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A Study on Assessing the Relationship between Green Marketing and Brand Loyalty in Manufacturing Sector of Greece: A Moderating Role of Green Supply Chain Practices

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Abstract

This study aimed to measure the relationship between green marketing and brand loyalty in manufacturing sector of Greece. Along with that, the researcher has measured the moderating effect of green supply chain practices between green marketing and customer loyalty. The paper has adopted a quantitative research design along with incorporation of primary data collected through survey questionnaire. The sample size considered was 350 respondents with a response rate of 91.1%. The data is analysed through Structural Equation Modelling (SEM) which includes Confirmatory Factor Analysis (CFA) and path assessment techniques. The results of this study have revealed that green branding and green supply chain practices have a significant association and positive with brand loyalty. Green supply chain practices significantly and positively moderate the relationship between green branding and brand loyalty whereas, the relationship between green advertising and brand loyalty is significantly but negatively moderated by green supply chain practices. The study is only limited to the Greek manufacturing companies and has only taken into consideration the quantitative design. The concerns over environmental harm are increasing and thus, firms are giving consideration to green SCM practices. Therefore, it is important to examine whether these green SCM practices and green marketing contribute towards brand and customer loyalty or not.

Keywords

Green supply chain practices, green branding, green advertising, brand loyalty, green labelling.

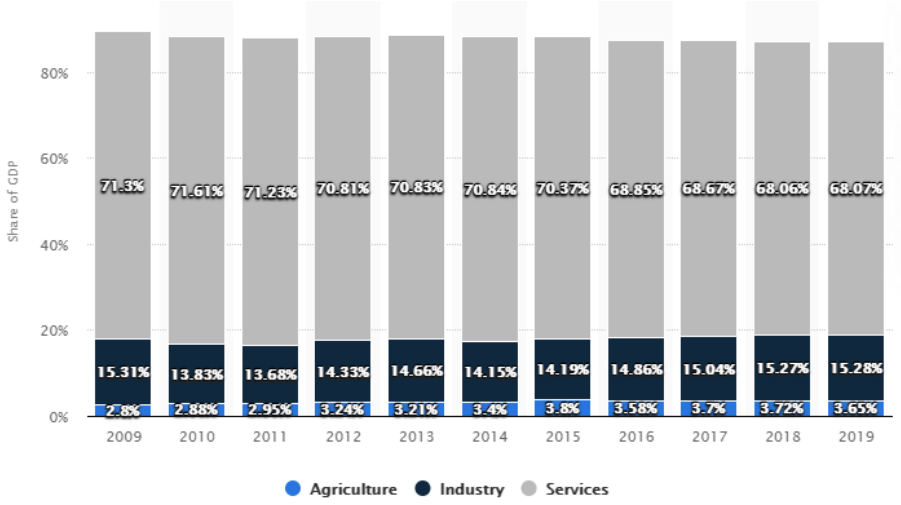
1. Introduction

Climate change and greenhouse emissions have become one of the biggest challenges that are faced by the world today. Television along with the internet have made people realize the need of saving the environment before it is too late. These environmental issues have also impacted the consumer behaviour and how they make purchase decisions. Green products have become a prime concentration of many consumers particularly in the developed countries of the world (Shafie, and Rennie, 2012) such as United States, United Kingdom, and Canada etc. Consumers feel satisfied and proud when their chosen brands are making efforts towards the environmental protection. For this purpose, not only multinational companies but also small medium enterprises are trying to play their part in environmental sustainability (Kassem and Trenz, 2020). The major change that they bring in their operations is the inclusion of green practices in their supply chain. This not only helps them to save the cost but also secure a soft space in the heart of the consumer. There are many organizations in the world that have inculcated green practices not only in their manufacturing but also in packaging, warehousing and distribution. Vehicles that consume a lot of fuel in the form of petrol or diesel are avoided by such companies (Dijk, and Yarime, 2010). Instead, such companies have brought vehicles with hybrid or electric technology in their fleet.

It is also observed that consumers are ready to pay more for green products (Agyeman, 2014). However, there are researchers that disagree with this because they believe that consumers will only pay more for green products only if that product will give them higher value or is of a higher quality (Chang and Fong, 2010). Organizations today know what the consumer demands. Therefore, they try to showcase their eco-friendly practices of supply chain management through different means of communication which includes traditional and digital marketing.

There are many researches available that specifically discuss the impact of green practices on consumer behaviour or loyalty (Suki, 2016). However, there are limited studies that particularly takes green marketing in to account. Green marketing has now become a prime marketing strategy for many manufacturing companies of the world. The study will be based around the manufacturing sector of Greece. Greece's economy is based mostly around the services sector with the manufacturing and industry sector being second among the three sectors of economy in contribution to the GDP as well as employment to the people, as shown in Figure 1.

Meanwhile, Greek economy is still recovering from the debt crisis that occurred after the Great Recession of 2009 (Gourinchas, Philippon and Vayanos, 2017). In all over Europe, the trend of sustainable consumption is growing in Greece especially as a result of the crisis. The research by Zavali and Theodoropoulou (2018) revealed that interest and concern for green products is rather a new phenomenon in Greece. People consume less green material although the concern for environment and nature is increasing among the general consumer base in Greece.



Source: Statista, 2020

Figure 1: Contribution to GDP by each economic sector in Greece (2009-2019)

The scope of the research is broad as it is beneficial for people belonging to different professions and backgrounds. Green marketing is one of the most discussed topics today. Many researches are being carried out by many researches in this regard. There are also a few that plan to carry one in the near future (Ottman, 2011). Moreover, it will help marketing departments of various manufacturing companies in making and implementing green marketing strategies. It will also give insights of how they can increase their customer loyalty through implementing green marketing. This article addresses to marketing departments of manufacturing companies particularly in Greece.

2. Literature Review

Green marketing has a great impact on the brand image which ultimately affects the consumer purchase pattern. Marketing teams use brand elements to portray the product as an environmentally friendly product (Azad et al, 2013). Packaging plays a vital role in this regard. There was a time when consumers were attracted with appealing designs of the product package but the situation is different today. Consumers prefer packages that do not only look appealing but are also not harmful for the environment. Globally, consumers are moving towards green and organic products that are not harmful to the environment and save up resources for future generations (Zhang and Zhao, 2012).

There are various factors that are associated with the green marketing process. Four factors related to green marketing have been made part of this research which can impact the brand image thus creating brand loyalty. The first is the green labelling. Green labelling or eco-labelling is a technique used by the companies to showcase the environmental credentials of their products by mentioning the

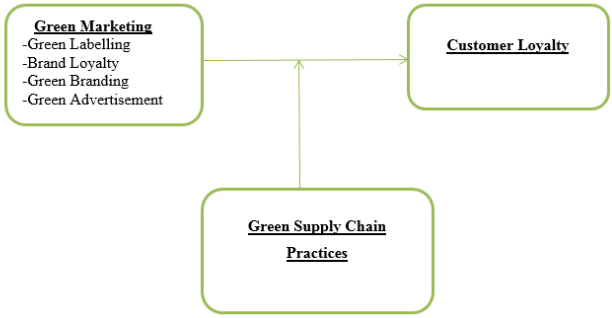
credentials on the packaging of the product (Blengini, and Shields, 2010). Green labelling claims that the materials used in the production, packaging, energy consumption, or any stage of the production process are green and eco-friendly, thus creates a perception among the consumers that the specific product is green and suitable for the environment. This can also create environmental awareness among the general population. Eco-labels are mostly in the form of a visual sticker or a description used on the packaging of the product to distinguish it from other products in terms of green practices and sustainability (Neto, 2019).

The second factor related to green marketing that can play a role in building customer loyalty is customer beliefs and behaviours. Customers' perceptions toward sustainability and organic products are very important for the success and proper execution of green marketing. Green marketing is only successful if the consumer is already inclined towards green products and is concerned over issues like sustainability and climate change (Kaufmann, Panni, and Orphanides, 2012). Without consumer beliefs being positive regarding green practices, consumers will not turn loyal towards green products instead look for cheaper alternatives. In markets where consumers prefer sustainable products, they are even willing to pay above the normal market price for green products.

Another aspect crucial for green marketing is green branding. Brand positioning is extremely important for the firm especially in a competitive market as the positioning helps them define their place in the market to distinguish from other similar brands and products (Fuchs, and Diamantopoulos, 2010). Green branding is when the company promotes its core environmental objectives and values to portray itself as a green, sustainable, eco-friendly and organic branding (Sarkar, 2012). Environmental values constitute the main values of the firm. It helps appeal to those customers that are environmentally conscious and meet the increasing demands of the market for sustainability. Through green branding, the brands can showcase themselves to be contributing towards the benefit of the environment which helps them build a loyal consumer base.

The last factor related to the green marketing that is considered for the research is the green advertising. Green advertising can be defined as the particular type of advertisement in which the company shows its aspects of products and operations to the audience that are benefitting the environment (Abd Rahim et al, 2012). The green advertising appeals to the existing and potential customer base by showing off the company's environmentally friendly policies and products. In the advertisements, the company may show how they are minimizing waste and saving water and energy in their operations on they may show how their products do not harm nature, etc.

3. Conseptual Framework



H1: Green Supply chain moderates' relation between green labelling and brand loyalty
H2: Green supply chain practices moderates relation between customer loyalty and brand loyalty
H3: Green supply chain practices moderates relation between green branding and brand loyalty.
H4: Green supply chain practices moderates relation between green advertisement and brand loyalty.

4. Methods

4.1 Research Design

There are two main types of research methods that are used commonly that are the qualitative research method and quantitative research methods. Qualitative research is conducted by providing a deep analysis of a particular topic and is mostly used while discussing the opinions and feelings of people. On the other hand, quantitative research makes use of numerical information such as statistics and mathematical formulas to explain a particular topic (Goertz and Mahoney, 2012). For this particular research, the quantitative method is used by the researcher as the impact of green marketing on brand loyalty is to be judged which can be done using statistical information.

4.2 Data Collection and Sampling

Data collection methods are also of two types; primary and secondary collection methods. Primary data is the first-hand information that is collected by the researcher himself while secondary data is collected by analysing previously accumulated researches and information available to the researcher (Daas and Arends-Tóth, 2012). Although primary data is more time consuming (Kabir, 2016), yet it can provide the researcher with more accurate information that is why the primary data collection method is preferred for this research. The research will be conducted using a questionnaire that is will be collected from employees who are involved in the manufacturing sector in Greece.

The sample is calculated using the equation as used by Fugard (2015) where, sample size is estimated;

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384$$

The estimated sample size is taken to be at 384 but returned and valid questionnaire consisted of 350 responses. Hence, a 91.14% response rate was achieved.

4.3 Data Analysis

The data is analysed with the help of structural equation modelling (SEM) technique conducted through SmartPLS. As per Ramayah et al. (2018), SmartPLS is one of the most advanced and commonly used methods for assessing the empirical studies of quantitative nature. It helps in determining the impact of independent and dependent variables accurately. Moreover, it tends to include confirmatory factor analysis (CFA) as a tool for model measurement and testing validity and reliability.

5. Results

5.1 Confirmatory Factor Analysis

CFA is a tool used in social science research which is aimed at testing whether the constructs in variable are consistent with its nature or not. In other words, it can solidify whether the constructs and latent variables being used are valid and reliable for testing purposes or not Hair, Howard and Nitzi (2020). Convergent validity indicates that whether the variables that are supposed to related conceptually are actually related empirically. There are various threshold methods for testing the validity and reliability. The validity is tested through convergent validity using average variance extracted (AVE) and factor loadings while reliability is tested through Cronbach's alpha and composite reliability. The results are presented as follows in table 1.

The threshold value for each of the above is identified through different studies. According to, the threshold for outer loadings is greater than 0.7 which accepts the latent variable to be valid and reliable. In this case, the outer loading for CL3 is 0.63 which is less than 0.7. However, Samuels (2017) has stated that for a sample size greater than 150, factor loadings between 0.5 and 0.6 are acceptable. Therefore, the outer loadings criterion has been met and all the constructs are valid to be studied further. The second threshold is Cronbach's alpha which similar to outer loadings has a cut-off value at 0.7 McNeish (2018). From the table above, it is evident that all the variables have a Cronbach's alpha value greater than 0.7 and hence, all the constructs are internally consistent and reliable. The third threshold is composite reliability whose cut-off is also 0.7 Aguirre-Urreta, Marakas and Ellis (2013). The table confirms that all the variables have a value greater than 0.7 hence, the composite reliability criterion has been met. The last measure of validity and reliability is average variance extracted (AVE) having a threshold value of 0.5 Ramayah, Lee and Lim (2012). From the table, it can be seen that all variables have

a value greater than 0.5 and hence, this criterion has also been met. Overall, the model is reliable and valid to be studied further for analysis and results from this model can be relied upon by the researcher.

Table 1 Convergent Validity and Reliability

Research Construct	Indicators	Factor Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Brand Loyalty	BLY1	0.889	0.894	0.934	0.826
	BLY2	0.929			
	BLY3	0.907			
Green Labelling	GLB1	0.863	0.837	0.902	0.754
	GLB2	0.884			
	GLB3	0.858			
Customer Loyalty	CL1	0.875	0.725	0.849	0.657
	CL2	0.895			
	CL3	0.636			
Green Branding	GBR1	0.901	0.905	0.940	0.840
	GBR2	0.910			
	GBR3	0.939			
Green Advertising	GA1	0.906	0.881	0.927	0.808
	GA2	0.921			
	GA3	0.868			
Green Supply Chain Practices	GSP1	0.885	0.780	0.871	0.695
	GSP2	0.898			
	GSP3	0.704			

5.2 Discriminant Validity

The discriminant validity is tested through Heterotrait-monotrait ratio which determines whether the variables that theoretically do not relate are actually unrelated. The cut-off value for this measure is less than 0.85 Franke and Sarstedt (2019).

As illustrated in table 2, all the variables have a value of less than 0.85 indicating that all variables have met the discriminant validity criterion. Hence, path analysis can be performed to determine the relationship between green marketing and customer loyalty in Greek manufacturing.

Table 2 Discriminant Validity (Heterotrait-Monotrait Ratio)

	Brand Loyalty	Customer Loyalty	Green Advertising	Green Branding	Green Labelling
Customer Loyalty	0.464				
Green Advertising	0.549	0.489			
Green Branding	0.476	0.680	0.508		
Green Labelling	0.306	0.751	0.360	0.550	
Green Supply Chain Practices	0.636	0.595	0.515	0.579	0.634

5.3 Model Assessment

The model assessment is conducted to determine the overall model fitness of the study. Previously used techniques individually measured the construct's validity and reliability to be carried forward in the study. This section of paper presents the overall model fitness indicating that whether the model can predict what it is intended to predict. For this purpose, the results are illustrated below in table 3;

Table 3 Model Assessment

	R-Square	R-Square Adjusted	Q-Square
Brand Loyalty	0.484	0.470	0.385

The R-square indicates the predictive ability of the model. In other words, it explains the extent to which independent variables can explain the dependent variable. The value of 0.484 indicates that all independent variables collectively explain 48.4% of brand loyalty, the dependent variable. The Adjusted R-Square shows actual predictive power when new term improves the model. The value has decreased to 0.470 or 47.0% which means that improvement in model is less than expected by chance. Therefore, the actual predictive power of independent variables is 47%. The Q-square is used to measure predictive relevance where any value above 0 indicates its relevance. Since the value is 0.385, it means that model is predictively relevant and path assessment can be done successfully.

5.4 Path Assessment

The previous sections related to the assessment of validity, reliability and model assessment. This section discusses the path assessment of individual variables and their relationship with the dependent variable. The table 4 given indicates path assessment of each factor along with the moderating effect of green supply chain practices.

Table 4 Path Assessment

Path	Path Coefficient	T Statistics	P Values
Customer Loyalty -> Brand Loyalty	0.036	0.644	0.520
GSP*CL -> Brand Loyalty	-0.095	1.704	0.089
GSP*GA -> Brand Loyalty	-0.190***	4.140	0.000
GSP*GBR -> Brand Loyalty	0.160***	2.671	0.008
GSP*GLB -> Brand Loyalty	0.066	1.047	0.295
Green Advertising -> Brand Loyalty	0.107	1.676	0.094
Green Branding -> Brand Loyalty	0.227***	3.898	0.000
Green Labelling -> Brand Loyalty	-0.083	1.450	0.147
Green Supply Chain Practices -> Brand Loyalty	0.405***	6.292	0.000

***: significant at 1%; **: significant at 5%

The cut-off value for the association to be significant is less than 0.05 while for T-statistics, the value should not be between the range of +1.96 to -1.96. The association between customer loyalty and brand loyalty is insignificant since both the criterions of significance are not met. Same can be observed for green advertising's association with brand loyalty as p-value is greater than 0.05. Green labelling also shows an insignificant association with brand loyalty due to p-value being higher than 0.05. On the contrary, green branding and green supply chain practices are observed to have a positive and significant association with brand loyalty. Testing the moderating effect, it can be observed that Green SCM practices significantly yet negatively moderate the association between green advertising and brand loyalty. However, Green SCM practices positively and significantly moderate the relationship between green branding and customer loyalty. The findings are discussed in the proceeding section.

6. Discussion

From the findings, it is evident that incorporating green SCM practices and branding the brand accordingly would lead to customer loyalty since both have a positive and significant association. This can be validated from the studies of Fuchs and Diamantopoulos (2010) and Sarkar (2012) who stated that green branding entices the customers to buy products made through green practices as customer awareness has increased manifold. This would eventually lead them to become loyal to the brand. The findings also reveal that incorporating green practices in advertising would eventually decrease the brand loyalty. The findings are contrary to the study of Abd Rahim et al. (2012) as they observed green advertising contributing towards brand loyalty through exhibition of green SCM practices. However, the findings have revealed that Greek manufacturing industry does not promote green

advertising especially with Green SCM practices thus, brand loyalty remains undeterred.

7. Conclusion and Recommendation

The following paper was aimed at identifying the relationship between green marketing and customer loyalty in manufacturing sector of Greece with the moderating role of green supply chain practices. The findings illustrated that green branding and supply chain practices have a significant and positive relationship with brand loyalty while green SC practices negatively moderate the relationship between green advertising and brand loyalty. It shows that green branding and green supply chain practices are two key components through which, manufacturing firms in Greece can build customer loyalty. For this purpose, the following recommendations are presented to the Greek manufacturing industry.

- Green branding is significant hence, firms need to market themselves as being green in their operational practices while also adopting green supply chain to ensure that organic products are delivered to customer without any harm to environment. In this way, brand loyalty can be achieved.
- The firms are recommended to avoid green advertising and advertise the traditional way while not thinking of something holistic that might backfire and create problems for the company. The company is recommended to adopt green SC practices to increase brand loyalty.

8. Limitations and Future Research

A major limitation that this study has faced is incorporation of mono-method research design as this study only focused on quantitative data and results to objectively attain the aim. However, qualitative design would have allowed to incorporate human experiences and observations giving new directions to the research and allowing respondents to answer openly. Future researchers can take this into consideration. Secondly, this paper has focused on Greek manufacturing sector, which was understudied. The sample study can be done in other countries including Russia, Thailand or Singapore who are emerging food markets in the world and have potential of being credible for a research paper. The future researchers are recommended to focus over mixed method design while also incorporating other industries and/or countries for a wider view and also to compare the findings of papers for greater comprehensive results.

9. References

Abd Rahim, M.H., Zukni, R.Z.J.A., Ahmad, F. and Lyndon, N., 2012. Green advertising and environmentally responsible consumer behavior: The level of awareness and perception of Malaysian youth. Asian Social Science, 8(5), p.46.

Aguirre-Urreta, M.I., Marakas, G.M. and Ellis, M.E., 2013. Measurement of composite reliability in research using partial least squares: some issues and an

alternative approach. *ACM SIGMIS Database: the DATABASE for Advances in Information Systems*, *44*(4), pp.11-43.

Agyeman, C.M., 2014. Consumers' buying behavior towards green products: An exploratory study. International journal of management research and business strategy, 3(1), pp.188-197.

Azad, N., Nobahari, S., Bagheri, H., Esmaeeli, M. and Rikhtegar, M., 2013. An exploration study on factors influencing green marketing. Management Science Letters, 3(5), pp.1369-1374.

Blengini, G.A. and Shields, D.J., 2010. Green labels and sustainability reporting. Management of Environmental Quality: An International Journal.

Chang, N.J. and Fong, C.M., 2010. Green product quality, green corporate image, green customer satisfaction, and green customer loyalty. *African journal of business management*, *4*(13), pp.2836-2844.

Daas, P. and Arends-Tóth, J., 2012. Secondary data collection. Statistical Methods StatisticsNetherlands, The Hague/Heerlen.

Dijk, M. and Yarime, M., 2010. The emergence of hybrid-electric cars: Innovation path creation through co-evolution of supply and demand. Technological Forecasting and Social Change, 77(8), pp.1371-1390.

Franke, G. and Sarstedt, M., 2019. Heuristics versus statistics in discriminant validity testing: a comparison of four procedures. *Internet Research*.

Fuchs, C. and Diamantopoulos, A., 2010. Evaluating the effectiveness of brand-positioning strategies from a consumer perspective. European Journal of Marketing.

Goertz, G. and Mahoney, J., 2012. A tale of two cultures: Qualitative and quantitative research in the social sciences. Princeton University Press.

Gourinchas, P.O., Philippon, T. and Vayanos, D., 2017. The analytics of the Greek crisis. NBER macroeconomics Annual, 31(1), pp.1-81.

Hair Jr, J.F., Howard, M.C. and Nitzl, C., 2020. Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, *109*, pp.101-110.

Kabir, S.M.S., 2016. Methods of data collection. Book Zone Publication.

Kassem, E. and Trenz, O., 2020. Automated Sustainability Assessment System for Small and Medium Enterprises Reporting. *Sustainability*, *12*(14), p.5687.

Kaufmann, H.R., Panni, M.F.A.K. and Orphanidou, Y., 2012. Factors affecting consumers' green purchasing behavior: An integrated conceptual framework. Amfiteatru Economic Journal, 14(31), pp.50-69.

McNeish, D., 2018. Thanks coefficient alpha, we'll take it from here. *Psychological Methods*, *23*(3), p.412.

Neto, B.R., 2019. *The use of eco-labels on packaging communication: investigating the impact of colour and claim on purchase intention* (Doctoral dissertation).

Ottman, J., 2011. The new rules of green marketing: Strategies, tools, and inspiration for sustainable branding. Berrett-Koehler Publishers.

Ramayah, T., Cheah, J., Chuah, F., Ting, H. and Memon, M.A., 2018. Partial least squares structural equation modeling (PLS-SEM) using smartPLS 3.0. In *An Updated Guide and Practical Guide to Statistical Analysis*. Pearson..

Ramayah, T., Lee, J.W.C. and Lim, S., 2012. Sustaining the environment through recycling: An empirical study. *Journal of environmental management*, *102*, pp.141-147.

Samuels, P., 2017. Advice on exploratory factor analysis.

Sarkar, A.N., 2012. Green branding and eco-innovations for evolving a sustainable green marketing strategy. Asia-Pacific Journal of Management Research and Innovation, 8(1), pp.39-58.

Shafie, F.A. and Rennie, D., 2012. Consumer perceptions towards organic food. Procedia-Social and Behavioral Sciences, 49, pp.360-367.

Statista, 2020. Greece: Distribution of gross domestic product (GDP) across economic sectors from 2009 to 2019. Retrieved from < https://www.statista.com/statistics/276399/distribution-of-gross-domestic-product-gdp-across-economic-sectors-in-greece/ accessed on 15th September 2020>

Suki, N.M., 2016. Green product purchase intention: impact of green brands, attitude, and knowledge. British Food Journal.

Zavali, M. and Theodoropoulou, H., 2018. Investigating determinants of green consumption: evidence from Greece. Social Responsibility Journal.

Zhang, G. and Zhao, Z., 2012. Green packaging management of logistics enterprises. *Physics Procedia*, *24*, pp.900-905.