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Customer Based Brand Equity Analysis: An Empirical Analysis to Geographical Origin

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Abstract:The objective of the present research is to examine origin bounded brand equity from a consumer perspective using disconfirmation of expectations approach. Origin equity was conceptualized in this paper as a combination of origin awareness and origin associations. Repeated measure Anova is used to analyse origin equity. Binary logit was used to get insight to the associations made to origin and demographics the effect in choosing one or other association. Disconfirmation of expectations theory comforts the use origin bounded equity as an extension of. customer brand equity Binary logit shows that expectations are not related to the associations made to origin while demographics show a significant effect. Older people associate origin with better taste, high income and young people relates origin with traditional aspects, low educated people with safety issues and females with high nutritional values. The Consumer based origin equity approach give insights in the process of product management and its success in the market. CBOE will help producers to better understand consumer behavior and increase the perceived performance of the product and consider the best differentiation quality scheme that fits to these preferences.

Key words: Disconfirmation of expectations, origin equity, logit regression,

1 Introduction

Origin equity is important due to the competitive advantage conferred by the image of a geographical area. Several researches have been focused on origin and the impact of the later in brand equity but few of them have considered origin equity separately. Brands can compete on product attributes, pricing and distribution, but a unique origin that encompasses inimitable resources at the core of a product is a more long term driver of future marketing action (Spielmann, 2014). According to (Spielmann, 2014) origin bounded brands (OBBs) are defined as brands that use origin as their unique selling proposition.

Brand equity is considered as the most valuable assets that a company has (Best, 2012). High brand equity levels are known to lead to higher consumer preferences and purchase intentions (Cobb-Walgren, Ruble, & Donthu, 1995). According to Keller`s model (Keller, 2001), customer-based brand equity model (CBBE) can assist in the process of brand management, planning, implementing and brand strategies interpretation. This model can be used also to understand the effect of consumer characteristics in expectations and origin equity.

As previously mentioned region of origin is used as a unique selling position as considers the quality of a product inherent to its geographical area. High origin equity lay behind the quality product schemes of Europe such as the denomination of origin (protected denomination of origin PDO and geographical indications GI). According to Farquhar, (1989), the same as, high brand equity brings an opportunity for:1)successful extensions, 2)resilience against competitors,3)promotional pressures and 4)creation of barriers to competitive entry the same functions are performed by the place branding strategies such as GIs. Geographical indications the same as brands, establish their unique identity and awareness, creates cognitive associations, create a positive response and sustainable relationship with consumers. A conceptual framework for measuring customer origin based equity is developed to provide an integrative conceptualization of origin equity. This construct can be used to analyse denominations of origin from a consumer perspective, their equity and the sustainability of these quality schemes in the European market and abroad. This paper is structured as it follows: first section deals with literature review and gives insights in the concept of brand equity and how brand equity can be extended to origin equity. Second section presents the research design and statistical analysis. Results are presented in the fourth section and the paper concludes with discussion and conclusions.

2 Literature review

Brand equity is defined as the set of associations and behaviours on the part of brand's consumers, that permits the brand to earn greater volume or greater margins than it would without the brand name, and that gives the brand a strong, sustainable and differentiated advantage over competitors (Leuthesser, Kohli, & Harich, 1995). According to Aaker, (1996) brand equity can be expressed in a potential price premium, in loyal consumers, perceived comparative quality, perceived brand leadership, brand awareness etcetera. The same as brand equity, origin equity derives from the difference of origin cue assets and its liabilities. Although a variety of factors could influence and create origin attribute assets, some of them are the same with brand assets and makes the components of customer based origin equity (CBOE). Awareness, informational value, Emotional connections, price premiums and loyalty are some of the mentioned brand assets (Best, 2012). **Awareness** extended to origin means that regions with **high awareness** can more easily introduce new products under the umbrella of the region of origin because they are highly recognised by the consumer. Concerning informational value**,** several authors have considered the origin as added information, product origin serves as stimulus helping consumer to evaluate the product (Bilkey & Nes, 1982). In addition consumers makes little effort in product evaluation process and reduces the perceived risk (Acebron & Dopico, 2000).The value that a strong origin creates goes beyond functional benefits including psychological benefits especially when origin is linked to food safety issues (Dentoni, Tonsor, Calantone, & Peterson, 2009). Several authors consider origin as a cognitive cue used by consumers to infer beliefs regarding product attributes which might be experience attributes (taste) and credence attribute such as food safety (Verleigh 2001)(Dentoni, Tonsor, Calantone, & Peterson, 2009; Ittersum, 2001; Stefani, Romano, & Cavicchi, 2006; Van der Lans, Ittersum, De Cicco, & Loseby, 2001)(Ittersum, Candel, & Meulenberg, 2003). Also **an** origin that relates to consumers on an emotional level can be considered as highly valuable assets. Futhermore associations such as unique, exclusive, authentic and typical when referring to geographical origin are founded (Stolzenbach, Bredie, Christensen, & Byrne, 2013)(Philippidis, Kakarouglou, & Sanjuan 2002).

The ability to have price premiums is a valuable asset too. Price premium is defined as the amount a customer will pay for the brand in comparison with another brand offering similar benefits and it may be high or low and positive or negative depending on the two brands involved in the comparison (Aaker, 1996). Several authors studied the price premiums generated by origin (Bolliger & Réviron, 2008),Brugarolas, et al 2010)(Cortinas, Chcarro, Elorz, & Villanueva, 2007), (Kokthi&Kruja,2016),(Peterson Jolibert 1995),(Menapace, Colson, Grebitus, & Facendola, 2009) (Tudoran & Olsen, 2016).

However region of origin can also incur liabilities due to a) consumer dissatisfaction, b) reputations destructions, c) not uniform practices, d) negative

associations created by the false name region claim etcetera (Kokthi et al 2016). According to (Best, 2009) although many marketing strategies are effective in attracting new customers, the business that satisfies them completely is the business that will keep them. Consumer satisfaction is a forward looking indicator to a product success that measure how well consumer will respond to the product in the future (Best, 2009). A not dissatisfied consumer can produce several economic consequences that lower profits and it can be worse when they communicate their dissatisfaction to others. Although not everyone who hears an unfavourable information is a potential buyer, the level of negative communication makes new consumer attraction more difficult and expensive (Best, 2009). To prevent a poor reputation develop from a mouth to mouth, producers engage in complaint processes. However in countries where the infrastructure of product complaints is not well developed this may not be a viable solution. **Perceived quality**-according to (Aaker, 1996) perceived quality synthesize all the perceptions and associations related to a given brand. This then raise the need to measure perceived quality since it is a good indicator of equity.

In the process of product evaluation when consumers taste a food product their perceptions are often biased by preconceived ideas about the product (Schifferstein,H 2001).These preconceived ideas are what we are expecting from the product to perform in reality and sensory perceptions are not independent from sensory expectations derived from the extrinsic cue (Deliza R & MacFie H.J.H, 1996; D'Hauteville, Fornerino, & Perrouty, 2006; D'Hauteville et al., 2006; Lange, Martin C., Chabanet C., Combris P., & Issanchou SL, 2002; Schifferstein & Mojet, 1999; Siret & Issanchou, 2000)(Caporale, Policastro, Carlucci, & Monteleone, 2006)(Stolzenbach et al., 2013) (Lagerkvist, Normann, & Åström,2017). Schifferstein H, (2001), provides a set of 3 alternatives to isolate sensory from no sensory preferences: 1) Blind test with the product, 2) Expectation test which provides non sensory information and 3) Full information test (provision of sensory and no sensory information regarding the product). The differences between scores or WTP measured respectively in the blind, expectation and full information can be used to measure origin equity.

- Full information test score(F)-Expectation score(E)= Degree of Disconfirmation
- Expectation test score(E)-Blind test score(B)=Degree of incongruence
- Full information test score(F) - Blind test score(B)= Degree of Response shift

When the informational process refers to geographical origin of the product it has been reported that consumers indifferent between two products in the blind test revealed a strong sensory preference for products produced in specific areas in the full information test (Guerrero, Abad, and Aguera 2001).According to D'Hauteville et al., (2006) a strong region will be one which significantly improves the full evaluation of a product, i.e. an evaluation that combines sensory

and non-sensory information. A weak region will be one where the blind evaluation prevails; i.e. the region name does not significantly affect the full evaluation of a product when compared to blind tasting.

The research model of the study and the hypotheses to be tested:

The fore mentioned assets of OBBs such as: awareness, informational value, emotional connections, price premiums, loyalty, perceived quality will be used in this research to analyze a branding strategy such as Geographical Indication. For this purpose the CBBE extended to CBOE model will be used. The objective of this paper is to analyse origin equity through equity customer-based origin equity (CBOE) and find if consumer demographics influences origin equity or origin associations. The hypotheses to be tested are as it follows:

• Origin awareness will be evaluated through brand dominance and recognition.	***H1: Consumers will reveal higher WTP for the most preferred origin in label test showing its recognition and dominance.***
• Origin associations will be measured by linking the preferred origin with intrinsic or extrinsic attributes of the product such as taste, freshness, food safety, higher nutritional values and tradition	***H2: Consumer links the most preferred origin with different attributes and there is an effect of consumer demographics in such linkage***
• Perceived quality will be analyzed using the incongruence and response shift as the main indicators	***H3: Consumer disconfirms taste for the most preferred origin by offering a higher price***
• Origin loyalty will be also analyzed through the premium price paid	***H4: Consumers will reveal higher WTP for the most preferred origin in full test showing its loyalty***

Source: Author elaboration

3 Research methodology

3.1 Sampling

The study was conducted in the city of Tirana (Albania) with 285 participants, 70% of whom were female and 30% male. Only cheese consumers were selected, the majority of whom (about 80%) buy cheese regularly. Participants ranged in age from 18 to 65 years old.

Variables	Description	Mean	Sd
Gender	0 males, 1 females	0.69	0.45
Age	Age categories 18-24, 25-34, 35-44, 45-54, 55-64, 65+	3.02	1.37
Education	Education levels (Low:1-8 years; Medium: 8-12 years; High: more than 12 years)	2.33	0.66
Incomes Euro/monthly	(€71-214, €215-428, €429-642, €643-857, €>857)	2.8	1.2
You link the extra payment for origin with:			
	Taste 1= no 0=yes	0.3	0.4
	Traditional aspects 1= no 0=yes	0.7	0.4

Table 1.
Survey variable description
Source:Author elaboration

3.2 Research design

The experimental design places the respondent in three different situations regarding the level of information provided. Firstly, they evaluated the product after tasting it and gave a price for each of the cheeses tasted. An open-ended question was chosen for the purpose of the study:

What is the maximum amount of money that you are willing to pay for the cheese that you have just tasted? It was explained that their WTP should refer not to the stated prices they thought the product would cost in the dairy shop (minimarket, supermarket, diary production units) but to their maximum WTP during the test. Secondly, we presented to the participants a label for each cheese type. The order in which the labels were given was not the same as that of the cheeses in the blind test. The label provides only origin information. This time the question asked was: *What is the maximum amount of money that you are willing to pay for the cheese that is produced in the region of Gjirokastër, Denmark, Kavaja and Fieri?* The labels were offered separately in order to avoid comparison. A second set of prices was registered. Finally, the participants gave a price for each cheese type after tasting it again and matching each cheese type with its respective label.

The products used in the experiment are feta type cheeses. Gjirokastër cheese is produced by mixing different types of milk (cow, sheep and goat). The processing technology used is traditional. Also selected were two cheese types from regions that produce important quantities (Fier and Kavajë). The fourth type is a cow's milk feta produced in Denmark. The participant did not have the possibility to recognize the products in the blind test. Sensory analysis was performed by

serving small pieces of cheese. After the taste experiment each consumer completed a questionnaire regarding their socio-economic characteristics.

3.3 Data Analysis

Repeated measure ANOVA is used to analyse the effect of origin information in WTP for the four cheeses tested. The effect of origin in WTP is estimated as a within subject factor as the means that are tested derive from the same subject measured in blind, labelled and full information tests with the product . These differences of WTP between the blind, labelled and full information tests are presented as follows: 1) Full information WTP (F)-Expectation WTP (E) = Confirmation/Disconfirmation of expectations for the perceived product; 2) Expectation WTP (E)-Blind WTP (B) = WTP for product origin; 3) Full information WTP (F) - Blind WTP (B) = WTP (effect of origin on expectations). By using the repeated measure ANOVAs we will test simultaneously H1 dealing with recognition, dominance, H3 related to origin equity and H4 linked to consumer loyalty.

Further binary logit is performed in order to analyse the effect of consumer characteristics and the associations linked to origin. This model is usually used where the dependent variable is binary. The empirical model assumes that the probability of making an association for origin is dependent on a vector of independent variables(Xij) associated with the consumer i and variable j and a vector of unknown parameters β. The likelihood of having a given value of dependent variables is tested as a function of variables which included socio-demographics and congruence indicator which represent the impact of origin information in willingness to pay.

$P_i=F(Z_i)=F(\alpha+\beta x_i)=\mathbf{1/(1+\exp(-Zi))}$ where:

F(Zi) = represents the value of the logistic cumulative density function associated with each possible value of the underlying index. Zi,Pi = represents the probability that individuals would associate origin with 1)taste,2) freshness 3)food safety, 4)traditional aspects, 5)high nutritional values. XiS,Zi =the underlying index number of α+βXi ,α= intercept ,and βXi =is the linear combination of the independent variables so that:

$$\mathbf{Z_i=\log\left[\frac{Pi}{(1-Pi)}\right]=\alpha i+\beta_{i1}X_{i1}+\beta_iX_{i2}+\ldots\beta_{in}X_{in}+\varepsilon_i}$$

i = 1,2…n are observations, Xn= 1,2…explanatory variables βn= parameters to be estimated ,ε = standard error. The following model is developed to evaluate consumer demographics, in the associations made to origin information. 5 logit

regressions are performed in order to analyse if there is an effect of demographics and incongruence indicator in the association made.The four tested logit are expressed as it follows :

Models to be tested

- $Y1(taste)=\beta_0+\beta_1 gender+\beta_2 income+\beta education+\beta_4 age+\beta_5+\varepsilon$
- $Y2(foodsafety)=\beta_0+\beta_1 gender+\beta_2 income+\beta education+\beta_4 age+\varepsilon$
- $Y3(highnutritionalvalues)_0+\beta_1 gender+\beta_2 income+\beta education+\beta_4 age+\varepsilon$
- $Y4(traditional/typicity)=\beta_0+\beta_1 gender+\beta_2 income+\beta education+\beta_4 age+\varepsilon$
- $Y5(freshness)=\beta_0+\beta_1 gender+\beta_2 income+\beta education+\beta_4 age+\varepsilon$

4 Findings

A repeated measure ANOVA was conducted to evaluate the null hypotheses that there is no change in participant WTP offered in the blind, labeled and full information tests. The results of the ANOVA indicated a significant information (origin) effect for Gjirokaster cheese, Wilks Lambda=0.8; F(26.2), $p<0.01$, thus there is strong evidence to reject the null hypotheses of equality of WTP in blind, labelled and full information tests. Follow-up comparisons indicated that the three differences were significant in the pair comparisons. The label test WTP is 9.4% higher compared with its blind counterpart, showing the effect of origin in WTP. The disconfirmation of taste gives indication for origin equity. Meanwhile, WTP in the full information test is lower (7.5%) than the label test WTP, significant at ($p<0.05$), showing the effect of origin in sensory expectation in consumer preferences. This product represents the case when product performance is worse than expected. Repeated measures ANOVA for Kavajë cheese shows also the significant effect of origin in consumer WTP. (Wilks Lambda value F=14.7 pvalue<0,01 rejects the null hypotheses that there is no change in WTP in the three test conditions. Follow-up comparisons indicated that origin information decreased the WTP about by -9% ($p<0.01$) in the label test. The comparison between full and blind test conditions (-3%) is significant at ($p<0.05$) and indicates not only the effect of origin but that of taste in the overall evaluation of products, the blind WTP>label WTP. This is the case when a product performs better than expectations. Denmark (Wilks Lambda, F(0.6) $p>0.05$) and Fier (Wilks Lambda, F=0.23 p=0.794) origin indicated no significant expectations. The results of the repeated measure ANOVAs show the value of origin information for the four tested products. Among the four products tested the results show's that Gjirokastër cheese is recognized and dominates the WTP evaluation in label condition. While for Kavajë cheese there is a negative valuation linked to origin information for the other two there is no value of origin showed in the differences

between blind and expectation condition. We cannot reject the hypotheses H1,H3,H4 there is a clear difference among the four regions origins equity, recognition/dominance and loyalty.

Indicators	**Classifications**	**Omnibus test**	**R^2**	**Demographics**
Taste	66,4%	p<0.01	15%	Older people***
Traditional	73,5%	p<0.05	16%	High incomes**,young**
High nutritional values	62.5%	p<0.05	14%	Females**, elder**

Table 2.
Logit regression results
Source: author elaboration

Regarding the associations made to origin and the demographics five logit regression are computed. Logit regression results show that for attributes such as food safety and freshness there is no effect of demographics while in the other three attributes conferred to origin such as taste, traditional and high nutritional values of the product demografics show a significant effect. Older people associate product origin with better taste. Young individuals with higher incomes links the origin of Gjirokaster with more food safety. For these consumer a product originating from this areas is safe. While older women associate origin with high nutritional values and make the extra payment linked to origin because of this factor.

Conclusions

The results of the repeated measure Anova indicated a significant information (origin) effect only for for Gjirokaster cheese. The label test WTP is 9.4% higher compared with its blind counterpart, showing the effect of origin in WTP. The disconfirmation of taste gives indication for origin equity. Meanwhile, WTP in the full information test is lower (7.5%) than the label test WTP, significant at ($p<0.05$), showing the effect of origin in sensory expectation in consumer preferences.

The actual study suggests that the disconfirmation of expectation approach can be employed to measure origin equity from consumer perspective. The disconfirmation of taste for the most prefered origin (for Gjirokastër region) represents an increase in liabilities implying a lower origin equity. WTP is Predictive value is related to the perceived probability that the region of Gjirokastër is associated with a given taste. In the cases where no effect of origin

is observed (Fier and Denmark) where WTP in blind condition is equal with full information condition no prediction are made for the sensory properties.

This study also suggests that consumer associate origin with other indirect attributes such as taste, traditional and high nutritional values.

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