

# DETERMINANTS OF CONSUMER PURCHASE INTENTION TOWARDS CHEESES WITH GEOGRAPHICAL INDICATION IN A DEVELOPING COUNTRY: EXTENDING THE THEORY OF PLANNED BEHAVIOR

## ODREDNICE NAMJERE POTROŠAČA PREMA KUPOVINI SIREVA S OZNAKOM ZEMLJOPISNOG PODRIJETLA U ZEMLJI U RAZVOJU: PROŠIRENJE TEORIJE PLANIRANOG PONAŠANJA



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### Abstract

**Purpose** – The present study attempts to investigate consumer intention to purchase cheeses with Geographical Indication (GI) by employing the Theory of Planned Behavior (TPB). The purpose of this paper is to examine the influence of determinants as hypothesized by the TPB – attitudes, perceived behavioral control, social norms, together with the additional determinant of consumer trust in the labeling system – on consumer buying intentions.

**Design/Methodology/Approach** – A structured online questionnaire was developed and distributed to respondents. The survey was conducted country-wide and 806 responses were collected.

**Findings and Implications** – The findings of SEM analysis indicate that all latent constructs have direct positive effects on intention to buy cheeses with GI.

### Sažetak

**Svrha** – Studijom se pokušava istražiti namjera potrošača za kupovinu sireva s oznakom zemljopisnog podrijetla (GI) primjenom teorije planiranog ponašanja (TPB). Svrha rada jest ispitati utjecaj determinanti prema hipotezi TPB-a (stavova, percipirane kontrole ponašanja, društvenih normi, popraćenih dodatnom determinantom povjerenja potrošača u sustav označavanja) na potrošačevu namjeru kupovine.

**Metodološki pristup** – Razvijen je i ispitanicima podijeljen strukturirani online upitnik. Anketa je provedena u cijeloj zemlji i prikupljeno je 806 odgovora.

**Rezultati i implikacije** – Rezultati SEM analize pokazuju da svi latentni konstrukti imaju izravne pozitivne učinke na namjeru kupovine sira s oznakom zemljopisnog podrijetla (GI).

**Limitations** – Focused on analyzing purchase intentions towards GI cheeses, the study lacks the assessment of actual purchasing behavior.

**Originality** – The study justified the introduction of a new construct in the TPB by increasing the proposed framework's predictive power in determining consumer intention to purchase cheeses with GI. Moreover, the results of the study are discussed in the context of marketing communications with consumers.

**Keywords** – cheeses with geographical indication, purchase intention, TPB, trust in labeling system

**Ograničenja** – Studija je usmjerena na analizu namjera kupovine sireva s oznakom zemljopisnog podrijetla, dok joj nedostaje procjena stvarnog kupovnog ponašanja.

**Doprinos** – Studija je opravdala uvođenje novog konstrukta u TPB jer je povećana prediktivna moć predloženog okvira u određivanju potrošačke namjere kupovine sireva s oznakom zemljopisnog podrijetla. Rezultati istraživanja raspravljani su u kontekstu marketinške komunikacije s potrošačima.

**Ključne riječi** – sir s oznakom zemljopisnog podrijetla, namjera kupovine, TPB, povjerenje u sustav označavanja

## 1. INTRODUCTION

The protection of geographical indications (GIs) is considered to be the most important initiative for the promotion of foods with territorial connections (Maye, Kirwan, Schmitt, Keech & Barjolle, 2016) and as such has become the subject of analysis in marketing research. GIs are increasingly being used by developing countries to promote rural development and conserve indigenous goods and traditions (Bowen & Zapata, 2009). However, a vast majority of studies in this subject field have been conducted in developed countries (Aprile, Caputo & Nayga, 2016; Shin & Hancer, 2016; Menozzi & Finardi, 2019; Sampalean, Rama & Visent, 2021; Menozzi, Giraud, Saïdi & Yeh, 2021), leaving businesses from emerging markets with insufficient relevant market data to take advantage of the increasing consumer demand.

Therefore, this study focuses on bridging that gap and providing insights on GI cheese purchase intention in a developing country of South-Eastern Europe which is currently lacking in the pertinent literature (Filipović, Stojanović & Ristić, 2019). More specifically, we aim to enrich current marketing wisdom by analyzing the determinants of purchase intention with respect to GI-labeled cheeses in an emerging country and pave the way for a further development of frameworks suitable for research in this area.

The subject under scrutiny is globally important, given that demand for traditional products with GIs is growing worldwide driven by several factors: positive consumer attitudes towards high-quality and high-status products, cultural identification and strong connections with the geographical region, increased interest in healthier and safer food, concerns about environmental issues (Palmieri, Forleo & Salimei, 2017), and higher demand for better guarantees and protection (Loureiro & McCluskey, 2000; Lambarra-Lehnhardt, Ihle & Elyoubi, 2021). Products with GIs are different from their traditional counterparts as a result of the unique environment in which they are produced (Van-

decandelaere et al., 2009; Deselnicu, Costanigro, Souza-Monteiro & McFadden, 2013; Goudis & Skuras, 2020), hence they are perceived to be related to the local culture, economic support, and the use of traditional methods (Lambarra-Lehnhardt et al., 2021).

According to prior research (Jantyyk & Török, 2020), the market share of GI food products protected by the European Union (excluding TSGs) was around 7% in 2017, with a sales value of EUR 74.76 billion (European Commission, 2021). Today, more than half of EU citizens base their purchasing decisions on food origin (EFSA, 2019). Product-wise, the cheese market in the EU is one of the largest in the world with an expected growing trend, thus allowing producers to expand their business. In 2017, the total sales volume of cheeses with GI reached 1.2 million tons (representing 10.6% of total cheese production in the EU), with the value of sales reaching EUR 9.03 billion. Moreover, there is a relatively large number of cheeses bearing the labels Protected Designation of Origin (PDO), Protected Geographical Indication (PGI), and Traditional Specialty Guaranteed (TSG). To date, there are 262 registered cheeses protected by the PDO, PGI, or TSG label in the DOOR database, with their numbers increasing every year. Countries in South-Eastern Europe have a significant common culinary history that preserves traditional food consumption in close connection with their population's cultural traditions (Giraud et al., 2013).

Therefore, this study strives to provide several contributions to the current body of knowledge. In the theoretical sense, our model extends the Theory of Planned Behavior (TPB) by including the construct of trust in its framework and consequently assessing its validity. Importantly, consumers' trust in the label-based control system significantly improves their intention to purchase products promoted by geographical indications (Menozzi, Halawany-Darson, Mora & Giraud, 2015; Hartman et al., 2019).

While numerous studies have demonstrated that the TPB model provides a valuable framework for explaining purchase decisions and

consumer behavior with respect to various food categories, including dairy products (Kim, Reicks & Sjoberg, 2003; Nolan-Clark, Neale, Probst, Charlton & Tapsell, 2011; Lacroix et al., 2016), organic food (Smith et al., 2008; Ham, Pap & Stanic, 2018; Fleşeriu, Cosma & Bocăneţ, 2020), safe food (Young et al., 2017; Thaivalappil, Papadopoulos & Young, 2019), and sustainable food (Silva, Canavari & Wander, 2017; Alam, Ahmad, Ho, Omar & Lin, 2020), there is a paucity of studies employing the TPB to an investigation of the intention to buy products with GIs (Shin & Hancer, 2016; Erraach, Sayadi & Parra-López, 2017; Haryanto, Purwanto, Dewi & Cahyono, 2019; Goudis & Skuras, 2020), and especially GI cheeses (Menozzi & Finardi, 2019; Menozzi et al., 2021). Thus, the second contribution of our research consists in the application of the TPB to investigate this understudied product category.

Finally, from a practical viewpoint, we strive to provide new insights concerning consumer behavior and market potential with respect to GI products, which may be useful for marketing managers and policymakers in developing countries. By shedding light on the reasons why consumers intend to buy GI cheeses and thus uncovering the underlying consumer intention, we hope to guide marketing managers in their future communication efforts in these territories. Moreover, the improved theoretical considerations outlined above may help bring about fresh knowledge for policymakers as well. Building a coherent plan for the promotion of GI awareness requires policymakers to have a thorough grasp of the profile features of aware and non-conscious consumers (Goudis & Skuras, 2020). Business actors in the region still lack the relevant capability to make educated decisions and to exploit the possibilities that GI products offer in the market (van Engelenhoven, 2020). This is particularly useful with regard to GI food initiatives aimed at developing intervention mechanisms to encourage consumers to buy locally grown food.

The paper is structured as follows. The first section covers the study's background, including

the literature overview and a discussion of the theoretical and empirical findings concerning GIs and the theory of planned behavior. The second section presents the methods and techniques utilized in the empirical research, followed by research findings. The concluding section provides further research implications and possible limitations.

## 2. RESEARCH BACKGROUND

### 2.1. Food Products with Geographical Indications

Geographical indications are considered to be tools used for the following purposes: protection of biological resources and indigenous knowledge, introduction of improved agricultural methods into the system in use (Lamine, Garçon & Brunori, 2019), improvement of economic as well as environmental and socio-cultural sustainability, and support of rural development (Tregear, Arfini, Belletti & Marescotti, 2007). Food products are frequently linked to geographical designations denoting specific agro-ecological conditions, distinctive human resources, and traditions (Arfini, Cozzi, Mancini, Ferrer-Perez & Gil, 2019). In recent years, there has been a growing demand for artisan and home-made cheeses, produced with raw milk using traditional procedures that are strictly connected to a specific region and distinguished by unique characteristics, making them worthy of protection and differentiation from industrial cheeses (Aquilanti, Santarelli, Babini, Osimani & Clementi, 2013).

In the European context, food labeling has been implemented by a variety of economic players, including policymakers and food industry companies, with the purpose of decreasing the presence of market imperfections (Aprile, Caputo & Nayga, 2012). The European Union (EU) has established EU quality schemes for the protection of agricultural and food products by implementing Protected Designations of Origin – PDO, Protected Geographical Indications – PGI, as well as Traditional Specialties Guaranteed –

TSG (Regulation No 509/2006; No 510/2006). The three quality schemes are designed to provide consumers with clear and concise information about a product's origin or specialized character, allowing them to make the best possible decisions based on their preferences (Verbeke, Pleniak, Guerrero & Hersleth, 2012; Desquilbet & Monier-Dilhan, 2014).

According to the latest statistics, the top three ranked countries with respect to all registered product labels (PDO/PGI/TSG) are Italy, France, and Spain, accounting for more than two thirds of the total registered products (eAmbrosia, 2021). This indicates that consumers in developed countries have become aware of the importance of products with GIs, probably with a view to achieving a better quality of life by shifting from conventional to traditional and handmade food. Many consumer-based studies have examined the importance of traditional and GI products (Verbeke & Ward, 2006; Pieniak, Verbeke, Vanhonacker, Guerrero & Hersleth, 2009; Guerrero et al., 2010; Verbeke et al., 2012; Jung, Jones, Haugtvedt & Banerjee, 2020). GI labels provide consumers with adequate information about a product's origin, method of production (Oledinma & Roper, 2021), and the unique characteristics of the product owed to its origin. They serve as a differentiation tool that helps consumers decide whether or not to buy the product (Jahn, Schramm & Spiller, 2005; Arfini et al., 2019) and have the potential to alter their decision-making. In addition, driving an increasing number of consumers to consume traditional foods and GI-labeled food is the desire to support the local economy (Aprile et al., 2016). In a study performed by Durham and Roheim (2009), consumers named concerns about the local economy, support for local businesses, quality, and decreasing environmental impact as the main reasons for purchasing traditional and local food. Hence, PDO/PGI labels are an important tool in identifying and helping to develop positive consumer attitudes towards GI foods.

The same trend can be observed with respect to consumers of GI cheeses in developing coun-

tries. GI-labeled cheeses have a great reputation among consumers due to their natural, geographical, and climatic factors, local production practices, as well as cultural and historical heritage (Filipović, 2019). In addition to their exceptional nutritional value, autochthonous cheeses are characterized by a traditional method of production, which is attributed to a certain geographical region (Goudis & Skuras, 2020). Cheese consumption is still driven by tradition, creativity, and diversification – consumers increasingly demand handmade cheeses produced in small batches in particular geographical regions using traditional processes (Berry, 2013).

Scarce studies (Giraud et al., 2013) on this matter indicate that consumers from these territories do not completely share the tastes of their Western counterparts when it comes to GI cheeses. Due to the insufficient promotion of autochthonous cheeses and lack of knowledge (Pinna, Del Chiappa & Atzeni, 2017), the ability of consumers to recognize cheese with a designation of origin is very weak (Filipović, 2019). On the other hand, there is the question of the purchasing power of the population, primarily in less developed countries. In other words, the question is whether, in addition to the desire and motivation to consume such products, the purchasing power of the population is sufficient to make these products available to them. Even though no Serbian cheese is registered in the EU geographical indication register, according to the Intellectual Property Office, 12 cheeses are protected with the national PDO label (The RS Intellectual Property Office, 2021). Cheese is the second most protected category (15% of all products with PDOs), following closely behind meat (18%).

## 2.2. Theory of Planned Behavior and Hypotheses Development

The Theory of Planned Behavior (TPB), developed by Ajzen, has been widely used to better understand consumer decision-making (Ajzen, 1991) and is one of the most important theoretical frameworks for analyzing and predicting

an individual's behavior. According to the TPB, an individual's intention to perform a behavior is determined by three constructs: attitude towards adopting the behavior, subjective norm, and perceived behavioral control (Ajzen, 1991; Armitage & Conner, 2001).

Behavioral intention is a function of three independent determinants: attitudes, subjective norms, and perceived behavioral control. Behavioral intention is defined as an "individual's willingness to indulge in certain behavior" and is considered to be an immediate antecedent to purchasing behavior (Ajzen, 1991). It is measured in terms of people's predisposition, likelihood, or desire to purchase specific products. Previous research has established (Ajzen, 1991) that behavior can be predicted based on intention with significant accuracy. Furthermore, by determining a link between beliefs and intention, it is possible to predict the behavior of individuals in choosing food products (Roseman, Mathe-Soulek & Higgins, 2013).

According to the TPB, attitude is a significant predictor of behavioral intentions. Attitude towards behavior refers to "the extent to which an individual has a positive and negative assessment (or feelings) of the behavior" (Ajzen, 1991). Thus, in the present research, attitudes are defined as individual preferences and behavioral assessments while purchasing GI cheeses. As per the rule of thumb, the more positive the attitude towards behavior, the more determined the individual will be in achieving the expected behavior (Ajzen, 1991). In addition, aside from the quality guarantee, the social and geographical circumstances in which the food is produced, kept, and sold may influence customer attitudes (van Ittersum, Meulenbergz, van Trijp & Candel, 2007). Previous research has indicated that positive attitude towards traditional food is a construct used to predict behavioral intention towards purchasing traditional food (Kim et al., 2003; Kumar & Smith, 2018; Menozzi & Finardi, 2019; Wang, Tao & Chu, 2019; Menozzi et al., 2021). More explicitly, in the study by Menozzi et al. (2021), attitude is a significant predictor of

consumers' intention to purchase Parmigiano Reggiano PDO and Comté PDO hard cheeses in Italy and France. Kim et al. (2003) revealed that attitudes towards eating dairy products directly contributed to the model for predicting intention to purchase dairy products. Results of structural equation modeling analysis revealed that behavioral attitudes have a significant impact on the purchase intentions of Chinese consumers (Wang et al., 2019). In general, when considering individual food choices, attitudes are most strongly associated with intention, followed by perceived behavioral control and subjective norms (Kim et al., 2003; McDermott et al., 2015). Consequently, it may be postulated that customer views have a substantial impact on their intentions to purchase GI cheeses. Thus, the first hypothesis is as follows:

*H<sub>1</sub>: Positive attitudes towards purchasing GI cheeses will positively influence intention to buy them.*

The second set of drivers behind intention and related behavior recognized by the TPB is represented by subjective norms. Subjective norms are defined as personal perceptions of behavior influenced by other individuals or relevant groups (Fishbein & Ajzen, 2010). They represent perceptual social impressions or pressures that influence an individual's decision to engage in certain behavior (Ajzen, 1991; O'Neal, 2007). The subjective norm in this research is understood as the degree to which a person respects the expectations of others when carrying out a given intention. Fishbein and Ajzen (2010) argue that subjective norms contain perceived injunctive norms (representing what important individuals believe we should do) and perceived descriptive standards (what we believe individuals have done or are doing). Several studies have found that subjective norms have an important and statistically significant influence on intention to buy food products, that is, friends and family members were found to have the greatest influence on intention to consume food products (Vermeir & Verbeke, 2008; Visintin et al., 2012; Thaivalappil, et al., 2019; Alam et al., 2020). More precisely, results in connection with

the original TPB showed that subjective norms were the strongest predictor of behavioral intentions to purchase traditional food products in Italy (Visintin et al., 2012). In their study, Alam et al. (2020) emphasized that social norms had a significant impact on intention to consume sustainable food. In contrast, in a study by Menozzi et al. (2021), subjective norms were found to have a weak, yet significant, influence on the intention to consume PDO-labeled cheese. Based on these considerations, this study posits that:

*H<sub>2</sub>: Subjective norms will positively influence intention to buy GI cheeses.*

The third set of influential factors, according to the TPB, refers to perceived behavioral control (PCB). PCB is described as a person's assessment of how simple or difficult it would be to carry out a behavior (Ajzen, 1991). It is determined by a person's ability to perform the behavior, whether simple or complicated. The comprehensive concept of perceived behavioral control consists of two components (Sparks, Guthrie & Shepherd, 1997; Ajzen, 2002): inner control factors (e.g., perceived self-efficacy) and external perceived difficulty factors (e.g., perceived controllability). Perceived self-efficacy entails a personal assessment of individuals about the sufficiency of their knowledge and abilities to accomplish a specific behavior (Ham et al., 2018). People who seem to have a greater level of control over these are more likely to have a strong desire to engage in certain behavior. Perceived behavioral control is formed not only by perceived abilities but also by perceived barriers (Ham et al., 2018), such as price, availability, and consumer purchasing power, which influence purchasing behavior. Thus, in the case of financial opportunities, resources, and availability of GI cheeses, an individual's intention to consume GI cheeses will be stronger. Perceived personal limitations and external barriers might interfere with one's capacity to perform a behavior, and therefore with the individual's feeling of control over the behavior (Teo & Lee, 2010). Many studies have proven the existence of a positive relationship between purchase intention and

the ability to control one's behavior (Machium, Parichatnon & Peng, 2017; Giampietri, Verneau, Del Giudice, Carfora & Finco, 2018; Menozzi & Finardi, 2019; Hartman et al., 2019; van Engelenhoven, 2020). More specifically, certain studies on the relationship between PCB and intention to purchase traditional and PDO/PGI-labeled food have shown such relationships to be positive. Through a review of the relevant literature, van Engelenhoven (2020) emphasized that greater PBC enhances one's intention to buy local food. Menozzi and Finardi (2019) stressed that perceived behavioral control is the main predictor of intention and behavior, indicating that increasing people's capability seems to be a major aspect in reaching the intended goals. In addition, Hartman et al. (2019) emphasized that in France and Italy, perceived behavioral control has a positive and the most important influence on consumers' intention to buy cheeses promoted by food quality scheme labels. Thus, this study assumes the following:

*H<sub>3</sub>: PBC has a significant positive effect on the intention to buy GI cheeses.*

As indicated by Ajzen (1991), the TPB can be developed and expanded by adding new variables or changing the path of current variables. The inclusion of additional variables in the model is associated with contemporary theoretical developments in human behavior (Oh & Hsu, 2001). The body of literature (Conner & Armitage, 1998; Singh & Verma, 2017; Wang et al., 2019; Menozzi & Finardi, 2019) has consistently demonstrated that when additional factors relating to dietary behavior and food choice are incorporated in the model, an improvement is observed in the predictive power of the standard TPB framework in describing food-related behavior.

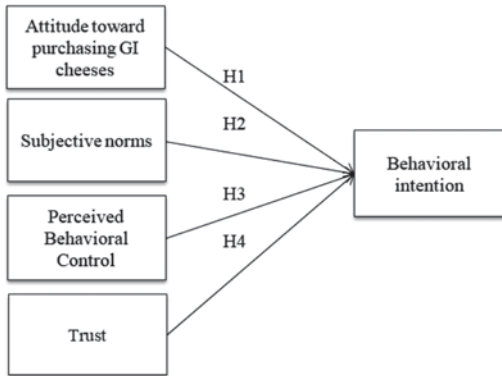
Moreover, previous studies have confirmed that trust is a strong predictor of future consumer intention and behavior (Menozzi et al., 2015; Giampietri et al., 2018). Nasser, Yusoff, Islam, and Nasser (2014) point out that trust is an important construct in the domain of marketing for maintaining long-term relationships between buyer

and seller. Furthermore, consumers' trust in the control system underlying the label significantly improves their intention to buy products promoted by the food quality scheme label (Menozzi et al., 2015; Hartman et al., 2019). In a study by Menozzi et al. (2015), trust is deemed to be the main driver of intention to purchase traceable honey in Italy and France, with consumers trusting producers' information about the production process and origin. According to the findings of Hartman et al. (2019) in Hungary and Italy, a higher level of trust in the control system behind the label significantly increases consumers' intention to buy products promoted by the food quality scheme label. Dent et al. (2015) emphasize that trust tends to counterbalance unfavorable impressions associated with food buying decisions. Therefore, we assume the following:

*H<sub>4</sub>: Trust in the GI label system positively influences intention to buy GI cheeses.*

The research model and related hypotheses are depicted in Figure 1.

FIGURE 1: Proposed model of intentions to buy GI cheeses



Source: Adapted from Ajzen (1991)

### 3. METHODOLOGY

#### 3.1. Sampling and Research Design

The data were collected using a structured online questionnaire containing closed-ended questions. In line with the TPB framework, the questionnaire included five sets of items measuring respondents' (1) attitudes, (2) subjective norms, (3) perceived behavioral control, (4) trust, and (5) intentions regarding the purchase of GI cheeses. The scale items were adopted from previous relevant studies (see Table 1). Given that the use of single-item measures may lead to measurement unreliability (DeVellis, 1991), the approach under which each construct consists of two or more items was adopted. A five-point Likert scale, ranging from 1 – “totally disagree” to 5 – “totally agree” (Fishbein & Ajzen, 2010), was used to measure all the items.

In the first stage, we conducted a pilot study in order to adapt the research instrument and confirm its validity. The pilot investigation included 20 respondents, whose answers served to refine the questionnaire.

In the next step, we conducted the main study. For that purpose, we adopted the non-probabilistic method of convenience sampling since it allows a researcher to control the procedure in order to obtain a sample representative of the population (Kinneer, 1987). Questionnaires were distributed among the respondents using a snowball sampling approach to enhance the response rate and engage more respondents (Cooper, Schindler & Sun, 2011). The sample is nationally representative in terms of gender, age, level of education, and place of residence. Table 2 shows the demographic characteristics of the respondents included in the sample. Overall, 806 valid responses were collected.



TABLE 1: List of constructs and their sources

Construct	Items	Adapted from
Attitude towards purchasing GI cheeses	Purchasing GI cheeses supports local agriculture.	Kumar & Smith (2018); Arvola et al. (2008)
	Purchasing GI cheeses supports an economically sustainable community.	
	Purchasing GI cheeses provides for higher farmer incomes and higher employment.	
Subjective norm	Most people who are important to me would think that I should purchase GI cheeses.	Hartman et al. (2020); Shin & Hancer (2016)
	Most of my friends and family would think that I should purchase GI cheeses.	
	It is expected of me that I purchase GI cheeses.	
Perceived behavioral control	Whether I purchase GI cheeses is entirely up to me.	Shin & Hancer (2016)
	Purchasing GI cheeses is entirely within my control.	
	I have enough time to go and buy GI cheeses.	
	I have the financial capability to buy GI cheeses.	
Trust in label	I have trust in the GI labeling system.	Hartman et al. (2020); Giampietri et al. (2018)
	I have trust in the control system behind GI cheese production.	
	I believe that, when buying GI cheeses, I am not buying an imitation (copy).	
	I believe in the reliability of GI.	
Behavioral intention	I intend to purchase GI cheeses in the next 6 months.	Shin & Hancer (2016)
	I expect to purchase GI cheeses in the next 6 months.	
	I want to purchase GI cheeses in the next 6 months.	

TABLE 2: Demographic and socio-economic structure of the sample

		Frequency	%
Gender	Female	486	60.3
	Male	315	39.1
	I cannot identify myself	6	0.6
Age	18-24 years	83	10.3
	25-44 years	297	36.8
	45-64 years	284	35.2
	Over 65 years	142	17.6
Level of education	Unfinished primary school	9	1.1
	Primary school	34	4.2
	Three-year high-school diploma	57	7.1
	Four-year high-school diploma	303	37.6
	Bachelor's degree or equivalent level	270	33.5
	Master's, postgraduate, or Doctoral degree	133	16.5
Household size	1-2	230	28.5
	3-4	397	49.3
	5 or more	179	22.2

		Frequency	%
Number of children	0	343	42.6
	1	143	17.7
	2	239	29.7
	> 3	81	10.0
Income (EUR)	< 255	66	8.2
	256-425	143	17.7
	426-595	127	15.8
	596-765	151	18.7
	766-1020	162	20.1
	> 1021	157	19.5

Note: n=806; responses included all four regions of the Republic of Serbia

Source: Authors' calculation

The approximate time the participants needed to complete the survey amounted to 20 minutes. The data were gathered over a period of three months.

### 3.2. Analysis Techniques

In order to examine the characteristics of the respondents in terms of gender, age, education, living area, and income, the descriptive statistical analysis was conducted as a first step. Secondly, as suggested by Anderson and Gerbing (1988), confirmatory factor analysis (CFA) was performed to establish the capacity of the measurement variables to accurately represent their underlying latent variables, as well as to evaluate the reliability and validity of the scale items.

Following the verification of construct validity, the structural model was developed and applied to test the hypotheses and model fit, as well as to investigate relations between latent constructs. For this purpose, the structural equation model (SEM) was utilized since it offers the most appropriate and economical estimation for a set of distinct multiple regression equations that are estimated at the same time (Hair, Black, Babin, Anderson & Tatham, 2010) The maximal likelihood estimation (MLE) technique was applied because it is the most frequently used SEM estimation procedure and is unbiased for multivariate normality assumptions (Silva et

al., 2017). The calculations were performed using the AMOS 23.0 statistical package.

Since all investigated goodness-of-fit indices (chi-square, goodness-of-fit index, comparative fit index, Normed Fit Index, and Tucker-Lewis index) scored higher than 0.90, it was concluded that the model fits the set of observations well. Moreover, the standardized root mean square residual (SRMR) and the root mean square error of approximation (RMSEA) amounted to less than 0.05, while acceptable values are designated to be less than 0.08 (Hair et al., 2010).

### 3.3. Instrument Reliability and Validity

The data were examined to validate relationships of attitude, subjective norm, PBC, and trust with behavioral intention. The internal reliability of the scales was determined using Cronbach's alpha, where it is considered satisfactory if Cronbach's alpha value exceeds 0.70 (Malhotra, 2004). Our findings show that all constructs have achieved satisfactory results: attitude towards purchasing cheeses with GI ( $\alpha=0.933$ ), subject norms ( $\alpha=0.917$ ), PBC ( $\alpha=0.841$ ), trust ( $\alpha=0.939$ ), and respondents' intention to purchase cheeses with GI ( $\alpha=0.929$ ). Composite reliability was also tested, with values of all latent constructs ranging from 0.857 to 0.935, which is well above the cutoff level of 0.70; (CR) > 0.70 (Hair et al., 2010).

Furthermore, the results of the confirmatory factor analysis performed for the TPB variables and constructs are presented in Table 3. It can be observed that factor loadings for the latent constructs ranged from 0.708 to 0.964, which is identified as excellent and indicating strong support for construct validity (Hair et al., 2010).

Two types of validity tests were used in this study: convergent validity and discriminant validity tests. Convergent validity is a common variation between indicators and their constructs and indicates that a group of indicators measures the same construct (Henseler, Ringle & Sinkovics, 2009). In our case, average variance extracted (AVE) ranged from 0.601 to 0.825, exceeding an

acceptable threshold of 0.50. Discriminant validity was assessed using the cross-loading of indicators, i.e., the Fornell-Larcker (1981) criterion. As illustrated in Table 3, the square root of AVE was found to be greater than the calculated coefficient correlations between latent constructs. All ratios were below 0.85, indicating a high discriminant coefficient of the variables. With all latent constructs having composite reliability of at least 0.70 and AVE of at least 0.50, it is possible to conclude that the measurement model has adequate convergent validity and reliability (Table 3). Finally, the test of normality (Field, 2009) also proved to be satisfactory, implying that the probability of non-normal distribution looked to be minimal.

TABLE 3: Assessment of internal consistency reliability and convergent validity

Latent construct	Indicator	Mean	SD	Factor loadings (>0.70)	Composite reliability CR	Convergent validity AVE (>0.50)	Internal reliability Cronbach's $\alpha$ (>0.70)
Attitude towards purchasing cheeses with GI (ATT)	ATT1	3.877	1.229	0.906	0.934	0.825	0.933
	ATT2	3.809	1.220	0.942			
	ATT3	3.789	1.254	0.874			
Subjective norms (SN)	SN1	2.392	1.223	0.946	0.923	0.801	0.917
	SN2	2.382	1.215	0.964			
	SN3	2.107	1.260	0.761			
Perceived Behavioral Control (PCB)	PCB1	3.772	1.269	0.729	0.857	0.601	0.841
	PCB2	3.191	1.292	0.813			
	PCB5	3.290	1.353	0.708			
	PCB6	3.597	1.263	0.842			
Trust in label (T)	T1	3.454	1.233	0.921	0.935	0.783	0.939
	T2	3.372	1.234	0.913			
	T3	3.494	1.288	0.819			
	T4	3.521	1.244	0.882			
Behavioral intentions (BI)	IT1	3.383	1.402	0.931	0.933	0.823	0.929
	IT2	3.460	1.400	0.955			
	IT3	3.347	1.391	0.830			

Source: Authors' calculation

The correlation matrix also showed that correlations among all latent constructs were significant ( $p < .01$ ). Intention to purchase cheeses with GI was significantly related to the four variables

proposed in the TPB, provided here in the order of decreasing magnitude of association: perceived behavioral control, trust, attitudes, and subjective norms (Table 4).

TABLE 4: Assessment of discriminant validity and the correlation matrix of variables

	1	2	3	4	5
1. Intention	<i>0.906</i>				
2. Attitudes	.479**	<i>0.908</i>			
3. Subjective norms	.477**	.317**	<i>0.895</i>		
4. Perceived Behavioral Control	.605**	.384**	.337**	<i>0.775</i>	
5. Trust	.519**	.480**	.337**	.436**	<i>0.884</i>

\*\*Correlation is significant at the 0.01 level (two-tailed).

Note: The italic values represent the square root of AVE.

Source: Authors' calculation

## 4. RESULTS AND DISCUSSION

In order to evaluate the influence of attitude, subjective norms, perceived behavioral control, and trust on the intention to purchase GI cheeses, a hypothesized structural model was constructed (Figure 2). The measurement model was evaluated by checking the overall model fit. As previously explained, the model fit was

evaluated using the goodness-of-fit index (GFI), the comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the root mean square error of approximation (RMSEA). The results suggested that the goodness-of-fit statistics of the theoretical framework indicated a good fit, and that the model could be regarded as suitable. All other fit indices were well above the recommended criteria (Table 5).

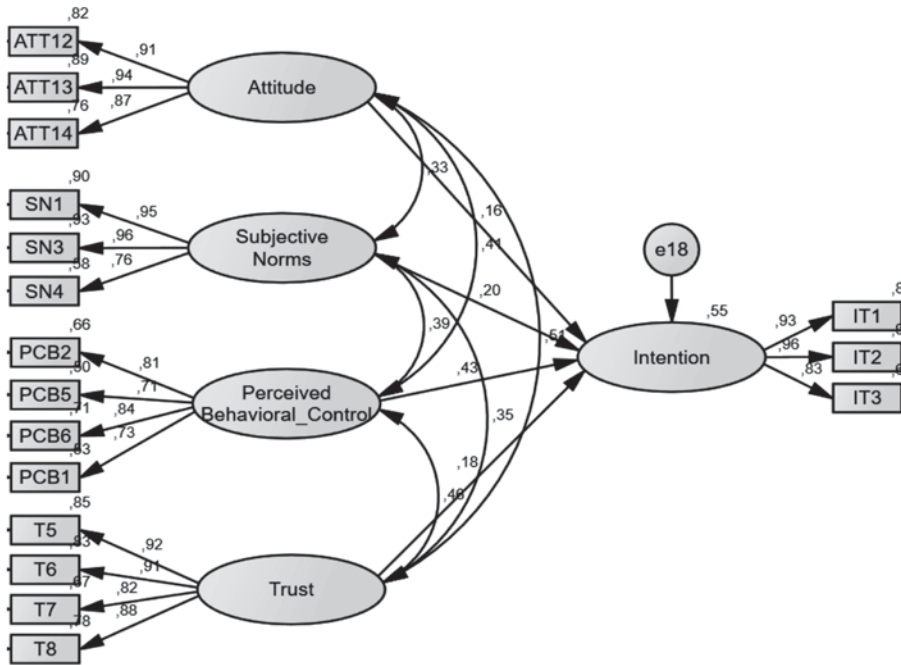
TABLE 5: Model fit indices for the hypothesized structural model

	$\chi^2$	$\chi^2/df$	GFI	AGFI	CFI	RFI	NFI	TLI	RMSEA	SRMS
Model	218.218	2.039	0.970	0.957	0.990	0.976	0.982	0.988	0.036	0.0305

Note: p-value: 0.000;  $\chi^2$ : Chi-square; df: degree of freedom

Source: Authors' calculation

FIGURE 2: Structural Model and Direct Path Analysis based on standardized regression weights



\*\*\* significant at .001  
Source: Authors' calculation

Figure 2 shows the SEM results, i.e., standardized path coefficients for the model. The findings demonstrate that all variables are statistically significantly correlated with intentions.

### 4.1. Effects of Attitudes on Behavioral Intention

The results indicate that attitudes towards purchasing GI cheeses ( $\beta=0.16, p<.001$ ) are a significant predictor of buying intention, thus supporting Hypothesis 1. Namely, participants indicated that they are more inclined to purchase locally grown or produced food if it has a beneficial influence on the economic well-being of the community. This conclusion is consistent with previous research in the field (Arvola et al., 2008; Shin & Hancer, 2016; Menozzi & Finardi, 2019; Haryanto et al., 2019; Wang et al., 2019; Maichum et al., 2017).

In the study authored by Maichum et al. (2017), attitude was found to be the strongest pre-

dictor of purchase intention, indicating that a positive attitude towards environmental protection strongly facilitated food purchasing. Similarly, in Indonesia, Haryanto et al. (2019) demonstrated that individuals had a positive attitude towards the product in question, which ultimately affected their intention to buy traditional food. In a study by Menozzi et al. (2021), conducted in Italy, attitudes were found to be better predictors of intentions to choose PDO cheese than in our case. This might reflect the fact that a higher level of trust and knowledge with regard to GI foods results in more favorable attitudes. Kumar and Smith (2018) stated that those who supported local farmers and the local economy were motivated, which positively influenced the intention to purchase traditional foods. Wang et al. (2019) also pointed out that a positive purchase attitude can motivate consumers to positively evaluate the value of different GI products.

Consumers' awareness and knowledge of GI food play a significant role in making purchase-related decisions. Low consumer awareness and understanding of cheese manufacturing processes, place of origin, and the system of labeling food with geographical origin in developing countries probably result in a small impact on intentions, compared to more developed countries. Another explanation might be that food counterfeiting is a common occurrence in the food industry, especially where GI food and consumers' attitudes are not firmly defined. Furthermore, we also found consumers' attitudes towards the purchase of GI-labeled cheese to be positively related to their interest in the economic support dimension of geographical indications. Knowing that the economic wellbeing of the community and farmers drives consumers' intentions to purchase locally, marketers may emphasize these qualities and the products' benefits on social media, in ads, and other marketing channels to attract those who share such values. Additionally, the influence of well-known public figures might be used to increase consumer purchase intentions. Based on the dimensions of attitude, it is necessary to develop awareness about GI food benefits, which can lead to consumers' decisions to consume GI foods. In order to convert the respondents' positive attitudes into intent, highlighting the rich flavors of traditional foods making up a nutritious and pleasant meal and the advantages of traditional and GI foods may be promoted to consumers.

#### 4.2. Effects of Subjective Norms on Behavioral Intention

The direct positive effect of the subjective norm ( $\beta=0.20$ ,  $p<.001$ ) on purchase intention was found to be statistically significant, therefore also corroborating Hypothesis 2. The study indicates that the subjective norm has a considerable impact on food purchase intentions, strengthening the influence of social norms and validating the use of the TPB. This supports the findings of prior research (Arvola et al., 1999; Lacroix et al., 2016; Kumar & Smith, 2018),

which revealed that social norms are significantly correlated with intention when it comes to choosing food categories. Specifically, Lacroix et al. (2016) indicated that participants seemed to view their family and friends as the people with the greatest influence on their cheese consumption and Kim and Smith (2017) have shown that consumers' preferences for sustainable and traditional food were affected by perceived social influences. Our findings indicate that social norms, referring to familiar surroundings, have a greater influence on consumers' purchase decision behavior than shown by previous research performed in other territories (Silva et al., 2017; Aliaga-Ortega, Adasme-Berrios, Méndez, Soto & Schnettler, 2019; Menozzi et al., 2021).

In our case, parents, friends, and relatives, or other important individuals were found to be relevant to respondents in determining their purchase intention regarding GI cheeses. Individuals and groups who think positively about GI products influence the intention formation of individuals closer to them. As a result, habits are formed based on GI food acceptance patterns, which may include influences from friendships and work relationships. With social norms exerting a stronger influence than attitudes, marketers should try to attract the attention of consumers towards GI cheeses using positive word of mouth spread by opinion leaders regarding traditional food consumption. The word-of-mouth strategy is also recommended as a proper marketing strategy to increase consumer purchase intentions with respect to GI foods. In addition, given the popularity of social media marketing, including viral marketing, GI food producers and retailers might also use these channels to influence consumer behavior.

#### 4.3. Effects of PCB on Behavioral Intention

Perceived behavioral control was found to be the main determinant of the intention to purchase cheeses with GI ( $\beta=0.43$ ,  $p<.001$ ). The path coefficient from PCB to the intention to

buy GI cheeses was positive and significant, supporting Hypothesis 3. In reviewing the related literature regarding TPB variables, PCB was identified as the key determinant facilitating consumer decision-making processes when it comes to traditional and local food purchasing (Vermeir & Verbeke, 2008; McDermontt et al., 2015; Giampietri et al., 2018), as well as the purchasing of PDO-labeled hard cheese (Menozzi & Finardi, 2019; Haryanto et al., 2019; Menozzi et al., 2021). In particular, in a study by Menozzi et al. (2021), structural equation modeling indicated perceived behavioral control to be a significant predictor of the intention to purchase PDO-labeled cheese in France and Italy. This study also supports the findings of other studies, such as those of Shin and Hancer (2016), who confirmed the existence of a significant influence of perceived behavioral control and food consumption intention. Although in line with previous research, the present study discovered a much superior role of PCB in shaping purchase intentions than what is generally observed by a vast majority of prior research (Shin & Hancer, 2016; Giampietri et al., 2018; van Engelenhoven, 2020).

This could mean that people expressed personal willingness to buy GI food and ease of purchase. Our findings are in line with the conclusions by van Engelenhoven (2020), where greater PBC also enhanced consumer intention and where, in cases of higher perceived controllability, there was a greater likelihood of buying traditional food. The resources to purchase cheese are available to the majority of the respondents and they have sufficient abilities to perform the intention in question. As a result, when people have a higher level of controllability or self-efficacy, they purchase more traditional foods (Shin & Hancer, 2016). Since PBC has been demonstrated to be the main determinant of the intention to buy GI food, policymakers should focus on improving consumer PBC (van Engelenhoven, 2020). The strengthening of individual PBC can lead to more efficiently managed food supply chains of GI products and better fulfilment of consumers' needs.

#### 4.4. Effects of Trust on Behavioral Intention

Finally, trust in labels was found to have a significant positive impact on cheese purchase intention ( $\beta=0.18$ ,  $p<.001$ ), leading to the confirmation of Hypothesis 4. The results suggest that trust in purchasing GI cheeses or GI food in general is an important construct, which could be a significant determinant when making a purchase decision. Although it has a fairly low degree of explanation power, the importance of trust in purchasing cheeses with GI cannot be neglected. Coherent with previous studies, this finding indicates that trust level has a crucial effect on consumers' intentions to purchase traditional and GI-labeled food (Menozzi et al., 2015; McSporran & Cho, 2017). Furthermore, for Hungary and Italy, a higher level of trust in the control system behind the label significantly increases consumers' intention to buy products promoted by the food quality scheme label (Hartman et al., 2019).

However, compared to studies conducted in France and Italy regarding GI cheeses, in this study, consumers' trust was found to influence the purchase of GI cheeses significantly less than in Western countries (Menozzi et al., 2015; Hartman et al., 2019). One explanation for this could be the low level of consumers' consciousness and knowledge and weak market development compared to the aforementioned countries. According to Prathap and Sreelaksmi (2020), logos and labeling may improve the market visibility of GI products, therefore increasing consumers' trust and willingness to make a purchase. Trust may be the driving force behind the relationship between farmers and consumers and the development of their loyalty (Giampietri et al., 2018), as well as the resolution of consumer confusion about GI products. Also, it is fairly evident that trustworthiness in purchasing GI food is an important construct that is dominant among the general public in developing countries. According to Filipović (2019), promotional campaigns for Pirot cheese and other traditional products conducted in developing countries

indicate that PDO could be a considerably positive signal for consumers if the purpose of the PDO designation is explained to them. Hence, it is essential to provide appropriate and reliable information about GIs in the context of increasing market demand since such information may improve consumers' knowledge and attitudes with respect to GI cheeses.

Hence, when participants expressed stronger attitudes, subjective norms, perceived behavioral control, and trust in the labeling system, they were more likely to achieve positive intentions towards the purchase of cheeses with GI. The extended TPB model explains 55% of the variance in intentions to purchase cheeses (Adjusted  $R^2 = 0.551$ ). This means that 55% of the variance in purchase intention with respect to GI cheeses can be explained by attitudes, subjective norms, perceived behavioral control, and trust. When compared to similar research (Menozzi & Finardi, 2019), the extended model, applied in the current study, demonstrated greater power in explaining the variance in consumers' intention to purchase GI cheeses.

## 5. CONCLUSIONS

The purpose of this research was to investigate the extended impact of the latent constructs of the TPB on behavioral intention and to confirm the applicability of the TPB in the context of GI cheese purchases in an emerging market. First, the study validated the inclusion of a new construct in the TPB since it increased the proposed framework's predictive power. The findings suggested that trust is worth including in the TPB model for predicting GI cheese purchase intention. Accordingly, this study expands the current body of TPB research and suggests its further development.

Second, the results of this study contribute to the advancement of a more justified and comprehensive understanding of consumer intentions. This research makes significant progress in terms of the application of the TPB in the field of traditional and GI food products. The results

indicate that the theoretical model in line with the TPB, used to describe the behavioral intention of purchasing GI cheeses, achieved acceptable fit rates. The findings of this study support the utility of the TPB as an empirical model for assessing the intention with regard to the purchase of cheeses with GIs (55% of the variation in intentions is explained by attitudes, subjective norms, and perceived behavioral control, together with trust). Given that Armitage and Conner (2001) found that the constructs of the TPB could explain 39-50% of the variance in the intention to purchase food products, the results of this research indicate that the extended TPB model is particularly suitable for predicting behavioral intentions in the purchase of GI cheeses. All latent constructs have direct positive effects and significantly predict behavioral intention; hence, they endorse the use of the TPB in explaining the intentions to purchase GI cheeses. It may be concluded, therefore, that attitudes, subjective norms, PCB, and trust may be used to predict consumers' purchase intentions with regard to GI cheeses. Moreover, PBC was found to be the main driver of the intention to purchase GI cheese.

This study is one of the very few studies that analyze consumer behavior regarding GI cheeses in developing countries by applying the TPB. Considering the fact that the application of the chosen framework was validated, it could be concluded that the empirical methodology in this study may be used in other research studies involving diverse GI products.

Third, this study has numerous implications for the creation of effective GI food market strategies and approaches to increasing the consumption of GI cheeses. The study's findings provide insight into the mindset and decision processes of local GI food consumers. Given that attitudes were found to directly influence GI cheese purchase intention, marketing messages or campaigns should highlight the various benefits of GI food. On the other hand, unfamiliarity with the benefits of GI food keeps people away from trying traditional food and leads to



consumers waiting for other people's recommendations. Therefore, positive word of mouth can assist policymakers in influencing behavioral intentions. Since perceived behavioral control can be accessed by investigating the obstacles or facilitators of a certain behavior (Ajzen, 1991), GI food policies may be established in a way that can overcome those obstacles. Various promotional advertising tools can be used to strengthen three important segments of perceived behavioral control: perceived availability to the market, perceived proximity to the point of sale, and perceived acceptability of the prices of GI cheese. Considering that food designated as having geographical origin is a relatively new concept in a CEE country in comparison to conventional foods, providing reliable and credible labeling information on how GI agri-food products are produced and handled, along with the knowledge of the labeling benefits, is essential to enhancing consumer trust and positive attitudes, which are necessary for purchasing decisions. It is important to emphasize that such marketing support strategies are only effective if the targeted consumers are aware of the label and accept it as a trustworthy and essential indication of product quality, therefore assuring the aforementioned benefits to society (Lambaraa-Lehnhardt et al., 2021).

Data on food preferences might be a valuable indication for farmers and food intermediaries to determine which foods are in great demand in the market. Given that labeling has been identified as an effective way to support consumers in obtaining accurate and trustworthy information (Wang et al., 2019), agricultural producers can certify agricultural products that contain appropriate information while also ensuring product quality. Increasing consumer trust by providing knowledge and credible information through various promotional channels has become the focal point for government agencies, provincial authorities, and research institutes in developing positive attitudes towards GI food. In addition, based on the impediments identified in this paper, policymakers and municipalities can

develop initiatives to encourage the purchase of traditionally grown food and devise campaigns to promote the purchase of GI cheeses. Municipalities can collaborate with farmers, outlets, and supermarkets to offer GI cheeses, reducing the consumers' effort required to purchase such cheeses. The government needs to guarantee the availability and access to traditional food and the affordability of traditional food prices. Governments and municipalities can work together to develop behavioral intervention strategies in the form of further education. Moreover, the increasing number of GI farmers can contribute to satisfying local demand as well as exporting GI food products to international markets such as the EU, where GI food is in high demand.

#### *Limitations and future research directions*

Notwithstanding the study's contributions, some limitations of the present research need to be mentioned. Firstly, the study is focused on analyzing intentions to purchase GI cheeses, thus lacking an assessment of actual purchasing behavior. Future studies should address measurements of both purchase intention and actual purchasing behavior with regard to GI cheeses. Upcoming research may also incorporate new variables or pathways since they may be beneficial in enhancing the model's explanatory power. Moreover, given that the study aimed to investigate direct relationships between basic and additional constructs with respect to behavioral intention, further research might consider including socio-demographic or other variables as moderators.

Despite only considering a small number of items, the measurement scales employed in this study demonstrated rather high internal reliability, suggesting that these scales should be modified or adapted to develop an instrument that will be a valid and dependable tool for intention prediction. It could also be useful to assess whether there are any statistically significant differences between subgroups of respondents who buy GI cheeses, based on the GI products' origins (local or non-local).

Finally, in order to test whether the findings are country-limited, future research should consider samples from various countries, addressing cross-cultural determinants of intention to purchase GI cheeses.

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