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THE ROLE OF FOOD LABELS COMMUNICATING A NATIONAL ORIGIN IN THE CHEESE PURCHASING DECISIONS OF HUNGARIAN CONSUMERS

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1 INTRODUCTIONS AND OBJECTIVES

1.1 Research background, relevance and problem statement

There has been a growing interest in food-related research in recent years (HOFFMANN et al. 2020). The role of food labels in consumer behaviour has been studied for decades. The importance and continued relevance of this topic is justified by the following situation. The huge variety of food products makes decision-making difficult, leading to an increase in consumer demand for the credible qualities of food products. Firms and organisations respond by increasing the number of food labels and trademarks. However, the large number of labels and the lack of consumer awareness about them can lead consumers to ignore these labels when making purchasing decisions. They may lack confidence in the information provided, fail to understand it (FRASER - BALCOMBE 2018), or not read it due to lack of time and over-information (MOREIRA et al. 2019). That is why research dealing with the role of food labels in consumer behaviour and the factors that influence the consumption of labelled foods are important. Sellers have more information about their food than buyers, and food labels can mitigate the resulting information asymmetry, so consumers look for guarantees that the products they buy meet certain standards (safety, energy efficiency, chemical-free etc.) (REPAS - KERESTEŠ 2018). Various standards and certifications can be used to objectively verify the quality or origin of food (KENDALL et al. 2019). One of the oldest topics of research on consumer behaviour is the role of the origin or country of origin of a product (THØGERSEN et al. 2017). Companies can use non-regulated (symbols, landscapes, flags, buildings on packaging), regulated and mandatory (Made in [...]), regulated and non-mandatory (e.g. geographical indications, national quality labels) strategies to communicate the origin of food to consumers (NEWMAN et al. 2014; THØGERSEN et al. 2017). The importance of the latter category stems from the fact that, according to the EU Community Customs Code, where a product is manufactured in more than one country, the country of origin is the country in which the last substantial, economically justified processing or working took place. This rule leaves opportunity for varying interpretations by operators in the food chain, which increases consumer uncertainty. This makes the use of voluntary origin labelling a priority. While there is a large international literature on the impact of geographical indications on consumer behaviour, there is little empirical research on the importance of non-mandatory labels communicating a national origin. This PhD research fills this scientific gap.

1.2 Defining the research process

The PhD research examines the role of non-mandatory labels (the Hungarian Product trademark group), which communicate a national origin, in consumer behaviour and purchase decisions. Another terminology for these labels is national quality labels. The dissertation consists of two successive research phases. Initially, the doctoral research explored the factors influencing the consumption of foods with national quality labels. The empirical results of the first phase of the doctoral research and the research that provided the basis for the empirical research (three quantitative and one qualitative study) justified the narrowing of the focus of the research. For wines, meat products and dairy products, consumers are more aware of the marks on the packaging, including voluntary origin labels. No studies simulating the purchase of cheese in real-life situations have been carried out in the national literature, nor has there been any research on the role of labels in the purchase of cheese. Based on this research gap, the second phase of the research therefore investigate the role of national quality labels in cheese purchasing, taking into account the results of the first phase. Several empirical studies have been carried out in the course of the doctoral research, but it is important to highlight that, despite all efforts, these studies have not investigated the role of a number of factors relevant to the thesis. The empirical part of the research does not examine the impact of brand, prior experience or ingredient and nutritional information on consumer behaviour, thus the conclusions on the role of national quality labels in consumer behaviour are limited.

1.3 Research objectives

The research objectives, questions and associated methods, which I have identified on the basis of national and international literature and my exploratory research, are set out in Table 1.

Table 1. **Research objectives, questions and methods**

	Objectives Research questions	Methods
Research phase I.		
O1	To explore the factors influencing the consumption of foods with national quality labels, focusing on the impact of consumer ethnocentrism.	Literature and secondary data collection and processing, Qualitative research
Q1	*Which factors influence the consumption of foods with national quality labels?*	
O2	Development of a model to demonstrate the consumption of foods with national quality labels.	Literature processing, Qualitative research, Quantitative research
Q2	*What are the direct and indirect effects of the model elements on the purchasing behaviour of foods with national quality labels?*	
Q3	*How do the model elements interact directly and indirectly?*	
Research phase II.		
O3	Examining the role of non-mandatory labels communicating a national origin in the case of a specific food, cheese.	Literature processing, Qualitative research, Quantitative research
Q4	*How much do domestic consumers take into account the non-mandatory labels communicating a national origin when they purchase cheese?*	
Q5	*Do domestic consumers attribute different utility to the national quality labels when buying cheeses of different price and positioning?*	
Q6	*In a real-life cheese purchasing situation, does consumer ethnocentrism influence consumer preference for optional labels communicating a national origin?*	

Source: Author's own compilation

2   MATERIAL AND METHOD

2.1   Secondary research

I began the doctoral research by reviewing and systematising research on food labels and trademarks, quality and authenticity, relevant consumer and food consumer behaviour models, and empirical research. In the literature review, I mainly relied on the latest research results from the largest, internationally most respected scientific databases (Scopus, Web of Science, EBSCO and Google Scholar). For the collection of secondary data I used the databases of the Hungarian Statistical Office, Eurostat, Statista. I got involved in research dealing with food labels in 2018 by analysing data of a quantitative research already conducted by the professors of the Budapest Business University. Although I took part neither in the design of the questionnaire nor in the survey, the exploration of deeper correlations can be considered part of the doctoral research (Basic quantitative research I.). I participated in the next research relevant to the doctoral research, also in 2018, by analysing data from the existing questionnaire survey (Basic quantitative research II). In 2018, a large sample survey was also conducted, which was a replication of the previous research from 2015 (Basic quantitative research III). The first qualitative study in which I participated took place in 2019 (Basic qualitative research I). Although these studies are integrally related to the doctoral research - their analysis and interpretation is partly or entirely an independent work - I was not involved in the concept, the interview guide and the questionnaires. For this reason, I treat the results of these studies as secondary information and refer to them as the research on which the thesis is based.

2.2   Development of the conceptual models and hypothesis

As there is no international empirical research on the determinants of consumer behaviour towards foods with national quality labels, I used the following approach to address research objectives O1 and O2. In order to develop the conceptual model and hypotheses of the research, I took into account the international literature on consumer behaviour towards labels certifying the origin and quality of food products. I conducted a bibliometric analysis to explore the factors influencing the consumption of foods with national quality labels. In a first step, I identified 1614 sources up to 2020 in the Web of Science and SCOPUS databases by using a specific keyword combination. In a second step, I examined the network formed by the co-occurrence of keywords in these sources. The popularity of keywords indexed in publications is an indicator of the importance of a given research topic, and therefore these keywords are essential for identifying the most important topics within a given research area, with the frequency of a given keyword being a good indicator of the research focus (CHEN et al. 2019). The conceptual model for the first research phase was

developed by using the VOSviewer software (VAN ECK - WALTMAN 2010), which is capable of visualising networks and clustering keywords. I developed the model based on the keywords defining the clusters and the relationships between them, as well as empirical results in the sources, which can be used to explore the structure of a discipline (CHEN et al. 2019). I chose the Theory of Planned Behaviour model as the conceptual framework for the research, which I extended with eight additional factors. I have formulated twelve hypotheses for the effects between the model elements, taking into account empirical results from international literature. This type of modeling is characterized by a large number of hypotheses. In the second phase of the research, the research objective O3 (to investigate the role of national quality labels for a specific food product, cheese) was implemented. By reviewing and systematizing the relevant literature, I developed a conceptual model for the second research phase and formulated four hypotheses.

2.3   Primary research

Three empirical studies were carried out to examine the research objectives and test the hypotheses. The first empirical study was carried out by using a questionnaire. The questionnaire was designed to examine research objectives O1 and O2, to answer research questions Q1, Q2 and Q3 and to test hypotheses H1-H12. I conducted a pilot questionnaire survey to correct minor errors, test the model and clarify the questions. In the questionnaire, I used internationally validated scales that are suitable for measuring the latent model elements of the first conceptual model. After the final questionnaire was created, data collection took place in March and April 2020 among the adult Hungarian population. The sample size was set at 1400 people, and the survey was conducted by using convenience and snowball sampling methods. The final sample consisted of 1,317 complete responses, with a sample error of 2.70% at the 95% confidence level. The research method used was structural equation modelling (SEM), a combination of factor analysis and path analysis that allows the relationships between latent variables to be understood. SEM can also be used to measure the reliability, validity and model fit of the generated model and data (HAIR et al. 2010). For covariance-based structural equation modelling, I used the IBM-AMOS 24 software. The second empirical study was carried out as an exploratory study in the second phase of the doctoral research. Qualitative research enables the identification of relationships with explanatory value, and the method can also be used to gain a deeper insight into purchasing and consumer habits (BABBIE 2017). The second phase of the qualitative research aimed to supplement the information found in the literature, to examine research objective O3, to answer research question Q4 and to complete the subsequent standardised questionnaire. The exploratory research involved conducting four in-depth interviews and three focus group studies between spring 2021 and spring 2022 in Budapest. In the third empirical study, the research objective O3,

the research questions Q4, Q5, Q6, the results of the qualitative study were examined, and the hypotheses H13-H16 were tested. The aim of the standard questionnaire was to investigate, on a large sample of items, the importance that respondents attach to the national quality labels on the product when simulating a real cheese purchase situation. In designing the questionnaire, I drew on the literature, the results of the first research phase and information from the qualitative studies of the second research phase. After a pilot survey of 85 respondents, data collection took place from November 2022 to January 2023 by using a quota sampling method. The sample after data cleaning was 2,340 respondents, the composition of which, according to the data of the Hungarian Central Statistical Office (Central Statistical Office 2022a; Central Statistical Office 2022b), is the same as the Hungarian adult population by sex (observed prop.=0.5368; test prop.=0.5282; p=0.210) and by region (χ^2=12.776, df=7, p=0.078). The sample error at the 95% confidence level was 2.03%. The method of analysis used was the full profile conjoint analysis, in which it is important to use a relatively small number of product attributes (factor in conjoint analysis) and levels, which has been confirmed by several studies (BALDERJAHN 1994; SCIPIONE 1994; BERNÁTH - SZABÓ 1997; SZŰCS et al. 2018). Although conjoint analysis cannot eliminate the possible difference between estimated and actual willingness to pay, it is still considered reliable compared to similar methodologies (WANG et al. 2004; CARUSO et al. 2009). To test hypotheses H13-H16, I used regression analysis to examine the effects by using the IBM-SPSS 22 software. To analyse the mediation and moderating effects, I used the PROCESS Macro bootstrap method. The bootstrap procedure provides an estimate of the population by back-sampling from the original sample. In the tests I used a 5,000 replicate backflush. In PROCESS Macro, I used models 4 for the mediation test and 7, 8, 14 for the moderating effects.

3 RESULTS AND DISCUSSION

3.1 Results of secondary research

For the purposes of doctoral research, I treated the basic research in which I participated as secondary studies. Table 2 summarises the secondary findings that underpinned the primary research.

Table 2. **Results of basic research**

Basic quantitative study I (2015), N=1001, Source: MUCHA et al. (2020)
- **Price-sensitive domestic consumers**; - Brand is more important to consumers than certification; - Price and experience are the most important buying criteria; - Packaging and organic certifications are the least important; - Hungarian/Austrian/Polish food comparison: Hungarian products are tastier, healthier, better quality, more reliable, and offer good value for money. - Austrian brands win in innovation, advanced technology, attractive packaging, Polish brands have the best price. - **Spontaneous and assisted labels knowledge: Hungarian Product** - Ethnocentric consumers pay more attention to the origin of products. - There is a medium correlation between consumer ethnocentrism and purchase preference for Hungarian certification mark products (better quality; more reliable origin; healthier; better than foreign; better than other Hungarian; more expensive) - There is a distance between ethnocentric attitudes (responses) and actual purchase action - There is a weak one-way correlation between consumer ethnocentrism and agreement with the statements of consumer spending self-control.
Basic quantitative study II (2017), N=551, Source: TOTTH et al. (2019)
- **Price is the most important criterion for buying food.**- They prefer domestic products.- Those who consider the origin of the product important when buying it, mainly because of the quality and the importance of the origin of different product groups. - Open question: for which products do you pay attention to the origin?* * Respondents **considered fresh products to be the most important in terms of origin**. In order of importance, the first products to be informed about the origin of products are dairy products, followed by vegetables and fruit, and finally meat. - When buying food, trademarks are hardly taken into account - Knowledge, purchase in terms of **Hungarian Product label preference** - Hungarian Product label perception: quality; Hungarian - "Reliable, but expensive" - CETSCALE: ethnocentric responses
Basic quantitative survey III (2018), N=1128, Source: unpublished own research
The results confirmed the findings of the 2015 study (Basic quantitative research I).
Basic qualitative study (2019), Source: unpublished own research
- **Conceptual confusion: brand, logo, trademark** - **Quality: conceptual confusion** - Knowledge of **Hungarian Product**, preference - Associations with Hungarian product: trust, healthiness - Supporting domestic businesses by buying domestic food - "Milk cannot come from far away, because then it contains more preservatives."- Only buy domestic: e.g. cottage cheese - No overseas delivery - If something is of better quality, they are willing to pay more for it - Preference for domestic labelled foods, except cheese and yoghurt, because they are "better than Western" - Hungarian is better than Eastern European, but not Austrian or German - **Would be good if fresh fruit and vegetables were also labelled with the Hungarian Product**.

Source: Author's own compilation, 2020

3.2 Results of primary research

By using data from the 2020 quantitative research exploring the determinants of consumption of food with national quality labels, I used structural equation modelling to examine the effects between model elements, and the results of the hypothesis testing are presented in Table 3. Common method bias (CMB) was present in the data and it had to be controlled in the structural model design.

Table 3. **Total effects in the model, hypothesis testing results (N=1317)**

Hypothetical relationship			Standardised total effect, p value	Test result
H1	SN	→ INT	0.299***	Supported for total effect
H2	PBC	→ INT	0.602***	Supported
H2	PBC	→ BEH	0.269***	Supported
H3/a	COG	→ INT	0.091**	Not
H3/b	AFF	→ INT	0.237***	Supported
H4	INT	→ BEH	0.364***	Supported
H5/a	TRUST	→ INT	0.247***	Supported
H5/b	TRUST	→ WTP	0.104***	Supported
H6/a	CE	→ INT	0.255***	Supported
H6/b	CE	→ WTP	0.135***	Supported
H6/c	CE	→ BEH	0.360***	Supported
H7/a	CI	→ INT	0.116***	Supported
H7/b	CI	→ WTP	0.073***	Supported
H8/a	INV	→ INT	0.546***	Supported
H8/b	INV	→ WTP	0.197***	Supported
H9	WTP	→ BEH	0.119***	Supported
H10/a	FSC	→ INT		Not
H10/b	FSC	→ WTP	-0.062***	Not
H11/a	EM	→ INT	-0.058	Not
H11/b	EM	→ WTP	0.035**	Not
H12/a	HC	→ INT	0.098***	Not
H12/b	HC	→ WTP	0.125***	Supported

Source: Author's own compilation based on AMOS output, 2020. Note: SN: subjective norms, PBC: perceived behavioural control, INT: purchasing intention, BEH: purchasing behaviour, COG: cognitive attitude component, AFF: affective attitude component, WTP: willingness to pay, CE: consumer ethnocentrism, CI: country image, INV: involvement, FSC: food safety concerns, EM: ecological motivations, HC: health consciousness, ***:p<0.001, **p<0.05

The TPB model explained 49.9% of the variance in purchase intention and 51.4% of the variance in behaviour. Extending the model resulted in an additional 5.2% increase in explained variance for purchase intention only, and an additional 6% increase for purchase behaviour. The extension of the model showed that the effects of positive attitudes, environment and accessibility are the most important factors in the purchase of foods with optional national origin labels and in consumers' willingness to pay. The study found that consumer ethnocentrism, trust, country image, consumer involvement and willingness to

pay influence purchase intentions and behaviour towards nationally labelled foods. The aim of the second phase of the doctoral research was to investigate the importance of optional food labels communicating a national origin in consumer behaviour in a real-life shopping situation. Therefore, as a first step, I conducted an exploratory study, using qualitative research to identify the most important aspects of cheese purchasing. The results also confirmed the literature's finding that, despite the complexity of food consumption behaviour (GRUNERT 2005), consumers do not spend too much time making food purchasing decisions, relying on previous experience, ignoring much information (e.g. brands, labels) and following only a few basic criteria such as price, brand or simply habits (THØGERSEN et al. 2012). The respondents considered the presence of national quality label on cheese important when quality was judged based on external product attributes. In the second phase of the research, I quantitatively investigated the role of the national quality label in the purchase of cheeses in a cheaper and a more expensive price range. The participants in the qualitative research showed some conceptual confusion about brands and cheese types, and therefore the assistance of experts from the National Chamber of Agriculture was sought to select the two types of cheese. On their suggestion, we included Trappist as the cheaper cheese and Pannonia as the more expensive cheese, due to the confusion of concepts among domestic consumers. The inclusion of the latter was also a research limitation, as it did not allow the role of the brand to be explored. The results of the conjoint analysis for Trappist cheese are presented in Table 4. The shopping simulation study showed that of the product attributes included in the study, respondents gave the highest relative importance to price, with the lowest price level being preferred. Of the three levels of trademarks, the Hungarian Product label was considered to be the most useful. In terms of origin, preference was given to domestic origin, but no distinction was made between industrial or artisanal production when buying Trappist.

Table 4. **The relative importance of the product attributes included in the study and the utility values of the factor levels for Trappist cheese (N=2,340)**

Factor	Relative importance of factors	Factor levels	Part-utility
Price	40.98%	3000 Ft/kg	0.902
		4500 Ft/kg	-0.032
		6000 Ft/kg	-0.870
Label	29.88%	Hungarian Product	0.683
		nothing	-0.322
		OEM/PDO	-0.361
Origin	15.59%	Hungarian	0.246
		EU	-0.246
Method of production	13.55%	industrial	0.029
		artisanal	-0.029

Source: Author's own compilation, 2023. Note: Pearson's R=0.959, p<0.001; Kendall's tau=0.722, p=0.003

The results of the conjoint analysis for Pannónia cheese are presented in Table 5.

Table 5. **The relative importance of the product attributes included in the study and the utility values of the factor levels for Pannónia cheese (N=2,340)**

Factor	Relative importance of factors	Factor levels	Part-utility
Price	38.95%	6000 Ft/kg	1.005
		7000 Ft/kg	0.055
		8000 Ft/kg	-1.060
Label	27.64%	Hungarian Product	0.627
		nothing	-0.155
		OEM/PDO	-0.472
Origin	17.47%	Hungarian	0.402
		EU	-0.402
Method of production	15.94%	artisanal	0.254
		industrial	-0.254

Source: Author's own compilation, 2023. Note: Pearson's R=0.997, p<0.001; Kendall's tau=0.944, p<0.001

The survey simulating the purchasing situation shows that respondents prefer the cheapest Pannónia cheese, while the Hungarian Product label is considered useful in terms of labels. They favour domestic origin and artisanal production. When purchasing the cheaper Trappist cheese and the more expensive Pannonia cheese, respondents were almost equally likely to take into account the characteristics of the products included in the survey. In terms of labels, a preference for the Hungarian Product trademark was observed for both products. An important difference, however, is that when buying Pannónia cheese, the PDO label was already significantly more useful to respondents than no label. For Trappist cheese, it was the other way round. Furthermore, when buying more expensive cheese, the demand for artisanal production has already appeared. The results of the hypothesis tests for cheese research are summarised in Table 6.

Table 6. **Summary table of research hypothesis testing for cheese research**

	Hypothesis	Method	Test result
H13	Consumer ethnocentrism in the purchase of a cheaper and a more expensive cheese significantly influences the consumer utility attributed to a national quality label.	Conjoint and regression analysis	Confirmed in the case of patriotic dimension
H14	When buying a cheaper or a more expensive cheese, the relationship between consumer ethnocentrism and consumer utility attributed to the national quality label is mediated by the credibility attributed to the national quality label.	Mediation analysis	Confirmed in the case of patriotic dimension
H15	When buying a cheaper cheese, the relationship between consumer ethnocentrism and the consumer utility attributed to the national quality label is moderated by price in such a way that price sensitivity weakens this relationship.	Moderated mediation analysis	Confirmed in the case of patriotic dimension
H16	When buying a more expensive cheese, the relationship between consumer ethnocentrism and the consumer utility attributed to the national quality label is not moderated by price.	Moderated mediation analysis	Confirmed in the case of patriotic dimension

Source: Author's own compilation, 2023

According to HANSEN (2005), the process of quality perception is influenced by personal factors such as previous experiences, perceived competencies, degree of involvement, quality awareness, preferences, etc., consumers form expectations about the properties of food based on certain internal and/or external stimuli. During the conjoint analysis in the doctoral research, the respondents made their decision to buy cheese based on the external product characteristics, therefore the empirical results supplement the purchasing situation part of the quality perception model. The perceived functional roles of labels are risk reduction, identification and trust. Based on the results of the doctoral research, the credibility attributed to the Hungarian Product label as a perceived functional role shapes the consumer preference for the label when purchasing cheese.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 Practical implications

The identification of the latent factors affecting consumer behaviour related to foods with non-mandatory labels communicating a national origin and the interpretation of the effects help understand better consumer behaviour, which enables the formulation of practical recommendations. Nowadays, in the range of shops, the foods with the labels included in the study are available in a wide variety and at affordable prices, but consumers' judgments about this are subjective. At the same time, in the purchase of foods with national quality labels, the ability to implement the given behaviour is decisive. The first research phase showed that this individual assessment is shaped by the consumer's emotions, subjective norms, trust and involvement. The separation and examination of the affective and cognitive attitude components revealed why the expansion of consumers' material knowledge alone is not sufficient to increase consumer preference towards food with national quality labels. Knowledge (opinions, beliefs), i.e. influencing the cognitive component, is not enough in itself, knowledge and beliefs about food labels are shaped by the consumer's emotions, as well as consumer involvement. The affective component of the attitude can be shaped by classical conditioning. The favourable relationship between the purchase of food with a national quality label and a positive (e.g. patriotic) feeling can be enhanced, for example, by playing patriotic background music during the advertisement. Timing campaigns to promote locally sourced foods to coincide with major national events can lead to a similar result. In the case of a specific food, cheese, the second phase of the research examined the relationship between consumer ethnocentrism and the consumer utility attributed to labels communicating a national origin on cheese packaging. By using conjoint analysis, it was possible to learn what usefulness the respondents attribute to the label communicating the national origin during the purchase of two types of cheese, the cheaper Trappist and the more expensive Pannónia, during the simulation of a real shopping situation. Based on the results, important recommendations can be formulated primarily for companies that make and distribute cheese. Since, based on the results of the conjoint analysis, there was no difference between the groups of respondents in terms of consumer and purchasing behaviour, the results are valid for both aspects. In the case of both Trappist and Pannónia cheeses, the price proved to be the most important of the examined product characteristics, this result confirms the price sensitivity of Hungarian consumers. In terms of labels, the consumer preference for the Hungarian Product label was clearly confirmed for both the more expensive and the cheaper priced cheese. Based on the results, it is recommended for industry actors to use the Hungarian Product label, the presence of which on the cheese packaging means a significantly higher utility for customers than if there is no label on the packaging at all, or if there is a

geographical indication. In the case of a more expensive cheese, the respondents attributed significantly more utility to the protected designation of origin than to the unlabelled product. Consumers' patriotic feelings have a favourable effect on the consumer utility attributed to the Hungarian Product label, which is also shaped through the credibility attributed to the label. The campaigns of Hungarian Product Nonprofit Ltd., which affect consumer ethnocentrism, have resulted in domestic customers considering the Hungarian Product label to be authentic, thereby ascribing greater utility to it if they see it on the packaging. The success of the Hungarian Product label is due to the creditable quality attributed to it. The research dealing with cheese showed a preference for Hungarian-language labels also in the case of the protected designation of origin, therefore, based on the results, it would be recommended to use this label in the case of more expensive domestic cheeses. The success of the Hungarian Product label could serve as a model for the creation of a cheese with a domestic PDO label. Based on the present study, it would be worthwhile to promote the geographical indication with social marketing activities that are suitable for increasing consumer ethnocentrism, thus the perceived consumer credibility related to the designation can be influenced in a favourable direction. Based on the results of the doctoral research, the relationship between consumer ethnocentrism and consumer utility attributed to the Hungarian Product label is moderated by price when purchasing Trappist cheese, as a cheap cheese, while not in the case of Pannónia cheese. Therefore, the use of the Hungarian Product label is recommended in the case of more expensive cheeses, when the effect of consumer ethnocentrism is not adversely affected by the price.

4.2   Future research direction

During the purchase decision, external and internal product characteristics are perceived and taken into account by customers in a complex way, a part of this complex system is only the search for creditworthy properties of food. From the point of view of the quality that deserves credit – which may refer to the origin and processing method of the food – non-mandatory labels play an important role, including logos and trademarks that communicate a national origin, which is also the subject of this research. In the future, it is definitely recommended to continue the investigation of the role of national quality labels in the customer's decision, for which the results and limitations of this doctoral research can be taken into account. When buying cheese, the internal product properties (the taste and consistency of the cheese) judged on the basis of sensory, individual previous shopping and consumption experience are at least as important as the external product attributes. The doctoral research focused on the external product characteristics, and moreover, it omitted the investigation of the role of the brand within it. The research proved the success and consumer preference of the Hungarian Product label, but it would be useful to get a more complete picture of the importance consumers attach to this label with fewer research

constraints. It would therefore be worthwhile to repeat the study by including a larger number of product attributes, which would be suitable for a more precise exploration of the relative importance of label as a product property. The trademarks of Hungarian Product Nonprofit Ltd. and other trademarks that communicate a national origin (e.g. Hungarian Poultry) are successful in Hungary, so it is worthwhile to continue research on these labels in the future. Due to international comparability, in addition to the Hungarian research, it would be advisable to carry out the same study among the consumers of a Western European country with a large cheese consumption culture (France, Germany and the Netherlands). I also recommend conducting future research that, taking into account the results of this thesis, would further the line of thought according to which domestic consumers see the protected designation of origin in Hungarian on the packaging of a more expensive cheese as useful. Future studies should place more emphasis on qualitative methods that are suitable for a deeper understanding of consumer preference. Therefore, as a continuation of the research, I recommend conducting several focus group studies, which would enable the investigation of the research goals in different consumer segments. Further, future research could use the methods of experimental auction and hybrid choice models, which would help to analyse and understand deeper relationships.

5   NEW SCIENTIFIC RESULTS

The first research phase included twelve hypotheses that related to the assumed effects between the elements of the conceptual model. Due to the peculiarities of the modeling, a large number of hypotheses were generated, therefore the thesis does not follow the generally accepted principle of one hypothesis-supporting one new scientific result in the case of the first twelve hypotheses. The new scientific results belonging to the first research phase were created by aggregating the hypotheses, thereby creating two new scientific results. In the case of the second research phase, the substantiation of the four hypotheses belonging to this research phase made it possible to formulate four new scientific results.

1. **I have developed and validated on a sample of Hungarian consumers a model that is suitable for measuring purchase intention and behaviour related to food with national quality labels, which it takes into account the combined effect of attitude, subjective norms, perceived behavioural control, consumer ethnocentrism, country image, involvement, trust and willingness to pay.**

In the research, with the help of bibliometric analysis and the clustering of the keywords found in the relevant literature, I have created a conceptual model that contains the factors influencing the purchasing behaviour of foods with national quality labels. In the questionnaire developed for the empirical investigation, I used internationally validated scales to measure the elements of the model. I analysed the data from a sample of 1,317 people by using covariance-based structural equation modeling, and I showed significant effects between the model elements.

2. **I proved that consumer ethnocentrism directly and indirectly influences consumer behaviour towards food with national quality labels. It exerts its indirect effect through the emotional component of attitude and trust.**

One of the main objectives of the doctoral research was to investigate the role of consumer ethnocentrism in shaping consumer behaviour towards foods with national quality labels. Due to the large number of model elements, I used the Bootstrap method to examine the indirect effects; constantly taking into account the model fit indicators and the values of the modification indices. The study made it possible to understand the effect mechanism of consumer ethnocentrism, so I was the first to demonstrate the effect of consumer ethnocentrism on the affective attitude component.

3. **I empirically proved that when buying both Trappist and Pannónia cheese patriotic feelings positively influence the consumer utility attributed to the Hungarian Product label in the case that the purchase is made only considering the external product attributes.**

In the second phase of the research, I examined the role of consumer ethnocentrism in the purchase decision in the case of a specific food, cheese. Taking into account the results of the qualitative research and expert suggestions, Trappist and Pannónia cheese were included in the quantitative research. Also, taking into account the results of the qualitative research and expert suggestions, I developed a questionnaire that is suitable for simulating a purchase situation where the respondents have to order Trappist and Pannónia cheeses with different product characteristics in order of preference based on the external product attributes. The conjoint analysis of data from a sample of 2,340 people, representative of the Hungarian population in terms of gender and region, made it possible to quantify the consumer utility attributed to the Hungarian Product label. In the questionnaire, I showed the relationship between the patriot dimension of the scale used to measure consumer ethnocentrism and the utility values by using a regression analysis.

4. **I showed that the relationship between the patriotic feelings of the respondents when buying Trappist and Pannonian cheese and the consumer utility attributed to the Hungarian Product label is mediated by the credibility attributed to the Hungarian Product label, in the case that the purchase is made only considering the external product attributes.**

The relevance of the doctoral research is due to the fact that the huge variety of food products makes decision-making difficult, leading to an increase in consumer demand for or food products with credible attributes. The doctoral research was the first to investigate the relationship between the patriotic dimension of consumer ethnocentrism, the authenticity attributed to the Hungarian Product label and the consumer utility attributed to the Hungarian Product label among Hungarian consumers. By using Hayes' PROCESS Macro module, I showed that the perceived authenticity attributed to the Hungarian Product label when buying both Trappist and Pannónia cheese mediates the effect of consumers' patriotic feelings on the consumer utility attributed to the Hungarian Product label in the case that the purchase is made only considering the external product attributes.

5. I statistically verified that the price moderates the relationship between the patriotic feelings of the respondents when purchasing Trappist cheese and the consumer utility attributed to the Hungarian Product label in such a way that price sensitivity weakens this relationship, in the case that the purchase is made only considering the external product attributes.

The price sensitivity of Hungarian consumers has already been shown many times, so in domestic research dealing with the effect of consumer ethnocentrism, the question of in which case the price of the given product overrides the ethnocentric behaviour of Hungarian consumers always appears strongly. The present research simulated a specific purchase situation in which the respondents ranked the cheeses included in the study based only on their external product attributes. The research showed on a representative samples that the most important product attribute for Hungarian customers when purchasing both the cheaper Trappist cheese and the more expensive Pannónia cheese is the price. With the help of a model containing three factors (respondents' patriotic feelings, credibility attributed to the Hungarian Product label, utility attributed to the Hungarian Product label), I showed that in the case of cheap Trappist cheese, price sensitivity weakens the effect of patriotic feelings on consumer utility attributed to the Hungarian Product label in such a way that that price moderates the relationship between patriotic feelings and perceived authenticity attributed to the Hungarian Product label. When buying Trappist cheese, the patriotic feelings of price-sensitive consumers have less influence on how authentic they consider the Hungarian Product label, and therefore consider its presence on the packaging less useful.

6. I proved that the relationship between the respondents' patriotic feelings when buying Pannónia cheese and the consumer utility attributed to the Hungarian Product label is not moderated by the price, in the case that the purchase is made only considering the external product attributes.

Based on the results of the doctoral research, in the case of the more expensive Pannónia cheese, the relationship between the respondents' patriotic feelings and the usefulness attributed to the Hungarian Product trademark is not influenced by the price.

LIST OF RELEVANT PUBLICATIONS

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