paper approaches a subject which was widely but never sufficiently discussed, therefore becoming an elaborate which communicated and positioned itself positively in the modern dialogue of ideas referring to the advancements in online personalization as well as new challenges that face online purchasing of organic clothing products.

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[1] Titu Maiorescu University, Romania, E-mail: nelly_oncioiu@yahoo.com.
[2] http://www.ieep .eu/assets/556/Strategic_Orientations_of_6EAP_-_Revised_report_-_May_2010.pdf.

Considering this issue, this paper is structured as following: firstly, we will discuss the literature related to organic clothing products, and secondly, we will investigate the perception towards organic clothes produced by SMEs and sold online. Following, we will provide the discussion and implications for research and practice (30 Romanian small companies which sold organic clothing products between January 2016 and March 2016). Finally, we will end the paper by providing some conclusions and recommendations for future studies.

2. Literature Review

The economic literature on sustainable fashion (Chinnici et. al, 2002) environmental friendly clothing is termed as "Organic" clothing and research related to consumer attitudes for organic products is very imperceptible. Also, Ahmad and Juhdi and Mostafa (2009) noted that there are significant positive influences on environmental attitudes to be the main factors that may affect consumers' green purchasing behaviour.

Previous researchers (Lee, Lee, Lee, & Park, 2015; Kim and Hahn, 2012; Stead & Gilbert 2001; Smith, 2002, 2012a,b) have examined the communication and technology that support the social webs and sharing of large data exploration and which are highly dependent on the ability of companies to keep the customers' privacy concerns to a minimum.

Sinha & Thirumalai (2011) have suggested that a consumer's online spending continues to grow if it is a positive experience for them and their loyalty increases, which results in higher shopping convenience value. Indeed, customer loyalty has been recognized as one of the most important factors in creating profitability for companies, especially within the e-commerce environment (Smith, 2002; Yang and Jun, 2002; Yang and Peterson, 2004).

All empirical evidence shows that this environment-friendly attitude of consumers will give rise to Eco-entrepreneurs and subsequently will culminate into an evolution and rise of social entrepreneurs.

3. Methodology

In this research project, to explore the concepts of the online customers' value of organic clothing products, an 18-question survey ranging from degree of personal Internet usage and online shopping behaviours to the online purchase experience (with a perceived importance of organic clothing product suggestions, follow-up communications and customer loyalty). The final questionnaire posted on the Web contained twenty-nine items, including items concerning time pressure, competition, hedonic and utilitarian motivations, impulse bidding, and bidding satisfaction, and the participants took approximately fifteen minutes to complete it. These questions were developed from the viewpoint of managers that are deeply involved in e-commerce initiatives to increase customer retention and loyalty for organic clothing products.

Empirical research was conducted to test the importance of the previously discussed brand features in relation to the benefits of promoting such customized efforts, namely customer satisfaction, retention, and loyalty, as viewed from managers' perceptions of their customers' preferences. It was further assumed that there is a high correlation between browsing rates and purchasing rates of organic

clothing products, and that there is a general need in the e-commerce to improve customer product offerings. The majority of the survey was comprised of both scale and nominal intervals that simplified the use of statistical software as survey results were recorded and later used to formulate graphs and perform data-reduction analyses.

The dominant statistical techniques used in the present study were multiple regression techniques and data-reduction techniques. The F-test was used to test the statistical significance of relationships determined from the data-reduction process which was based on the Principal Components Analysis and factor-analysis results. The F-test is one of the most frequently used tests of significance in such managerial inquiries.

According with Kim and Mueller, 1978; Pedhazur, 1997 the F- and t-tests could be too robust and relatively insensitive to violating the assumptions of randomly selecting the subjects, along with the normal distribution of the variables. But this study was based on a combination of continuous and discrete variables, whose multiple linear regression and factor analysis techniques can be included in the appropriate modules of SPSS.

This survey was created primarily from a review of Romanian small e-business of organic clothing products in order to try to understand the general benefits of their e-customization efforts from a CRM-based perspective. This procedure resulted in 30 completed interviews from a potential sampling frame of 74 managers, derived between January 2016 and March 2016.

4. Results and Discussion

The questions that were used have been at least partially derived from the descriptive statistics, frequencies and related statistical techniques found in Tables 1 through 4, which are the bulk of the quantitative survey questions contained in the data collection process and which were ultimately used in the analysis portion of the present study.

Tables 1 and 2 display cross-tabulation and Chi-square, as well as selected statistics and correlations of the responses to the quantitative variables derived from the interview. In terms of demographics, 87% held college degrees, slightly more males (51%) of which 65% were over the age of 30 years. As evident from an inspection of the table, in terms of web-enabled sophistication, the majority of respondents frequently used the Internet for personal use (1 = never, 5 = daily) (meaning 3.53), browsing online for information or personal purposes (2.84), and moderately shopping online for organic clothing products (1.67). It was perceived that customers did not offer strong support (1 = not important, 4 = very important) for personalized e-mails (1.06) or organic clothing product suggestions (1.27). There was considerably more positive support for the importance of follow-up communications (1.78) and customer loyalty (2.08). Cross-tabulations (Table 1) show the importance of buying organic clothing products online in order to save time and money and also the custom items purchased through online websites, which were found to be highly significant as well (Chi-square = 17.041, $p < .001$). In terms of correlations, there were significant relationships between the degree of online purchases per week, the importance of buying organic clothing products online ($r = .199$, $p = .019$) and work-related purchases online through supplier websites ($r = -.273$, $p < .001$), suggesting that multiple suppliers are needed in an increasingly complex and personalized commerce.

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Table 1. Cross-tabulations of Important to buy organic clothes products online with Save time and money by purchasing organic clothes products online with Custom items through online websites.

A. Actual count.

Custom items through online websites			Save time and money by purchasing organic clothes products online				Total
			Disagree	Neutral	Agree	Strongly Agree	
Strongly Disagree	Important to buy organic clothes products online	Disagree	1	0	0	0	1
		Neutral	1	0	4	2	7
		Strongly Agree	1	0	0	0	1
	Total		3	0	4	2	9
Disagree	Important to buy organic clothes products online	Disagree	0	1	2	0	3
		Neutral	0	1	7	0	8
		Agree	0	0	1	4	5
	Total		0	2	10	4	16
Neutral	Important to buy organic clothes products online	Neutral	0	1	0	0	1
		Agree	0	0	1	0	1
	Total		0	1	1	0	2
Agree	Important to buy organic clothes products online	Agree	0	0	1	0	1
	Total		0	0	1	0	1
Total	Important to buy organic clothes products online	Disagree	1	1	2	0	4
		Neutral	1	2	11	2	16
		Agree	0	0	4	4	8
		Strongly Agree	1	0	0	0	1
	Total		3	3	17	6	30

B. Chi-Square test results.

Custom items through online websites		Value	df	Asymptotic Sig. (2-sided)
Strongly Disagree	Pearson Chi-Square	5.332	2	.384 (NS)
	Likelihood Ratio	6.215	2	.021 (S)
	Linear-by-Linear Association	.346	1	.269 (NS)
	N of Valid Cases	10		
Disagree	Pearson Chi-Square	12.356	2	>.001 (HS)
	Likelihood Ratio	13.102	2	>.001 (HS)
	Linear-by-Linear Association	7.322	1	>.001 (HS)
	N of Valid Cases	17		
Neutral	Pearson Chi-Square	2.400	1	.029 (S)
	Continuity Correction	600	1	.190 (NS)
	Likelihood Ratio	3.325	1	.007 (S)
	Linear-by-Linear Association	1.800	1	.052 (NS)
	N of Valid Cases	2		
Agree	Pearson Chi-Square	17.041[a]		
	N of Valid Cases	1		

Source own calculation

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Table 2. Correlations of selected variables dealing with B2B purchase behavior.

Statistics		Important to buy organic clothes products online	Save time and money by purchasing single supplier	Work-related purchases online through supplier websites
Degree of purchases per week online	Pearson Correlation	.199*	-.154	-.273**
	Sig. (2-tailed)	.011	.043	.001
	N	30	30	30
Important to buy organic clothes products online	Pearson Correlation	1	.019	-.051
	Sig. (2-tailed)		.536	.338
	N	30	30	30
Save time and money by purchasing organic clothes products online	Pearson Correlation		-.216*	.043
	Sig. (2-tailed)		.007	.377
	N		30	30
Save time and money by purchasing single supplier	Pearson Correlation		1	.091
	Sig. (2-tailed)			.098
	N		30	30
Work-related purchases online through supplier websites	Pearson Correlation			1
	Sig. (2-tailed)			
	N			30

* Denotes significant at the .05 level for a 2-tailed test.

** Denotes significant at the .01 level for a 2-tailed test.

Source own calculation

For validation, the analysis was done by separating the variables into two subgroups; namely dependent and independent, then completing the principal component analysis techniques, followed by the appropriate hypothesis-testing procedures. In terms of the hypothesis-testing ANOVA results (table 3), the overall results were found to be highly significant ($F = 19.168$, $p < .001$); while, surprisingly, as shown in table 4 that inspects specific contributions of each component in the hypothesis, all but one independent factor-based constructs were found to be statistically associated with the dependent variable.

Table 3. ANOVA results

Source of Variation	Sum of Squares	df	Mean Square	F-ratio	Significance
Regression	24.013	4	4.002	19.168	>.001 (HS)
Residual	5.387	26	0.126		
Total	29.400	30			

Source own calculation

Table 4. Coefficients-testing results

Factor-based Independent Constructs	Un-standardized Coefficients		Standardized Coefficients	t-test	Significance
	B	Std. Error	Beta		
(Constant)	-0.850E-10	0.038		0.000	1.000
Personalized communications	0.386	0.368	0.386	5.918	>.001 (HS)
Access and age factors	-0.103	0.038	-0.103	-1.570	0.007 (HS)
Online purchasing behavior	0.319	0.038	0.319	4.885	>.001 (HS)

Source own calculation

The most important feature for online shoppers seems to be customization, with 48% feeling that having the capability to customize organic clothing products based on their customers' unique needs or preferences, such as selecting the materials, colours or sizes (to name a few), was very important. The second highest ranked feature was receiving a post-purchase follow-up e-mail with receipt information, as 41% of managers felt this was very important; and 47% felt that onsite organic clothes product recommendations were important. The least important feature to customers was receiving a personalized onsite greeting, with 55% of managers suggesting that an onsite greeting was not important, while 47% thought e-mails with recommendations based on previous shopping experience were only somewhat important.

5. Conclusions

For the last few years, customers have been concerned with their health, environment and whether their decisions can make a difference to the planet. Firms employing one-to-one marketing techniques via web page hope that such efforts will allow new quick and economical ways of meeting the customer's needs in a very efficient and effective manner with the ultimate goal of ensuring customer satisfaction and repeat visits.

The main issue the present research article investigates would be an answer to the question: Does the data sets really motivate people to want to buy organic clothing products from a firm's webpage?

Consumers generally need to be able to evaluate the vendor through a standardized checklist, such as cost of reverse logistics, payment options, warranty and creditability of the firm's customer support centres. Unfortunately, the reputation of organic clothing products is based on several quantifiable factors, such as price, cooperative behaviour and meeting its expectations.

The results of this survey confirm our expectations regarding the perceived importance of organic clothing products. Indeed, they are knowledge intensive and require regular interactions between customers and the extension of their benefits upon human health.

It is also important to note that specific customization tactics, such as personalized permission e-mail or recommendations regarding how to use the organic clothing products, help to build strong relationships with customers.

The limitations of this study are that the current framework and integrated variables concerning the consumer's perception on organic clothing or Small and medium-sized enterprises relate to stimulus and attitudes.

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