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## THE BULLWHIP EFFECT IN BRAZILIAN SUPPLY CHAIN OF ORGANIC PRODUCTS: AN ANALYSIS FROM THE PERSPECTIVE OF TRANSACTION COST THEORY

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### ABSTRACT

The objective of this study is to propose, within the strategic management of organic product supply chains, a model that integrates the concepts of supply chain management (SCM), transaction costs theory (TTC) and bullwhip effect in organic product supply chains generating propositions to direct future empirical research. Therefore, this paper proposes that x SCM and TTC can contribute in reducing the distortion of demand perception throughout the supply chain of organic products. A conceptual model relating the three variables studied was elaborated. Three theoretical future empirical investigations were proposed in order to solve the problem of the bullwhip effect, namely the distortion of perception of demand along the supply chain of organic products.

**Keywords:** Supply chain management. Theory of transaction costs. Bullwhip effect. Organic products



## 1. INTRODUCTION

Organic farming began in Brazil in the late 1970's and has proven to be a sustainable alternative to the use of agricultural chemicals. Organic farming has already evolved a full production management system that promotes and enhances the health of the agricultural ecosystem, including biological diversity, biological cycles and biological soil activity (PENTEADO, 2016). The organic system emphasizes management practices in preference to the use of external inputs to the property, taking into account the adaptation of systems to regional conditions, using agronomic practices, mechanical and biological methods, to the detriment of the use of synthetic materials for carrying out the functions of a given system (FiBL; IFOAM, 2016).

Brazil is one of the countries in the world that offers immense potential for organic production. The country has approximately 90 million arable hectares, which does not include those areas already under conventional production that can or could migrate to organic agricultural cultivations. Brazil is third in the world in areas cultivated with organic production and has approximately 90 thousand organic farmers, both certified and uncertified. The products with the highest volume of organic production and consumption in Brazil are: sugar, coffee, chicken, tobacco, vegetables, oranges, milk, eggs and soybeans (PLANETA ORGÂNICO, 2017).

For a product to be considered organic it had to have been cultivated without the use of both pesticides and chemical fertilizers. Early technologies of organic agricultural production are still in use in current production processes. This production system excludes the use of chemical and synthetic fertilizers, as well as any chemical pesticides, growth regulators or synthetic additives for animal nutrition (DAROLT, 2010).

Any agricultural production system that adopts specific techniques to enhance the use of available natural resources and respects the socioeconomic and cultural integrity of rural communities can be considered organic. Thus, organic agriculture promotes economic sustainability, maximizes the use of social resources and minimizes use of non-renewable energy (VILCKAS; NANTES, 2007).

Organic production uses green manure, crop rotation, composting and biological controls for pests and diseases. Throughout the production chain, i.e. soil

preparation, purchase of inputs, production, processing, storage, transport and distribution, respect for established norms, is essential for a product to be recognized as organic (SAMBIASE; MOORI; SATO, 2004).

Organic agricultural production systems are present in more than 172 countries around the world and these have been rapidly expanding especially in Europe, USA, Japan, Australia and South America. This expansion is associated, in large part, to x increased costs, environmental problems and concerns and food contamination caused by conventional agriculture practices. Basic ecological agriculture provides benefits to biodiversity and to the welfare of the environment. Furthermore, there is a growing consumer demand for "clean" agriculture produce, free of chemicals and/or geneticx modifications (FIBL; IFOAM, 2016).

According to the same study, the continent with the largest area of organic production is Oceania (35%), followed by Europe (23%), Latin America (23%), Asia (9%), North America (7%) and Africa (3%). Some European countries such as: Austria (15.9%), Switzerland (11.1%) and Sweden (10.8%), represent the largest percentage of Organics in relation to total farming. The countries with the largest number of organic produce producers are India (340,000), Uganda (180,000) and Mexico (130,000), which are mostly family farmers. World Statistics show that of the 172 countries where production is registered, 69 nations already have a regulation for the organic sector and 21 countries are working on developing legislation. Presently there are around 460 of certifications to attest to the quality of organic products in the world. In Brazil there are about 20 including both domestic and foreign certifications.

Organic farming has been gaining more and more popularity in both Brazilian and world markets. In Brazil, the growth of organic agricultural production surpassed the 50% mark in 2011. The marketing of agricultural products of organic origin in the country has already reached \$100,000,000 in turnover. An example of this fact is the consumption of organic coffee, which has been gradually increasing not only in Brazil but abroad as well (IDER, 2017).

With 1,767,000 hectares of organic crops, Brazil is the third largest country in the acreage, ahead the United States with 1,640,000 hectares for organic agricultural production. Australia and Argentina, account for first and second place,

with a total acreage of 12,020,000 and 2,780,000 hectares respectively (IFOAM, 2017).

According to the Institute of Sustainable Development and Renewable Energies (IDER, 2017), organic product markets are still developing thus making for highly unstable markets due to x irregular supply, in addition to a small variety of products offered. Yet the growth of organic agriculture in Brazil continues to expand, making for a business value in the sector of over U\$100,000,000 (IDER, 2017).

The main question that arises from this debate is: how does the transaction cost theory contribute to the reduction of the distortion of perception of demand along the supply chain of organic products?

The present theoretical test is based on the context described above in order to propose a model that integrates the concepts of supply chain management, transaction costs theory and bullwhip effect in organic product supply chains that could help direct future empirical research.

The present study is structured in four sections. In addition to this introduction, the review of the theory of supply chain management (SCM), theory of transaction costs (TTC) and bullwhip effect will be developed in relation to supply chains. The final section of this paper will be dedicated to our findings and to suggestions for further study.

## **2. THEORETICAL FRAMEWORK**

### **2.1. Supply chain management (SCM)**

Discussions on supply chain management (SCM) began in the 80's and remain a topic of fundamental concern to the academic and Executive career. However, only at the end of the 90's did the amount of research on SCM began to increase and appear in studies related to organizational operations (KOUVELIS; CHAMBERS; WANG, 2006).

Kopczak and Johnson (2003) define supply chain as two or more companies working together to plan and execute operations related to supplies, obtaining greater success than if working in isolation. In other words, supply chain collaboration based on mutual objectives.



The supply chain operates as a network of partnerships between manufacturers, raw material suppliers, shippers, retailers or any other related party (SIMCHI-LEVI; KAMINSKY; SIMCHI-LEVI, 2003).

SCM can be defined as the systematic and strategic coordination of traditional business and business functions within an organization, and along the chain, in order to improve the performance of individual companies and all other links in the supply chain. In general, companies adopt SCM practices to increase their market competitiveness as well as to reduce their costs and improve their customer satisfaction (MENTZER *et al.*, 2001).

For Paulraj and Chen (2007), SCM contributes to eliminate waste and more efficient use of internal and external capabilities and technologies, leading to improved competitiveness.

According to Barney and Hesterly (2012), SCM can also occur in the form of strategic alliances, i.e. when two or more independent companies start work together in the production, development and distribution of goods or services. These strategic alliances are usually long-term agreements between organizations. This mode goes beyond normal market transactions, but cannot be considered as mergers. In these strategic alliances, companies work together, but without relinquishing their independence or autonomy.

Park, Mezas and Song (2004) list the major benefits achieved by supply chain management as being cost reduction, risk sharing, access to financial capital, complementary assets, greater capacity for learning and knowledge transfer.

For Min and Mentzer (2004), SCM occurs when two or more organizations take responsibility for sharing information on planning, management, execution and performance measurement. Yet for those authors every relationship between organizations is forged initially due to direct contact in the supply chain. In a second moment this relationship ends up spreading to other levels of the production chain.

According to Simatupang and Sridharan (2005), with efficient supply chain management, participating companies will improve their operational base whereas Pires (2010) believes that the main benefit acquired by SCM is linked to productivity. Through this management, supply chain participant organizations expect that the

development of their products enhance their competitive advantages and performance.

One of the main barriers to SCM is that the companies involved have to provide and share information considered strategic with all other members of the chain (MENTZER; STANK; ESPER, 2008).

Considering this, one can understand that the actions of SCM are increasingly focused on the integration of the supply chain participants through new technologies and communication targeting strategic development and operational planning. This will ultimately benefit the end consumers with better products and services as well as provide competitiveness for everyone involved in the supply chain (BOWERSOX *et al.*, 2013).

Therefore, companies that feature improved performance are those which best integrate the main internal processes with suppliers and customers, structuring, in this way, a SCM with defined and consistent perspectives and procedures (ZHANG; DILTS, 2004).

It is important to note that all companies within a supply chain have a transactional relationship with other participating organizations. Due to new demands, these companies develop a relationship of cooperation with other players along the chain (LI *et al.*, 2006).

According to these authors, the financial results achieved through the partnership relationship within the SCM make companies more competitive. In this way, SCM becomes an important resource, to overcome barriers inside and outside an organization.

Many authors have addressed various aspects of the SCM theme. In an attempt to synthesize the doctrine on this broad topic, Cao and Zhang (2011) defined seven dimensions of the concept of SCM. They are:

- i) **Information sharing** refers to the variety of relevant information, accurate, complete and confidential that an organization shares with their supply chain partners in a timely manner (SHEU; YEN; CHAE, 2006). For SCM to be effective there is a need for greater contact between the organizations involved as well as a greater sharing of information between them (SAHAY, 2003). SCM contributes to information sharing and joint planning, increasing

the movement of materials thus reducing the risks of not meeting client demands (BOWERSOX *et al.*, 2013).

- ii) The **congruence in goals** between supply chain partners is reached once the company implementing SCM, realizes that goals are met when the entire supply chain is also affected (SIMATUPANG; SRIDHARAN, 2002; COTI-ZELATI; MOORI, 2015).
- iii) The **synchronization of the decision** refers to the process by which an organization prepares its decision according to plans within the supply chain (ADAMS *et al.*, 2014). This decision should contribute to the benefit of all partners (SIMATUPANG; SRIDHARAN, 2005).
- iv) The **alignment of incentives**, according to Simatupang and Sridharan (2008), is the policy of distributing costs, risks and benefits among the partners within a supply chain. The alignment of incentives requires careful administration of the earnings structure for participation, that is, the gain of an organization should be proportional to its investment and its risk (MATTOS; LAURINDO, 2015).
- v) **Resource sharing** is linked to the organizational process of investing and leveraging capabilities and resources in partnership with other companies in the supply chain (CHRISTOPHER, 2016). According to Harland *et al.* (2004), resources are physical, namely, equipment and technology.
- vi) **Inter-organizational communication** (open, frequent and balanced) is the contact and the process of transmission of messages and information between companies in a supply chain (PAULRAJ; LADO; CHEN, 2008; JARADAT *et al.*, 2017).
- vii) The **joint creation of knowledge** refers to the way that partners in a supply chain develop a better understanding of the competitive market (MALHORTA; GASAIN; EL SAWY, 2005; MARCONI *et al.*, 2017).

## 2.2. Bullwhip effect in supply chains

The bullwhip effect in supply chains is the distortion of demand perception along the chain in which supplier requests differ from sales (LEE; PADMANABLAN; WHANG, 1997). According to Svensson (2005), the bullwhip effect indicates that the

variability in the level of stocks tends to increase as they distance themselves from the point of consumption. The factors that causing this variability along the chain can be the lack of information sharing, market data insufficiency and incorrect predictions.

The bullwhip effect is one of the most well-known and widespread phenomena in the area of operations. The term "whip" is used to describe the fact that a slight change in consumer demand can lead to large fluctuations in the suppliers' production at the other end of the supply chain (SILVA, 2017). The bullwhip effect can also be described as demand amplification, amplification of the Forrester effect or variability (WANG; DISNEY, 2016). Dai *et al.* (2016) clarify that the use of the latter term to reference the bullwhip effect, is due to the fact that the phenomenon was documented and studied for the first time by Forrester (1958).

According to Freitas *et al.* (2010), companies forecast their demand based on historical data, and program their production lines based on this data. Orders sent to the suppliers update the historical series of requests; the problem is that order fluctuations can be much larger than the demand data. Because of the bullwhip effect, the customer purchase pattern does not necessarily reflect the pattern of his consumption or variations of the amounts purchased which can differ from the variations in the rate of consumption (LEE; PADMANABLAN; WHANG, 1997).

The bullwhip effect occurs when demand variability increases as it proceeds down the supply chain, from the retailer to the suppliers, resulting in negative impacts on the regularity and stability of the orders that are received by the suppliers (WANG; WANG; OUYANG, 2015).

According to Harland (1996), the price used for a company has a significance influence on how customers behave with respect to orders. If there are times when promotions occur, probably most of the orders will be carried out in this period. As a result, there is a decline in stocks while production programming stays the same, which can cause higher production costs (SELES *et al.*, 2016).

To Moori, Perera and Mangini (2011), if retailers identify an increased demand in the supply of products, this will prevent them from making larger orders than usual, and industry reacts cautiously when making its production allocations. In this same situation when retailers send their purchase orders to several suppliers, those



received first will benefit while the remaining orders are dropped, causing the suppliers to stock up on what has been produced (GONÇALVES; GIORDANO, 2014).

According to Lee, Padmanabhan and Whang (1997), it is possible to avoid the bullwhip effect in three ways: (a) sharing information in order to provide information about x demand in a timely manner both upstream as downstream; (b) align channels so as to coordinate prices, inventory, transport planning and ownership between the upstream and downstream locations in the SC; (c) operational efficiency, thus improving performance, such as cost reductions and delivery time.

In addition, companies seek to develop innovative strategies, which raise new challenges, such as the integration of new information systems, the establishment of new relationships and organizational implementation of new incentives and measurement systems (COELHO; FOLLMANN; RODRIGUEZ, 2009). For these authors, innovative companies in different industries can control the bullwhip effect and improve performance in their supply chain by coordinating both the planning and the information along the supply chain.

### **2.3. Theory of transaction costs (TTC)**

One of the main contributions of the studies of SCM comes from the economy, more specifically from the theory of transaction costs (TTC) that gave rise to the economics of transaction costs (CABRAL, 2004).

To understand this approach it is necessary to consider that an organization has not only production costs, but also transaction costs that are defined as the costs to support a transaction by the exchange in an open market (COASE, 1937). The proposition was that companies and markets are alternative management structures that differ in their transaction costs. Coase (1937) pointed out that under certain conditions, the costs of economic exchange may exceed the costs to manage the exchange within a company. One the main reason xx for a company to be profitable seems to be that there is a cost of using the price mechanism, and the most obvious cost, to organize production through the pricing mechanism is to find out how relevant these prices are.

According to Williamson (1996), this cost can be reduced (but not eliminated) once the costs of negotiation and conclusion of a contract are separated for each

swap transaction that occurs in the market, and should also be taken into account. Since the essence of the contract is that it should only indicate the boundaries and powers of management.

However even within these limits, managers can drive other production factors. The coordinating role of the manager  $x$  is important to understand that this coordination is the work of the price mechanism and the businessman. In this way, the entrepreneur has to exercise his functions at a lower cost, taking into account the fact that he might get production factors for a price lower than the market operations that it replaces. It is always possible to revert back to the market if he is unable to do so (HENTEN; WINDEKILDE, 2016).

Williamson (1985) defines transaction costs as *ex-ante* costs of searching, preparing, negotiating and securing a contract and as *ex-post* monitoring costs, adaptations and adjustments needed, when the performance of a contract is undermined by failures, omissions or unexpected changes.

Often the costs of bureaucracy or waste do not have a relevant weight in very profitable companies. However, it may be the main reason that leads to differentiation in the results when it comes to two organizations of the same business with the same resources, selling to the same customers. The best structure for an organization depends on several characteristics of own transactions (WILLIAMSON, 1991).

Williamson (1991) presents three generic forms of organization: (a) market: this governance structure is the most appropriate for transactions involving assets with low specificity; (b) hierarchical: in this governance decision structure is authority. The application of administrative controls involves a high proportion of specific assets. The greater the degree of specificity of the assets, the greater the risks and problems of adjustment and higher transaction costs; (c) hybrid: this governance structure is characterized by both aspects of market governance structure and hierarchy. The development of hybrid models seems to have become a trend.

According to Nogueira and Bataglia (2012), the main challenge of the hybrid governance structure is to adjust and quantify these two forms of governance in the pursuit for developing mechanisms to resolve and expedite problems within the process of a transaction. One can therefore understand the transaction costs as the

operation costs of the system and should include the *ex-ante* costs, such as the drafting of contracts and trading stocks, and *ex-post* costs, such as the monitoring and implementation of contracts (RINDFLEISCH; HEIDE, 1997).

According to these authors, the transaction is the central element of the TTC analysis. Which the factors that define it are: limited rationality and opportunism (behavioral assumptions) and uncertainty and asset specificity (attributes of the transaction), in addition to the risk-neutral, as a third behavioral assumption and transaction frequency, as a third transactional attribute (WILLIAMSON, 1975).

Limited rationality is the assumption that decision-makers have restrictions on their cognitive abilities and limits of their rationality. A switch cannot be specified *ex-ante* (environmental uncertainty) and performance cannot be easily verified *ex-post* evaluation (behavioral uncertainty). That said, limited rationality simply means that there are certain physical limits on human ability to process information. Decision-makers are intentionally rational, but also are limited by that. Thus rationality is limited resulting inability to produce global contracts (OLIVEIRA; MARTINS; DIAS 2018).

If the uncertainty or complexity is present, the problem of limited rationality appears as an interesting comparative institutional choice and is often used for decision-making.

This opportunity extends the conventional assumption that economic agents are guided by considerations of self-interest in strategic behavior. This process implies self-interest with deceit and has profound implications for the choice between alternative contractual relations. Opportunism should be distinguished between administrative behavior and instrumental behavior, in which the first involves a trust, in which the word of a party can be taken as a fundamental link, and the second is a more neutral mode, in which there is no self-knowledge needed to the interests of a party, to be promoted to schemes of any kind (WILLIAMSON, 1975).

According to Williamson (1975), in comparison with other approaches of the study of economic organization, it can be affirmed that the TTC: (a) is more micro analytical; (b) is more conscious about their behavioral assumptions; (c) introduces and develops the economic importance of asset specificity; (d) based on comparative institutional analysis; (e) with respect to the company's business as a

governance structure, rather than a production function; (f) puts more weight on *ex-post* of contracts, institutions with special collections on private order (in comparison with a court order) (WILLIAMSON, 1991). The TTC considers economic organization as a problem, since a particular task to be performed and can be arranged from any of several alternative forms of explicit or implicit contract agreement, in addition to including the respective support devices associated with each form of contract (WILLIAMSON, 1985).

#### **2.4. Conceptual model and propositions**

Little has addressed the TTC in operations management. Yet there are a considerable number of opportunities within the discipline of operations to assess the supply chain, many of which directly related to the TTC. As TTC focuses on economic efficiency, it involves a coordination of various activities, indoor units and business partners involved in the supply chain (GROVER; MALHOTRA, 2003). In a context of interdependence between segments in a supply chain, the TCT can contribute with its theoretical and analytical scope by providing predictions on how transactions should be governed, or on how relations between segments of the chain can be structured (AUGUSTO *et al.*, 2015).

Lazzarini, Cook and Chadad (2001) highlighted the need to govern transactions between agents for production plans of a supply chain. That means for a processor to program his production, he has to align supply plans and customers service *x* taking into account the seasonality in consumption. Thus, the best coordination resulting from strategic alignment between the segments of the chain can generate a reduction in transaction costs.

The transactions between companies that belong to a production chain are permeated with complexity and uncertainty (as far as economic operations are concerned) and given cognitive limitations, the economic agents are unable to predict or establish in advance corrective measures for any event that can occur when performing a transaction (BARZEL, 2018).

Combined with cognitive limitations, the possibility of opportunistic behavior, and the transaction attributes discussed, appear as factors that can affect the relationship of the agents of the supply chain. Thus the TTC considers companies operating in the same supply chain as a set of contracts, formal or informal, and

must understand the difficulties derived from their future conduct so as to ensure that commitments are honored within the continuity of their interactions (AUGUSTO et al., 2015).

The operational strategies should be linked (or aligned) with the competitive environment. In this conception, the company aligns internal activities that add value to produce benefits for their customers (WARD; DURAY, 1995).

Figure 1 shows the conceptual model that connects supply chain management (SCM), theory of transaction costs (TTC) and bullwhip effect in a supply chain.

The SCM and the TTC can be used to reduce demand distortions along the supply chain of organic products (bullwhip effect). Therefore, the following propositions have been formulated:

- **Proposition 1.** TTC has a positive effect on SCM of organic products.
- **Proposition 2.** TTC can reduce the distortion of perception of demand along the supply chain of organic products.
- **Proposition 3.** SCM can reduce the distortion of perception of demand along the supply chain of organic products.

In this section the theoretical approach that underlies the conceptual model presented in Figure 1 was developed.

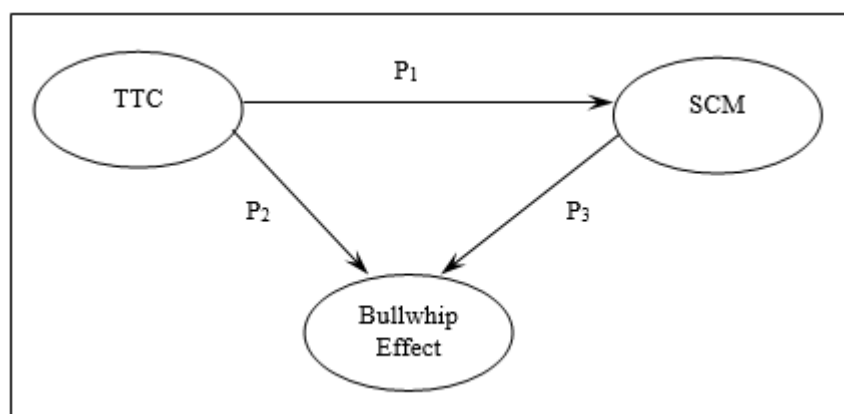


Figure 1: Conceptual model.

### 3. ORGANIC PRODUCT SUPPLY CHAIN

Organic agriculture is a production system that uses alternative practices rather than conventional farming methods. In this production mode chemical

fertilizers and synthetic pesticides, are not allowed according to Miniussi, Coti-Zelati and Araújo (2015). These authors see organic agriculture as several intersecting streams of lines of research and thought. Organic agricultural production is grouped in three sectors, those being, biodynamic farming, organic farming and natural farming. These strands originate from other methods such as permaculture and regenerative agriculture. These chains are part of what is now known generically as sustainable agriculture.

According to Vilckas and Nantes (2007) organic agricultural production is a system that adopts specific techniques that enhance the use of available natural resources always respecting the socioeconomic cultural integrity of rural communities. Thus organic agriculture can be characterized by economic sustainability, the maximization of social resources and minimizing the use of non-renewable energy.

Currently, organic agriculture has had a dramatic development and is practiced in more than 120 countries. The organic agri-food market is one with the highest growth both in Brazil and in the world (GEMMA; TERESO; ABRAHÃO, 2010).

In Brazil organic farming has x been recognized by official research bodies as one of the main ways of obtaining a balance between agricultural production and the preservation of natural resources (SOUZA; ALCÂNTARA, 2011).

According SEBRAE (2017), Brazil has become one of the world's main producers and exporters of organic products. There are more than 15,000 properties already certified for organic production or in the process of transition, of which 75% are family farms.

For SEBRAE (2017), the increased demand for organic foods, mainly in industrialized countries, favors Brazilian organic production export development, particularly for sugar, coffee, meat, tropical fruits and other commodities.

For Ormond *et al.* (2002), organic supply chains differ from a conventional supply chains. There are two fundamental differences. The first refers to the lack of intermediary agents or wholesalers. The second difference relates to the need for certification to the legitimize organic products and production.

Figure 2 shows the schematics of the productive chain of organic products. According to Sharma (2003), the organic supply chain presents some weaknesses, such as the inconstancy in production. For this author, since the producer does not have precise knowledge of the demand for his produce, it is very difficult to decide what to plant. He has limited information on how many customers he can serve, he cannot prepare marketing actions for new customers and, thus unable or insecure to expand his business.

For Wilson (2001), the big obstacle in finding quantity and variety of organic inputs results in higher costs. A wider supply of organic inputs would result in lower prices and a freedom of choice on the part of the producer.

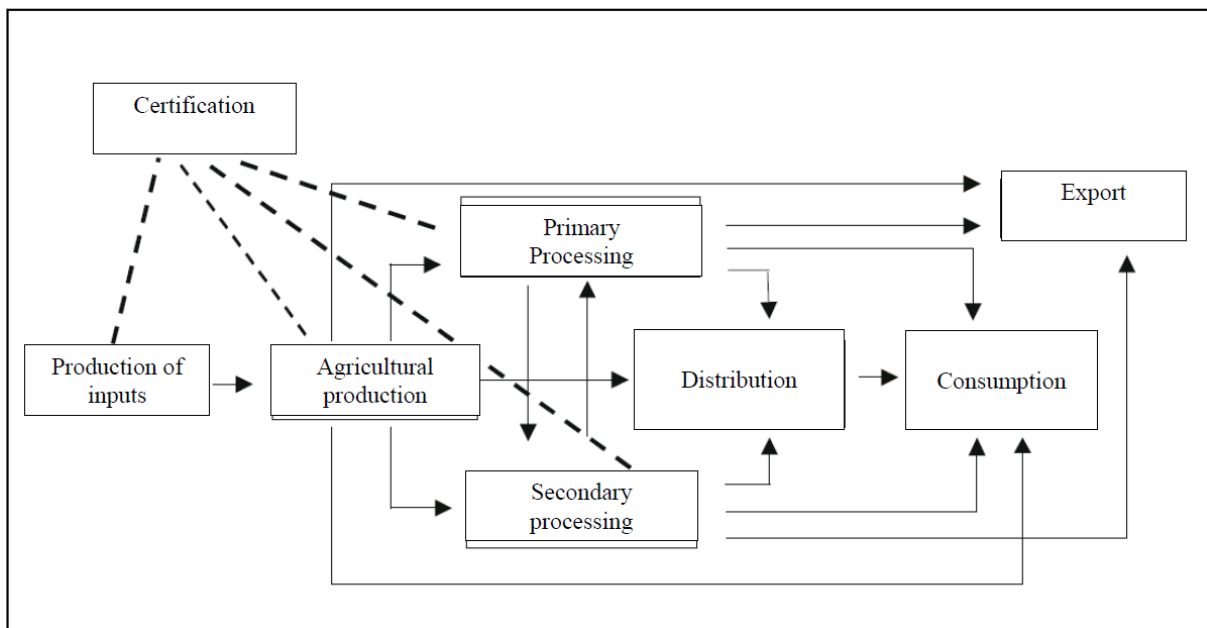


Figure 2: Organic food production chain  
 Source: Ormond et al., (2002, p. 27).

#### 4. CONCLUSIONS

The advent of sustainability has attracted an increasing number of farmers, processors and distributors, in order to better meet consumer demands for organic products, by developing new strategies and supply structures in order to satisfy these expectations (GUNDERSON *et al.*, 2014).

In this scenario, the organic agri-food producer can no longer ignore to control the technical, economic, marketing, financial, political, social, environmental and legal aspects within his business (VILCKAS; NANTES, 2007). According to these authors, a very common problem in rural production, including organic agricultural

production, is the distance between the participants of the supply chain, which complicates the management of the rural enterprise as a whole and the business related to it.

The theme has been the main focus of agribusiness SCM in various surveys. This is due to the improvement in the management which ends up resulting in an improvement in all along the chain (COTI-ZELATI; MOORI, 2015). Taking this into account the objective of this article was to propose a model that integrates the concepts of SCM, TTC and bullwhip effect in supply chains of organic products generating propositions that will direct future empirical investigations. Thus this theoretical essay was not committed to empirically test them. It was only meant to construct propositions from a theoretical background between the studied variables.

The construction of the conceptual model was based on three propositions. The first seeks to identify the influence of the TTC on the SCM of organic products. The second proposition suggests that the TTC can in fact reduce the distortion of perception of demand along the supply chain of organic products. The third proposition suggests that SCM can also be a facilitating factor in reducing the distortion of perception of demand along the supply chain of organic products.

This model was developed in order to study the bullwhip effect, namely the distortion of perception of demand along the supply chain of organic products. However, this theoretical survey needs to be tested empirically through statistical techniques in order to validate and identify which factors are prevalent in a practical way and if there are any relevant relationships between the variables presented in the organic product sector.

Theoretical tests are a form of intellectual reflection. By means of a theoretical foundation, common knowledge considered safe is replaced with the dialectic of thoughts of those involved in the trial. A theoretical essay does not relate only to the moment of writing or dialogue (MENEGETTI, 2011). This type of study involves academic readings, moments of intellectual questioning and life experiences (BERTERO, 2006). It is also possible to observe weaknesses, limitations and prejudices. The author admits exposure as a subject, without having to hide in the formalism of the discourse, scientific methodology or rigid formalism of Academia (ROUSSEAU, 1999).



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