The Impact of Implementing European Quality Labeling System on the Supply Chain Performance of Food Industry: An Empirical Study of the Egyptian Traditional Food Sector

Nourhan A. Saad, Sara Elgazzar, Gehan Saleh

Abstract—The food industry nowadays is becoming customer-oriented and needs faster response time to deal with food incidents. There is a deep need for good traceability systems to help the supply chain (SC) partners to minimize production and distribution of unsafe or poor quality products, which in turn will enhance the food SC performance. The current food labeling systems implemented in developing countries cannot guarantee that food is authentic, safe and of good quality. Therefore, the use of origin labels, mainly the geographical indications (GIs), allows SC partners to define quality standards and defend their products' reputation. According to our knowledge there are no studies discussed the use of GIs in developing countries. This research represents a research schema about the implementation of European quality labeling system in developing countries and its impact on enhancing SC performance. An empirical study was conducted on the Egyptian traditional food sector based on a sample of seven restaurants implementing the Med-diet labeling system. First, in-depth interviews were carried out to analyze the Egyptian traditional food SC. Then, a framework was developed to link the European quality labeling system and SC performance. Finally, a structured survey was conducted based on the applied framework to investigate the impact of Med-diet labeling system on the SC performance. The research provides an applied framework linking Med-diet quality labeling system to SC performance of traditional food sector in developing countries generally and especially in the Egyptian traditional food sector. The framework can be used as a SC performance management tool to increase the effectiveness and efficiency of food industry's SC performance.

Keywords—Food supply chain, med-diet labeling system, quality labeling system, supply chain performance.

I. INTRODUCTION

THE food industry sector is one of the most important industries in any country and this sector is vast and diversified, also categorized by different segments. Each segment has its own SC strategies [1]. The SC of food industry includes not only the processor and the suppliers, but also the members of logistics activities [2]. Supply chain management (SCM) is considered as a major inter-organizational practice for gaining competitive advantage [3], [4]. In order to reach a successful design and best implementation of SC, any organization should focus on reducing cost, improving flexibility, enhancing quality and ensuring customer satisfaction to maintain the competitive advantage of the organizations [5] .

Food labeling provides a channel for communication between the food system and the final consumer in the absence of face to face encounter [6]. The labeling system is considered as a powerful quality signal and a direct link in the purchasing decisions of consumers, as it can express important information about search, experience and credence attributes [7]. Labeling systems are witnessing a reassertion of foods with local and regional identities through the protected designation of origins (PDOs) and protected PGIs [8].

Agri-food firms in Europe are registering a growing interest in PDOs and PGIs and have great expectations on their positive effects on the performance of the SC and on global markets. Some of the studies underline the fact that PDOs and PGIs labels act as a key to open modern markets, enhance SC performance and open long distance commercial channels [9]. The presence of PDO and PGI in the European market can exert a reassurance effect on consumers, out of the region of production [10]. These standards allow more compatibility between partners of the SC and ease the access to new markets and new commercial channels [9]. PDOs and PGIs have become an important competitive level for agri-food firms that want to protect and penetrate new long distance markets, and this will lead to both a growing demand of information from consumers and to the use of halo country effects by seller [11]. The European quality labeling system (PDOs and PGIs) has been quite successful in promoting quality products and ensuring that traditional food producers capture a significant share of the rent associated with product differentiation [12].

In developing countries such as Egypt, there are no standards for the entire range traditional foodstuffs, so there is a deep need for quality schemes like the PDOs and PGIs to identify products and foodstuffs farmed and produced according to the exacting specifications. Therefore, it is of value to pay attention to the integration of the SC of the food industry in developing countries and the use of quality labeling system to gain the advantage of protecting traditional foods and enhancing SC performance.

This paper aims at investigating the impact of applying European quality labeling systems on enhancing the performance of the food SC in developing countries. The

Nourhan Ahmed Saad, Sara Elgazzar, and Gehan Saleh are with Logistics of International Trade Department, College of International Transport and Logistics, AAST, Alexandria, Egypt (e-mail: Nourhan.ahmed.90@gmail.com, sara.elgazzar02@gmail.com, gehansaleh@gmail.com).

paper will propose a framework for adopting the European quality labeling system in the traditional food industry and linking it to the SC performance. The framework will be verified through conducting an empirical study on the Egyptian traditional food sector.

II. LITERATURE REVIEW

SCM has become a major component of a competitive strategy in order to enhance organizational performance in terms of productivity and profitability. In recent years, there is a great attention on the organizational performance measurement and metrics, as they play a critical role in setting objectives, evaluating performance and determining future courses of actions [13].

The SC of the food industry is considered as one of the most globalized SCs. In the food SC, sustainability is clearly seen in terms of the wider production and consumption system that has broad implications for the economy, health, development, communities and the environment [14]. Nowadays, food SCs are making various claims on their sustainability with different SC models being introduced that promote specific agricultural/craft products or individual places/regions through product marketing, labeling and accreditation schemes [15].

Measuring the SC performance of the food industry can facilitate the understanding of the food SC as a whole, positively influence actors' behaviors and improve overall performance. There are many indicators of performance that can be deployed in an organization, but some others mentioned that there are relatively small numbers of critical dimensions that contribute more than proportionally to success or failure in the market, which are known as the Key Performance Indicators (KPIs). KPIs are related to both the effectiveness and efficiency of the SC and its actors[16].

Most food consumers are looking at the taste of products, the health values, and freshness as indicators for the quality and this is known as one of the criteria for purchasing. When the purchasing decision is taken by parents to choose food for their children, they rate nutritional value as the most important attribute [17]. Several studies found that nutritional concerns are one of the most important factors for food related choices [18]. Besides, the perceived product attributes and packaging information, most consumers use their families and friends, as well as reports in the media as sources of information.

Furthermore, there are some other factors that affect the shopping behavior and the purchasing decisions of the consumers such as personal characteristics (intelligence, self-confidence), situational factors (time, physical surrounding) and socio-demographic factors (age, gender, education, income) [19].

Across the globe, the market share of the Private Label (PL) is growing. Private label products are products that are sold under special brands based on their SC. Private labels influence both the competition with the food SCs and the range of food products that are available to the consumers. The market share of private labels has grown steadily in recent decades. In the EU, private labels have a share of 23% of the

groceries market [20], [21], which makes the European quality labeling system essential.

In Europe, due to the economic recession, shopping patterns have already changed; customers have shifted their shopping patterns from branded to PL foods that are being a pertinent example of these changes [22]. In Eastern Europe, the market share of PL has been increased from zero to almost 20 percent [23]. The SCs of the food industry have increasingly become global, more complex, more sophisticated, and technically driven in order to meet consumer needs. By this evolution, retailers have become like the masters of the food SC, while food producers were historically considered as the key drivers of food SCs [24].

Labeling is considered as one of the powerful quality signals and a direct main to consumers in making purchase decisions, as it can express important information about search, experience and credence attributes. Labels transform credence attributes into search attributes especially when the traditional growing practices and nutritional content of food is simply considered. Most of the consumers simply inspect the products in order to see if they carry a labeling indication concerning the growth conditions or level of residues [7].

Accordingly, the capacity of food labels to engender trust and confidence has been provided as a rationale for the number of policy positions in Europe [25], and in Australia [6]. Therefore, it is essential to develop an understanding of and evaluating trust judgments formed by consumers through interaction with labeling [26].

The PGIs are intellectual property that is rightly linked in order to define territory, an area of land, which is of course real estate. Compared to the importance of Trademarks, Patents and Copyright are also well known and can be seen by the actions and the systems that are established to benefit the holders [27].

In the 1992, the EU established some systems for GIs, which are known as PDO (Protected Designation of Origin), PGI (Protected Geographical Indication), and TSG (Traditional Specialty Guaranteed), originally in order to promote and protect food products. The first two systems (PDOs and PGIs) are argued to have a particular relevance to those managing and appraising non-residential property. A PDO may exit when a foodstuff is produced, processed and prepared in a given geographical area using some recognized techniques and knowledge; for example, Jersey Royal Potatoes, Cornish Clotted Cream and Buxton Blue Cheese. For a PGI to be capable of exiting the geographical link, it must occur in at least one of the stages of production, processing or preparation. Examples of PGIs include Newcastle Brown Ale, Whit-stable Oysters and Arbroath Smokies. On the international scale, GIs cover goods such as "Basmati" rice from India and Pakistan, "Mocha" coffee from Yemen, "Ceylon" tea from Sri Lanka, "Champagne" sparkling wine from France, "Havana" tobacco from Cuba, and "Parma" ham from Italy. A TSG is not one of the geographical links; this term highlights a traditional character either in the means of production or the composition of the products. But the TSGs are not within the EU proposals. TSGs include Serrano

Ham produced in Spain and Traditional Farm-fresh Turkey from the UK [28].

The PDOs or the PGIs certification converts an experience attributes such as taste or cooking properties to a search attribute, as the consumer inspects the label on the products in order to see whether the product's label carries a PDO or PGI certification [7]. The PDOs and PGIs are used in order to encourage the diversification of agricultural production, protect product names from misuse and imitation, and help consumers by providing information on specific characteristics of the products. Organic farming is an agricultural production method which offers the consumer authentic food that tastes good, while respecting the natural life cycles of plants and animals. This is based on a number of principles and practices designed in order to minimize the impact on the environment, by working on the land in the most natural way possible. Also, this is considered as an extensive part of the SC that includes food processing, distribution, the retail trade, and finally, consumers [29]. Recent market research has shown that consumers are concerned with the provenance of food they buy and therefore it is important to develop simple tests to control the origin of a product [30].

Several previous studies have been conducted on food SCs in developed countries (such as Extra Virgin Olive Oil Production in Italy, Cheese Purchases in Germany and Beef Market in Spain) to implement GIs, especially both the PDO and PGI products [31]-[35]. while studies in developing countries are still limited. This highlights the need of research investigating the main activities and the adoption of PDO/PGI in developing countries such as Egypt, in addition to testing their impact on enhancing the performance of the food SC in such countries.

Thus the next sections will test the following study proposition: "The Med-diet quality labeling system can have a positive impact on the SC performance of the Egyptian food industry". The study will follow a deductive research approach to test this proposition, whereby both qualitative and quantitative research methodologies are incorporated. The following section illustrates the research stages in further detail, as well as the research methods and tools that will be used in order to accomplish the research aim.

III. Research Methodology

A. Pre-Stage

This stage defines the main key performance indicators (KPIs) for assessing both the quality labeling system and the overall SC performance. At this stage, a critical review will be conducted to extract the main KPIs for measuring the quality labeling system and SC performance. KPIs will be classified and filtered to remove the repeated KPIs or KPIs that are the same at different names. Finally, the conceptual framework of linking the quality labeling system to SC performance will be developed.

B. Implementation Stage

At this stage, the conceptual framework will be converted to an applied framework adapted to the Egyptian traditional food industry. First, the current situation of the SC of the Egyptian food industry will be analyzed by using both the primary and secondary data collection methods, upon which SWOT analysis of the Egypt food SC will be determined and the challenges of implementing the EU quality labeling system will be identified. Secondary data will be collected from previous studies, archive records and statistical data, while primary data will be collected through interviews with consultants in the food industry sector. At this stage, the conceptual framework will be adjusted to adopt the Egyptian food SC in the light of the results of the SWOT analysis and the identified challenges of implementing the Med-diet quality labeling system to the Egyptian food sector. By the end of this stage, the applied framework of implementing Med-diet quality labeling system on the Egyptian food industry will be formulated.

C. Feedback Stage

After the implementation stage, an empirical study will be conducted on a sample of the Egyptian restaurants that implement the Med-diet quality labeling system. A survey will be conducted and distributed to the sample in order to test and analyze the impact of applying the Med-diet quality labeling system on the SC performance.

IV. Results

A conceptual framework has been formulated based on the main KPIs extracted from the previous studies to measure the quality labeling system and link it to SC performance. The framework incorporates the European quality labeling system as independent variable and the SC performance of food industry as dependent variable.

Table I shows the key performance indicators that measure the impact of European quality labeling system (PDOs/PGIs) on the SC performance of traditional food industry from the strategic level perspective.

To adopt the framework to the Egyptian traditional food SC, first semi-structured interviews were conducted with six experts in the Egyptian food industry, in order to identify the four main strategic factors (strength, weakness, opportunities, threats) that affect the Egyptian food SC, and illustrating the relevant KPIs for the quality labeling system in the Egyptian traditional food SC. Based on interviewees' responses, the Egyptian food industry was analyzed and SWOT analysis of this sector was drawn. The analysis revealed that the Egyptian food industry could avoid some of its weaknesses by enhancing the strengths and grabbing some of the opportunities. Egypt has one of the most significant geographical locations which associate its economy with agriculture. Egypt has a great market capacity and a huge availability of raw materials; this could encourage the Egyptian food industry to explore the opportunity of exporting to international markets that are in need of Egyptian products. Focusing on skilled employees and increasing training for

others or fresh graduate employees will lead to enhancing the productivity of the Egyptian market and increasing the efficiency and effectiveness of the food SC.

TABLE I
A CONCEPTUAL FRAMEWORK FOR ASSESSING THE ADOPTION OF EUROPEAN QUALITY LABELING SYSTEM AND ITS IMPACT ON FOOD SC'S PERFORMANCE [36], [37]

Variable	KPIs
SC Performance	**Flexibility / Agility**
	SC response time
	Production flexibility
	Responsiveness / Time
	Order fulfillment lead time
	Reliability / Quality
	Delivery performance
	Fill rates
	Perfect order fulfillment
	Cost
	Cost measures within the organization
	Total SC management cost (across the SC)
	Assets Management
	Cash-to-cash cycle time
	Inventory days of supply
	Asset turns
European Quality Labeling System (PDO / PGI)	**Name of the product**
	Geographical Area
	Specifications of Raw Materials
	Methods of Production
	Composition or Origin
	Specific Production Regulations
	Proof of Origin
	Link between the product and the place of origin
	Inspection body
	Information Accessibility to all stakeholders
	Labeling

Nowadays, social media is an effective method for increasing consumer awareness in Egyptian society about the value of traditional food and the healthy options available.

The use of a quality labeling system will enhance the consumers' knowledge about the products and their main components. The Egyptian food industry should establish a community that comprises all the SC partners, and especially suppliers, in order to build a strong relationship between partners and enhance the SC as a whole. Finally, the Egyptian market can use the Suez Canal as a focal point in order to enhance the international trade process of well-known products to be distributed globally.

Based on the results of the SWOT analysis, the conceptual framework of measuring the quality labeling system was adjusted to adapt to the Egyptian food market. The applied framework of implementing the Med-diet quality labeling system on the Egyptian food industry was developed. The applied framework considers the challenges and barriers that could face the Egyptian food SC, while implementing the Med-diet labeling system.

The following table (Table II) illustrates the applied framework for adopting the Med-diet quality labeling system in Egypt

Finally, an empirical study was conducted to test the impact of adopting the European quality labeling system on the food SC performance. The empirical study was conducted through a personally administrative based survey distributed to the seven restaurants, which apply the Med-diet labeling system (Trianon Café, Carlos Café, Ole Café, Radisson Blu Hotel, Ibn El Balad Restaurant, Fresh n Fresh Café and Swan Lagoon Restaurant). The focus of this analysis was to assimilate the Med-diet labeling system's effect on the traditional food SC in Egypt. All the survey respondents were from the upper management level in order to measure the effect of Med-diet quality labeling system on the SC performance from strategic perspectives. The sample used was a purposive sample to gather data from the restaurant that is applying the Med-diet quality labeling system.

An analysis of the survey was conducted using the statistical package; Statistical Program in the Social Science (SPSS) – Version 22, where several tools are used to describe the relationship between the European quality labeling system and food SC performance. A regression analysis has been fitted to show the impact of the independent and the dependent variable(s) and describe their relationships.

The following table presents the regression analysis testing of the impact of the independent variables of the European quality labeling system; i.e. principles of food safety, Mediterranean pyramid, transparency of information, use of seasonal products, and use of traditional products on the dependent variables presenting the performance of the food SC; i.e. SC performance, flexibility performance, cost performance, responsiveness performance, quality responsiveness and assets performance.

Table III shows that there is a significant positive impact of the principles of food safety on SC performance (p-value = $0.049 < 0.05$, $\beta = 0.385$). Also, there is an insignificant impact of the Mediterranean Pyramid on SC Performance (p-value = $0.191 > 0.05$). In addition, there is a significant positive impact of transparency of information on SC performance (p-value = $0.021 < 0.05$, $\beta = 0.584$). Furthermore, there is insignificant impact of the use of seasonal products on SC performance. Finally, there is insignificant impact of the use of traditional products on SC performance (p-value = $0.856 > 0.05$).

TABLE II
APPLIED FRAMEWORK FOR ADOPTING THE MED-DIET LABELING SYSTEM IN EGYPT

Principle	Key Performance Indicators	Assess compliance
Compatibility with the principles of food safety	Food safety and food security	Good Manufacturing Practices
		Hazard Analysis and Critical Control Points
	Application of national and international health and hygiene standards	Signed statement by the restaurant for the implementation of food safety and security
	Complying with local rules in order to open the restaurant	The work permit
Compliance with the Mediterranean pyramid model	Use of extra virgin olive oil as the main source of added fats (more than 50%)	Using only olive oil in the sauce
		Using only olive oil while cooking
		Using olive oil and other vegetable oil like sunflower oil
	Use of vegetables, fruits and legumes	At least two dishes from the appetizers contain mainly vegetables, fruits or legumes
		At least two side dishes that contain vegetables, fruits or legumes
	Use of unsalted or fried nuts	Availability of dishes having nuts
	Use of fish or shellfish	Availability of dishes that contains fish or shellfish
	Use of grain/cereal products (pasta, rice, and whole grains)	Availability of dishes containing grains as essential components
	The use of meat in the main dishes	Availability of dishes that contain the meat as essential components is less than 25%
		Availability of dishes that contain meat as essential components is more than 50%
		The meat dishes are served with vegetables and grains
	Use of dairy products	Availability of dishes that are using the Mediterranean dairy products (Milk and Cheese)
		Availability of dishes that contain low-fat dairy products as main components
	Serving dishes with eggs in a regular manner	Availability of dishes that contain eggs is less than 20%
	Use of fresh fruits as a dessert	Availability of dishes that contain fresh fruits as a main component in the dessert is at least 1
		More than 30% of the dessert dishes contain fresh fruits as a main component
	Use of fresh fruits as a dessert	Availability of drinks with herbal basis
		Availability of fresh juices
	Use of traditional drinks with a small amount of added sugar	The basic content that is used in the preparation of each dish is mentioned in the menu
Transparency of information about the product or meal	Guide about all the ingredients that are used in the dishes	The basic content that is used in the preparation of each dish is mentioned in the menu
	History and traditions behind each traditional dish	Availability of a full description about the traditions and history behind the dish
	Use of extensional flyer with the nutritional information for some contents	Availability of a marketing brochure for the customers that provides them with the nutritional information about selected ingredients
	Use of light cooking methods	Use of a variety of cooking methods like steamed, baked, grilled, fried or cooked in oven
	The limited use of fats while cooking	The number of dishes that needs a large amount of fats does not exceed 20%
Use of seasonal products	Use of fresh raw materials	Availability of the purchasing evidence and the use of fresh ingredients
	The distance between the source of raw materials and the manufacturing place	Using raw materials and components from a distance less than or equal 100 km
Use of traditional products	Use of traditional raw materials	Using the traditional raw materials that are produced in the Mediterranean countries
	Use of the traditional products of the country	Using the traditional products as a main component in the dishes
	Use of licensed products	Using at least two licensed products (PDO, PGI)
	Awareness about the traditional products and components	Availability of guidance that helps the consumer to know the full description of the product and the way of preparation
Promoting for the Med-diet lifestyle	Design of the table	Using at least one of the following items:
		Ultra-virgin olive oil
		Vegetable oil
		Vinegar
		Fresh bread
		Water
	Decoration of the restaurant	All the restaurants that are branded by Med-diet should focus on the following:
		History and traditions of the country
		Decoration based on the place
		Playing the Mediterranean music
		Do not use plastic materials
	Advertising and promotion	All the restaurant that are branded by Med-diet should use one or more from the following activities:
		Evidence that the restaurant crews are trained to assist customers with any information about the traditional food.
		Organizing events or campaigns to market for the traditional products.
		Presenting the importance of Mediterranean dishes in the menu.
		Holding some cultural events related to the place of origin.
		Encouraging the lifestyle of Mediterranean (like hiking)

TABLE III
REGRESSION ANALYSIS OF IMPACT OF EUROPEAN QUALITY LABELING
SYSTEM ON THE SC PERFORMANCE

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	Constant	2.800	1.237		2.264	.029
	Principles of Food Safety	0.385	.625	.085	.533	.049
2	Constant	2.603	.646		4.032	.000
	Mediterranean Pyramid	.487	.366	.209	1.332	.191
3	Constant	4.584	.471		9.743	.000
	Transparency of Information	.584	.242	.361	2.414	.021
4	Constant	4.555	.850		5.359	.000
	Use of Seasonal Products	-.555	.429	-.203	-1.294	.203
5	Constant	3.584	.691		5.190	.000
	Use of Traditional Products	-.066	.359	-.029	-.183	.856

V. DISCUSSION

This paper investigated the impact of a quality labeling system on the SC performance of the Egyptian food industry. The research revealed that it is extremely important to apply the quality labeling system to the food sector to enhance overall SC performance and provide consumers with the healthy and traditional food they need.

The research revealed a lack of a traceability system for the whole SC of the food industry, which was the result of a lack of transparency of information between producers and consumers, as well as suppliers, generally in developing countries and particularly in Egypt. The survey's results revealed that it is significantly important to apply the quality labeling system (Med-diet labeling system) in order to enhance the SC performance of restaurants in Egypt. The results showed that implementation of Med-diet labeling lead to enhancing the flexibility, cost, responsiveness, quality, and assets performance in some of the dimensions. Also, best practices reflected that the quality labeling system should be added to the finished goods or even the ingredient itself and not to be used for the whole meal and that is why some of the key performance indicators of the European quality labeling system were not reliable.

This research provides an original contribution to knowledge by creating a theoretical framework linking the European quality labeling system and the SC performance of the food industry. This framework can be used as a management tool to enhance the performance of the food SC.

The research brings together concepts from the areas of performance measurement, SCM, SC performance management, total quality management, and quality labeling system in order to develop a procedure to enhance the SC performance of food industry. Applying this procedure allows companies to control and have a good visibility of their entire SC and also allows customers to have good visibility of the information about the products' SC, which will enhance the overall SC performance.

Another contribution of this research is that it proposes an applied framework of implementing the Med-diet quality labeling system on the Egyptian traditional food SC. This applied framework is adjusted to cope with the developing countries and especially Egypt. Appling this framework allows the restaurants to manage the performance of their SC in order to meet the SC goals, enhance customers' satisfaction and contribute to the overall improvement of the company's performance.

Due to the newly and limited implementation of the Med-diet quality labeling system, the results of this research could not be generalized on the different Egyptian food industry sectors. The total number of restaurants that implement the European quality labeling system in Egypt are only eight, and seven of them are involved in this research. However, the same procedures could be applied to other food sectors in Egypt and other developing countries.

In order to allow the generalization of these findings it would be desirable to contrast the results in other representative geographical areas. Also, it would be represented in other sectors of the food industry with different characteristics. Furthermore, the implementation of quality labeling should be on the ingredients of the meals. Also, it has to be highlighted that further researches can consider more and different variables to gain a deeper understanding of different aspects of consumer behavior in relation with products protected under the quality labeling system. Finally, it is suggested that Egypt take further action by entering bilateral agreements with the European Union for PGIs such as agreements with Canada, Australia, Chile, Colombia, Mexico and South Africa.

REFERENCES

[1] P. Georgiadis, D. Vlachos, and E. Iakovu, "A System Dynamics Modeling Framework for the Strategic Supply Chain Management of Food Chains", in *Journal of Food Engineering*, vol. 70, 2005, pp. 351-364.

[2] S. Chopra, P. Meindl, *Supply Chain Management: Strategy, Planning and Operation.* 3rd ed. Tsinghua: Tsinghua University, 2008.

[3] M. Rungtusanatham, F. Salvador, C. Forza and T. Y. Choi, "Supply Chain Linkages and Operational Performance: a Resource-Based-View Perspective" in *International Journal of Operations and Production Management,* vol. 23, no. 9, 2003, pp. 1084-1090.

[4] A. Janiver-James, "A New Introduction to Supply Chains and Supply Chain Management: Definitions and Theories Perspective", in *International Business Research*, vol. 5, 2012, pp. 194-200.

[5] S. Li, B. Ragu-Nathan, T. S. Ragu-Nathan, and S. Rao, "The Impact of Supply Chain Management Practices on Competitive Advantage and Organizational Performance" in *Omega the International Journal of Management Science*, vol. 34, 2006, pp. 107-120.

[6] N. Blewett, et al., *Labeling Logic: Review of Food Labeling Law and Policy*, Canberra, Australia: Department of Health and Ageing, 2011.

[7] E. Dimara, and D. Skuras, "Consumer Demand for Informative Labeling of Quality Food and Drink Products: A European Union Case Study", in *Journal of Consumer Marketing*, vol. 22, no. 2, 2005, pp. 90-100.

[8] N. Parrott, N. Wilson, and J. Murdoch, "Spatializing Quality: Regional Protection and the Alternative Geography of Food", in *European Urban and Regional Studies*, vol. 9, July 2002.

[9] G. Anania, and R. Nistico, "Public Regulation as a Substitute for Trust in Quality Food Markets: What if the Trust Substitute cannot be Fully Trusted?", in *Journal of Institutional and Theoretical Economics*, vol. 160, 2004.

[10] A. Tregear, G. Belletti, and A. Marescotti, *The Impact of Territorial Product Qualification Processes on the Rural Development Potential of*

Small-Scale Food Productions. XI World Congress of Rural Sociology, Norway: Trondheim, 2004.

[11] G. Belletti, and A. Marescotti, "D2 – WP2 Report Theoretical Frame", in *GI Social and Economic Issues*, SINER-GI Project, 2006.

[12] J. C. Bureau, E. Valceschini, "European Food-Labeling Policy: Successes and Limitations", in *Journal of Food Distribution Research*, Vol. 34, no. 3, 2003, p. 75.

[13] P. A. Gunasekaran, and R. McGaughey, "A Framework for Supply Chain Performance Measurement", in *International Journal of Production Economics*, vol. 87, 2004, pp. 333-347.

[14] C. C. Hinrichs, T. A. Lyson, *Remaking the North American Food System: Strategies for Sustainability*, Lincoln, Nebraska: University of Nebraska Press, 2008.

[15] D. Holt, and A. Watson, "Exploring the Dilemma of Local Sourcing Versus International Development: The Case of the Flower Industry", in *Business Strategy and the Environment*, vol. 17, no. 5, 2008, pp. 318-327.

[16] P. Folan, and J. Browne, "A Review of Performance Measurement: Towards Performance Management", in *Computer and Industrial Engineering,* vol. 56, 2005, pp. 663-675.

[17] R. S. Hughner, et al., "Who are Organic Food Consumers? A Compilation and Review of Why People Purchase Organic Food" in *Journal of Consumer Behavior*, vol. 6, 2007, pp. 1-17.

[18] P. Spungin, "Parent Power, not Pester Power", in *International Journal of Advertising and Marketing to Children*, vol. 5, no. 3, 2004, pp. 37-40.

[19] A. Engelage, *Quality Perception of Food*, Berlin, Germany: Consumer Picture in Courtand Wissenchaft, 2002.

[20] K. J. Poppe, H. Beremmers, and B. Meulenet, *Food Legislation and Competitiveness in the EU Food Industry: Case Studies in the Dairy Industry*, Brussels: European Commission, 2008.

[21] European Union, *The Impact of Private Labels on the Competitiveness of the European Food Supply Chain,* Luxembourg: European Commission, 2011.

[22] Euromonitor, "Retailing: Private Label" in *Euromonitor International*, 4 January 2012.

[23] J. Stanton, and M. Meloche, "Macroeconomics Determinants of Private Label Penetration", in *International Journal of Management Cases*, vol. 13, no. 3, 2011, pp. 360-367.

[24] T. Lang, D. Barling, and M. Caraher, "Social Policy and the Environment: Towards a New Model", in *Social Policy and Administration*, vol. 35, no. 5, 2001, pp. 538-558.

[25] E. Einsiedel, "GM Food Labeling: The Interplay of Information, Social Values, and Institutionalized Trust", in *Science Communication*, vol. 24, no. 2, 2002, pp. 209-221.

[26] R. Lazarova, *Consumer's Perception of Food Quality and Its Relation to the Choice of Food*, AARHUS University, s.l.: Department of Marketing and Statistics, 2010.

[27] K. Gillespie, K. Kishore, and S. Jarvis, "Protecting Global Brands: Towards a Global Norm", in *Journal of International Marketing*, vol. 10, no. 2, 2002, pp. 99-112.

[28] S. Marette, and B. A. Babcock, *Recent International and Regulatory Decisions about Geographical Indications*, Department of Economics, s. l.: Lowa State University, 2008.

[29] European Commission Agricultural and Rural Development, *PDO and PGI Agricultural Products: A 14.2 Billion Euro Turnover for Over 800 Products*, s. l.: The European Union's Quality Policy, 2010.

[30] R. Negrini, et al., "Traceability of Four European Protected Geographic Indication (PGI) Beef Products Using Single Nucleotide Polymorphisms (SNP) and Bayesian Statistics", in *Meat Science*, vol. 80, 2008, pp. 1212-1217.

[31] ISMEA, *The International and Domestic Market of Olive Oil*, Italy: Field Studies, 2012.

[32] D. Menozzi, "Extra-Virgin Olive Oil Production Sustainability in Northern Italy: A Preliminary Study, in *British Food Journal*, vol. 116, no. 12, 2013, pp. 1942-1959.

[33] M. L. Loureiro, and J. J. McCluskey, "Assessing Consumer Response to Protected Geographical Indications Labeling", in *Agribusiness*, vol. 16, no. 3, 2000, pp. 309-320.

[34] R. Schröck, *The Demand for Organic Foods in Germany: Econometric Analysis on Demand Structure, Pricing and Product Labeling*, Germany: s.n., 2014.

[35] Ministry of Agriculture, Fisheries and Food of Spain, in *Food Industry*, 2005, (Online) Available at: http://www.magrama.gob.es/en/ (Accessed September 2015).

[36] I. M. Ambe, "Key Indicators for Optimizing Supply Chain Performance: The Case of Light Vehicle Manufactures in South Africa", in *the Journal of Applied Business Research*, vol. 30, no. 1, 2014, pp. 277-287.

[37] European Commission, *Protection of Geographical Indications, Designations of Origin and Certificates of Specific Character for Agricultural Products and Food Stuffs*, s. l.: Food Quality Policy in the European Union, 2004.