The Consumer's Perception of Labeled Agri-Food Products:
A Systematic Literature Review

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Abstract

Aware of the need to take into consideration consumer behavior in order to define adequate offers according to their attitudes and expectations, as well as to promote the image of local products by moderating their specificities according to consumer needs, not only the scientific community, but also the professional community have been working on the analysis and evaluation of consumer perception, as a process capable of identifying and clarifying the factors influencing the consumer's purchase decision, which are often characterized as a black box. The analysis of consumer perception, as it has been conducted in several areas and has approved its usefulness, we thought to mobilize it as a process especially in understanding the factors that can moderate the decision to buy date products labeled, in order to clarify the determining factors that need to be questioned when analyzing consumer perceptions, with the aim of promoting a future project to add value to date.

To do so, we have mobilized the systematic literature review as a research method, based essentially on the mobilization and analysis of 43 recent scientific publications, and other related publications, published between 2016 and 2020, which allowed us to build a battery of basic variables, capable of characterizing the factors influencing consumers' purchasing decisions.

Keywords: Systematic review, Consumer Perception, Willingness to Pay, Date Products.

JEL Classification: Q01, Q18, Q5, R1, R58.

Paper type: Theoretical Research.

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1. Introduction

The world in which we live today is characterized by profound changes that continue to strengthen, especially in the food sector (globalization of trade, food insecurity, food risk to health, ...), all these changes were able to impact to a large extent the daily activities carried out by humans, including consumption. (Ait Hou and al., 2015; Chen and al., 2016; Saidi and Diouri, 2017; Weir, and Sproul, 2019; Vapa-Tankosić and al., 2020). Indeed, the consumer has become the main moderator, not only of the consumption action, but also of the strategies and actions put in place by public authorities, companies, farmers and all stakeholders belonging to the agri-food sector, and this, thanks to the way he makes his choices.

Today's consumer is far from being a mass consumer, he is rather aware of everything that is happening on the global scene, which makes him demanding in terms of product choices (ingredients, label, packaging, origin, ...). More than that, he becomes vigilant on practices related to the production, processing, storage and distribution of these products. (Namkung, Jang, 2017; Wang, Gao, 2017). The very degree of his conscience sometimes pushes him to accept to pay more to consume products in accordance with his attitude and predefined criteria, as the founding principle of "willingness to pay". (Wang, Gao, 2017; Silva and al., 2018).

It is in this context that we can say that it then becomes a paradox that the main actors of the agri-food sector as well as their stakeholders, act independently and without prior knowledge of consumer behavior, whose analysis of the consumer's perception of any type of product, constitutes an advantage for the consumer, the actors involved and for the territory on which the product was designed to be valorized (Fan and al., 2019; Rodríguez-Bermúdez and al., 2020). It is within this framework that the international VALUETEAM project, based on the agricultural sector, particularly in the date sector in the Darâa-Tafilalet Region, tries to focus on the analysis of consumer perception in favor of the valorization of dates, as an important arboricultural production of this region. To do this, and based on the Workpackage number 3 on "consumer perception", we felt that first, it is important to conduct a literature review, capable of leading us to build a detailed understanding of both two complementary processes, namely consumer perception and willingness to pay and secondly build from this analysis, a battery of variables constituting the factors underlying the two basic processes, to be interviewed in an empirical study in the region of Darâa-Tafilalet.

The present article then, has therefore 4 research objectives, namely:

- Clarify the resident relation between the valorization of products and the perception of the consumer, with a particular focus on labeled food products.
- Emphasize the concept of consumer perception and willingness to pay by clarifying their fundamental characteristics.
Identify and discuss the variables and factors determining the choice of labeled date products.

Identify future research avenues that we can identify through this article.

2. A systematic Literature Review: method and procedure

To achieve the fundamental objective of this work, as well as the 4 predefined sub-objectives, we have chosen the mobilization of the method of Systematic Literature Review (SLR), as it has been widely mobilized during the work of review literature in the different disciplinary fields. Indeed, the SLR, is essentially based on a fine targeting of publications and this, thanks to a set of criteria predefined by the authors, as it also allows the organization of the work, the clarification and the communication of the various stages carried out throughout the research process. SLR was mobilized in several versions, and in this article, we will discuss it in five steps as it has been recommended in several scientific works, notably by Denyer and Tranfield (2009); Ashraf and al. (2016) and Novais and al., (2019).

Fig.1. The 5 steps of the Systematic Literature Review method

For reasons of clarification and organization of the reading, we have chosen to approach the first three phases of the SLR, namely the formulation of the research question; the identification of the research works and the final selection of the works, as a fundamental element of the research method and which will be presented in this axis. Then, the last two phases, namely, analysis, synthesis and discussion of the results will be presented and detailed in the next axis, entitled research results and discussion.

2.1. Formulation of the research question

Recalling once again the context that has led to the emergence of such work, and which essentially lies in the need to carefully construct a battery of variables, melting the factors influencing consumer choices for a possible empirical study serving the development of date products in the region of Darâa-Tafilalet, the central research question that we think it is useful to develop is the following: based on the analysis of consumer perception of labeled food products, what are the factors influencing their purchasing behavior?
To address this research question, it was important to propose some subsidiary questions, namely:
- What are the main characteristics of labeled agri-food products to be questioned in the analysis of consumer behavior?
- What is meant by consumer perception?
- When do we talk about willingness to pay?
- What are the characteristics and variables that form the basis of an analysis of consumer perception with a particular focus on labeled agri-food products?

Before starting the literature search, and in order to provide a coherent answer to the central research question and segmented answers to the subsidiary questions, we have defined in advance some criteria that we think are useful for our work.

- **Database and basic keywords**
  We have chosen Web Of Science as our scientific production base, since it is considered a reliable source of indexing in the world all over the world. It encompasses thousands of high quality scientific journals belonging to more than 200 disciplines. For reasons of complementarity, we have chosen annexed databases to complete or clarify certain information. At this level, we have identified a range of keywords to identify scientific publications that are directly or indirectly related to our work. To do this we used keywords such as: Consumer Perception, willingness to pay, food date labeling, consumer preferences, consumer behaviour, consumer attitudes.

- **Appearance slice and disciplinary fields**
  In order to ensure a recent and updated presentation of information, we were delimited on the scientific productions appearing 2016-2020 by focusing on the disciplinary fields which reflect in a direct way to our theme and which fall strongly within the global framework of our research, in particular economic and social science.

### 2.2. Identification of research work

To identify the research work on which we will be based, we have mobilized 6 keywords directly related to our theme, namely "Consumer perception", "Willingness to pay", "Food date labeling", "Consumer preferences", "Consumer behaviour", "Consumer attitudes", presenting 4821 publications. In order to refine our results, we were limited to the three basic keywords, namely "consumer perception", "willingness to pay" and "food date labelling".

✓ **Scenario 1**: the mobilization of the three keywords did not yield any results, which can clearly show us that the focus on labelled date products may be an originality of our research work.

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✓ **Scenario 2**: we then thought to approach the three keywords in an intermittent way and given the importance of the characteristics of date products that need to be noted, we thought to do a separate search to find publications that address and analyze the characteristics of date products and that can be included in related publications. In the end, we were able to identify approximately 63 publications.

### 2.3. Selection of research works

In this stage we proceeded to a definitive selection of research works, eliminating those publications that deal with some of our keywords in a disciplinary field far from ours, or in a purely mathematical or econometric framework, whose synthesis literature was almost absent, to have in the end 43 publications fed by others characterized as appendices.

**Fig.1.** Flowchart outlining the protocol adopted in this SLR

- **Literature of research**
  - Web of Science (n=4799).
  - Annexed database (n=22).
- **The total identified research** (n=4821)
- **Mobilization of three basic keywords**
- **Use of the three basic keywords intermittently** (n=45).
- **Annexed database** (n=18).
- **Articles excluded**
  - Duplicates removed.
  - Articles published in the same studies.
  - Disciplinary field far from ours.
- **n=0**
- **n=63**
- **n=20**
- Unique studies included
- **n=43**

**Source**: Authors
3. Research results and discussion

The results of our research will generally be presented in three main sub-areas, the first of which will deal with the main labelling issues, the second will present the consumer's perception of these labelled products and the third will initiate a reflection on the willingness to pay for the collection of these labelled products.

3.1. Labeling of agri-food products: what are the stakes at the time of globalization?

Before beginning our discussion, which aims to clearly identify the concept of labeling, it seems important to us to present the context that may have developed this new trend around the world as well as the main issues at stake.

3.1.1. Emergence context

In an era of globalized trade, the diversity of agri-food products and the demanding demands of consumers, producers are facing fierce competition at both the national and international levels. At this level, in order to judge and properly arbitrate the purchasing action, consumers want to have a battery of precise and detailed information concerning the different processes through which the agri-food product passes before being present on the market, in order to make their choices while ensuring nutritional quality and well-being (Narula, Desore, 2016; Vitale and al., 2020; Gao and al., 2020; Eldesouky and al., 2020).

On the other hand, due to the rather large number of problems related to the safety of agri-food products and the irresponsible production process, consumers today demand the creation of a clear identity for these products that can clarify not only the components of the product, but also the way it has been produced, processed, transported and marketed (Chen and al., 2016; Yang and al., 2020). It is at this level that public authorities strongly join producers to promote the establishment of a system capable of tracing the identity of agri-food products, in order to guarantee the expectations of the population, but also to participate in the valorisation of the territory's products, which are often penalized by unsophisticated practices and processes, often ending in a refusal of the product and the service provided (Miličić and al., 2017; Gao and al., 2020). In order to distinguish themselves then and respond effectively to market demand by ensuring quality and authenticity, mass food products, as well as those from the territory, have begun to have an innovative conception based essentially on protection by labels that guarantee compliance with quality and responsibility standards, and this, always under the control of the public authorities in charge of this issue.

Based on this observation, it may appear that the mutualization of efforts between producers, public authorities, and even some other stakeholders, has
two fundamental stakes, the first, is strategic and lies essentially in the commitment of businesses and farmers to respond effectively to consumer demand and the second lies in the various political commitments made by a State in favor of its development and promotion. It is at this level then that we can present these two points, namely the strategic stakes (1) and the political stakes (2).

3.1.2. The strategic stakes of labelling of agri-food products

As far as the strategic stakes for companies and farmers are concerned, we can say that today, in this era of globalization and fierce competition, it is becoming very important for any agri-food company to create a distinctive positioning in relation to market competitors, by providing transparent, reliable products and consistent practices. To do this, companies and farmers enhance the value of their products through the implementation of a labeling system as a major necessity based on the recognition of quality and procedures mobilized throughout production. At this level, a fairly wide range of labels can be observed on the world scene, each one bearing fine and very specific characteristics.

The United States, for example, has been able to develop certain labels belonging to the agri-food sector, notably the OASIS and NFS/ANSI labels, but the most famous and well-known is the USDA Organics label, which ensures organic standards for agricultural products, particularly in the production and processing phase (Bir and al., 2019; Skorbiansky, Adjemian, 2020). France, too, has created several labels such as the Appellation of Controlled Origin (ACO), which ensures geographical originality; the Label Rouge, which guarantees superior quality of agri-food products; and the Agriculture Biologique label based on standards of respect for the environment and animal welfare. But it is Europe that remains the most giant in the field, whose 4 labels are becoming widely mobilized by most food companies worldwide (INAO, 2018), namely:

- Protected Designation of Origin (PDO) which ensures the originality of the production, elaboration or transformation of goods.
- Protected Geographical Indication (PGI) which guarantees the originality of the elaboration and transformation as well as the quality of the goods.
- Traditional Specialty Guarantee (TSG) which guarantees the protection of the traditional method of a product.
- Organic Agriculture (OB) allowing the implementation of responsible and more sustainable practices.

Certainly, that at this level, the strategic stake can clearly appear, in certes, that at this level, the strategic stake can clearly appear, in granting labels ensuring an important market share, except that it is important to underline that there is still a fundamental stake that needs to be raised and which essentially
resides on the way in which agri-food companies can ensure the standards set by the labels. Indeed, the granting of a label is not an easy thing, but rather a whole approach based on commitment and rigorous control. In Europe, for example, the awarding of a label requires compliance with eligibility conditions, which is generally ensured by two controls (DGCCRF, 2019). The first, concerns the compliance of the standards of the specifications, under the responsibility of certifiers notifying public quality institutes such as the “Institut National de l'Origine et de la Qualité” (INAO) in France. The second control is concerned with the quality of the product before it is put on the market. Morocco also adopts two stages of conformity control namely, the examination of the application for recognition by a label and the control of the conformity of the prescriptions of the specifications, all under the responsibility of the national commission and the department of agriculture.

In spite of the cumbersome labeling procedure, if one can say so, except that today, companies and farmers around the world are strongly committed to the production of responsible and sustainable food products under the responsibility of the various labels. France, as a recent example in 2018, 105 food PDOs and more than 142 food PGI (INAO, 2018). Even in developing countries, where the new trend of labeled food products has not yet well developed, there is a strong commitment on the part of producers. In Morocco, the labeling of agri-food products is developing rapidly and it reaches 37 products including 30 with a Geographical Index (GI), 5 Appellations of Origin (AO) and 2 Agricultural Labels (Ministry of Agriculture and Maritime Fishing, 2015).

It appears, therefore, that the strategic issue of labeling has been generalized throughout the world, because of its beneficial advantages, which lie essentially in rewarding those who respect certain standards of production, elaboration and transformation, the thing that has also created a kind of awareness by the usefulness of reinforcing this system by public authorities, hence the political stake.

3.1.3. The political issue of labeling of agri-food products

The public authorities, also in charge of the agri-food issue, do not stop effectively supporting the labeling of products in favor of companies committed to the development of responsible production practices and processes, by putting a range of the label each one has a particular specificity. Today are widely aware that through labeling, they can moderate several issues (Gao and al., 2020).

Firstly, the state responsible for ensuring economic growth and a balanced trade balance by avoiding excess imports can protect itself through a labeling system, capable of creating a market share on a national or international scale (Lim, Hu, 2016; Obih, Baiyegunhi, 2017). At this level, even local products
can be valued by consumers, whose skills, knowledge and practices mobilized by the local population will be increasingly strengthened to promote territorial identity.

Then, it is also at this level that we can evoke the protection of heritage through the labeling of agri-food products of the territory. Indeed, the terroir market is not simply an exhibition of goods, but also a history of experience, knowledge and practices capable of strengthening the development of local production areas, the connectivity between different community members and attachment to the territory (Ilea and al., 2019; Sebastian, Garcia, 2019). It is for this reason that the State, along with the various stakeholders (local authorities, ministerial departments, farmers, etc.) try to protect this agri-food heritage of different sectors as a major concern. To do this, there are many programs and policy plans at this level, especially for countries that have modest experience at this level. In Morocco, for example, labeling has become a key priority, particularly with the implementation of Pillar II of the Green Morocco Plan (GMP), which is essentially aimed at the sustainability and profitability of different agricultural sectors. Thanks to this concern, mainly dedicated to labeling, Morocco has been able to label 37 agricultural products from several sectors (fruit, vegetables, horticulture, ...) and have been able to enhance local rural development, gastronomic heritage and develop an international market share for local products (Ministry of Agriculture and Maritime Fishing, 2015).

Another major issue comes from the health challenge of agri-food products under the responsibility of the State as a third party of trust between producers and consumers. By ensuring the conditions of eligibility of the label and compliance with the standards set, consumers create a kind of confidence in the bodies responsible for awarding labels and in the products themselves. In this way, consumers receive fairly important information, capable of reassuring them about situations of food risk or fraud (Bhattarai, 2019; Rodríguez-Bermúdez and al., 2020; Vitale and al., 2020).

Despite the importance and advantages that can be expected from the labeling of agricultural products, except that it is important to remember that this is still a recent phenomenon and that today it is still difficult to accept labeled products presented on the markets, something that has triggered a vigorous debate in the scientific community. We therefore believe that it is important to first estimate the consumer's perception of labeled agri-food products in order to define the factors influencing the acceptance of this type of product.

3.2. Consumer perception of agri-food products

While the public authorities are very interested in setting up labeling systems in favor of companies and farmers, before committing themselves to
this process, they seek to know better whether the labels will be acceptable to consumers. To do so, they try to identify in advance the factors influencing the purchasing process, preferences and attitudes through the analysis of consumer perception. The latter is widely mobilized in the various scientific disciplines as being, a process of behavioral analysis, interested both in understanding behavior and establishing a link of convergence or divergence between the product concerned and the estimated needs (physical characteristics of the product, quality, nutritional value, ...).

In the literature, there is an abundant scientific production at this level, which is interested both in understanding this concept and in empirical studies focused on the analysis of consumer behavior with regard to a diversity of products (agricultural, industrial, artisanal, ...). Focusing first on understanding the key concept, consumer perception can be defined as a process by which the consumer can acquire in-depth knowledge, by organizing several categories of information relating to his or her environment, in order to develop a fairly clear picture of an object, service or event (Mamine and al., 2016; Stampa, Schipmann-Schwaze, Hamm, 2020). Often, consumer perception influences purchasing behaviour to a large extent. Indeed, the consumer as an individual who acts in his or her environment, not only the factors relative to him or her that need to be taken into account, but also the factors related to his or her environment (Feldmann, Hamm, 2015 ; Malone and al., 2017; Kirsten and al., 2017; Groening and al., 2018).

At this level, consumer perception can be analysed by focusing on several variables, affecting both activities and actions closely related to the individual's purchasing process, as well as the analysis of any preventive action taken by the individual's environment, in order to gain a deep understanding of his or her behaviour (Henchion and al., 2017, Groening and al., 2018, Ripoll and al., 2018). In this article, we will focus on a triad of socio-demographic and consumer behavioural variables, as well as the factors of involvement.

3.2.1. Socio-demographic variables

In consumer perception studies, as in other studies, socio-demographic variables are of great importance in understanding behaviour. Indeed, gender, age, location, socio-professional category or level of education can moderate to a large extent the purchasing action of labelled agri-food products (Perito and al., 2019; Yi, 2019). At this level, studies on labeling have shown that consumers may perceive labeled products in a different way, depending in particular on certain socio-demographic variables.

According to a recent study by Rodriguez-Bermudez and al. (2020), which focused on the analysis of the perception and attitudes of 830 consumers towards organic products, research results showed that the level of perception of these products was largely presented according to socio-demographic
variables. In fact, according to the study, again, more than 270 respondents who affirmed the consumption of organic food, were women with a middle age, middle or higher class, high level of education and a fairly large area of location. Also, the study of Vitale and al. (2020) conducted on a sample of 560 Italian consumers showed that sensitivity to seafood ecolabels is strongly related to gender, with a very high proportion of women.

Another study was conducted in the same year by Vapa-Tankosic and al. (2020) but this time focused on the willingness of consumers to pay a surplus for the labelled organic mile. The research results clearly showed that the positive level of perception of organic honey was due to the high value of certain socio-demographic components such as high monthly income and high level of education.

From these examples we can see that indeed socio-demographic variables can moderate the results of consumer perception of labeled products to a large extent. Although the trend for these products is recent, it therefore appears that consumers who have a predominant place in society and a higher or lower level of education, they manage to understand the benefits expected by labelled products especially for themselves and for society, whereas the other segment of society does not attach any or less importance to these products, and they remain convinced that labelled products are merely a marketing act. But it is also important to point out that these results were the case under certain circumstances, but this is not an absolute truth. Moreover, several studies have shown a positive perception of labeled products with a modest social category and level of study, thanks to the specificity of the territory of location and how it approaches, raises awareness and communicates this typology of products.

It also appears, and according to most of the studies carried out in this framework, that women attach more importance to labeled products and easily perceive the link between labeled products and food safety, as well as their willingness to pay more to receive them, which may be related to the frequency of shopping and the desire to acquire healthy and notable products for family members (Perito and al., 2019). In a study by Wang and Gao (2017) that investigated preference for traditional sustainable rice in China, based in 1422 consumers, women showed positive perceptions, especially those with children.

According to Zindy and al. (2017), socio-demographic variables with a focus on labeled products can provide very important insights. According to them, age and gender may show perceptual differences in which the labelled product is not defined in the same way and does not have the same characteristics according to each category; belonging to a socio-professional category or income level may create sensitivity with regard to labelled products.
The results and the interpretations that can be made following the socio-demographic variables are largely confined to the study area, but they remain very important in the orientation of labelling strategies, information and awareness programs by the usefulness of the labelled products.

### 3.2.2. Variables related to consumer behaviour

In addition to socio-demographic variables, there are also many variables related to consumer behavior that directly or indirectly affect their choices. Indeed, the contribution of a label to products, especially food products, will change more or less the behavior and bring additional comments, in the interest of farmers, businesses and any stakeholder to know them. It is then thanks to the consideration of these variables that are directly linked to the consumption action that we can perceive and assess the level of understanding of labels, the degree of commitment and trust granted by customers (Pyburn and al., 2016; Owusu and al., 2017; Fan and al., 2019, Perito and al., 2019). For this reason, most studies, instead of focusing strongly on segmentation by socio-demographic variables because of their relevance and readability, are strongly committed to understanding the factors and variables related to the purchasing action.

There are many variables linked to consumer behaviour, in particular psychological variables (motivations, brakes, emotions, learning, etc.), individual variables (personality, self-image, attitudes, lifestyle, etc.) and so-called environmental variables (family, culture, status and role, etc.). Still within the framework of the perception of labelled agri-food products, several variables can be examined, in particular the attention given to labels, the level of familiarity with the different types of labels, health and environmental concerns, sense of responsibility, commitment to the environment and society (Jonell and al., 2016; Bhattarai, 2019). At this level, several empirical studies were carried out to clearly show that the variables directly linked to the consumption action are largely determinant of the degree of perception, whether it is positive or negative.

A study that was based on the determinants of seafood consumption of eco-labelled seafood in Stockholm, Sweden, showed that among all the typologies of variables that were surveyed and tested on a sample of 371 consumers, the psychological variables of the consumer, including the degree of recognition and understanding of seafood eco-labels and environmental concern, figured prominently (Jonell and al., 2016). Also, a study conducted by Wang and Somogyi (2019), which was aimed at exploring the effects of psychological factors on the behaviour of 643 shellfish consumers, showed that personal norms and attitudes towards the environment largely influenced the purchase and conservation intentions of labelled shellfish for (47.28%) and (52.72%) respectively.
Concerning individual variables in relation to the behaviour of individuals, it can be said that there has long been an abundant literature at this level and that it appeared thanks to the work of Murray (1938), Maslow (1954) and Schultz (1966) in explaining the different needs of individuals. At this level, individuals have appeared as distinct units that act in a different way when faced with the same facts, whose behaviour remains more or less difficult to understand.

Eldesouky and al. (2020) in their recent work on perception analysis based on 36 Spanish consumers, they were largely interested in analyzing the individual factors underlying consumer behavior, particularly in terms of beliefs and experiences with regard to the eco-labeling of foods. These variables were able to identify initially the attitude of consumers which was generally positive, but also the obstacles blocking the effective action of the purchase, in particular the lack of knowledge of these products and the level of accessibility of labeled food products. The work of Silva and al. (2018) is very similar to the latter, whose main objective is the analysis of preferences towards beans as a labelled food product, concluding that consumers have a positive attitude since they prefer the labelled alternative even if the food product is known.

It is true that the purchasing action is closely linked to the psychological and individual variables of consumers, except that also their external environment can transform their behavior, and this, thanks to the influences they may receive from their culture, family or society. Fan and al. (2019) do indeed raise the question of the influence of culture and how it can affect consumer behaviour. Indeed, the study has clearly shown that the attachment to the culture of the territory to create a positive perception towards broccoli consumers who are willing to pay more for them to receive local varieties.

All these examples then can reinforce the idea of the need to focus to a large extent on the variables directly related to the action of purchase, since they serve the establishment or improvement of the communication and awareness system capable of disseminating a wide compression and appreciation of labeled agri-food products, as well as a positive attitude towards them. In this way, the strategic and political challenges can be achieved by ensuring the valorization of products and production, processing and marketing processes that are socially and environmentally responsible.

The identification then of the different factors and variables directly or indirectly influencing the purchasing behavior of labeled agri-food products, allowed us to clarify two facts. Firstly, most of the studies that have been based on behavioral analysis have shown a great interest in these labeled products, whose sensitivity and perception were largely positive, which may show the need to invest heavily in this market. Then, like mass products, labeled agri-
food products and thanks to its characteristics (specific ingredients, responsible processes, fair trade, ...) generate additional costs and they become more expensive, whose willingness to pay by the consumer remains unknown.

These two facts, which we have been able to draw from the review literature, show us the need to address the issue of willingness to pay, due to measuring the level of acceptability of paying an additional sum to acquire labeled agri-food products.

3.3. **Analysis and measurement of willingness to pay**

Because of the importance of labeled agri-food products and the positive sensitivity towards them, shown in several scientific research, it becomes essential to know at what level the consumer is willing to pay for these products and the factors that influence it. In order to do so, we will address this question in two points, firstly the factors influencing behaviour for the granting of a willingness to pay, and secondly the question of its measurability.

3.3.1. **Conceptualization of willingness to pay**

Globally, willingness to pay has required increased attention in the review literature and has been a subject of research in several scientific works, particularly in the context of analyzing consumer behavior towards agri-food products (Ellison and al., 2016; Yang, Renwick, 2019; Chakrabarti and al., 2019; Fan, and al., 2019, Yi, 2019; ). Indeed, the desire to consume healthy products that prevent sustainable and responsible processes is most often translated by a willingness to pay both the reference price and an additional premium, hence the principle of willingness to pay. However, it is important to note that the willingness expressed by consumers to pay more is not a universal phenomenon, but rather varies according to several factors and variables predictive of consumer behaviour, such as level of education, income level, status and role in society as well as needs and attitudes (Bhattarai, 2019 ; Vapa-Tankosić and al., 2020 ; Yang, and al., 2020; Vitale, and al., 2020, Rihn and al., 2019). At this level, we can find those who express a desire to acquire these products, albeit at high prices, and those who show little importance because of their high price.

According to a study conducted by Nandi and al. in 2016, based on a sample of 250 in Bangalore, on the expressed willingness of consumers to buy organic fruits and vegetables in India, they were able to identify the moderating behavioural variables that belong to both internal and external behavioural factors. At this level, willingness to pay more was expressed at 90% for organic vegetables and 74% for organic fruits, and this was due to retailer confidence, environmental concern, health concern, but also this result was affected by income level and gender of the respondent.
Bhattaria (2019) also revealed a positive willingness for most respondents. Indeed, 86% of consumers of organic vegetables were willing to pay a premium of 25% of their original price. Factors that may have characterized such behavior were product-related characteristics, particularly taste, nutritional value and health benefits.

Despite the high sensitivity and the fairly high level of consent for labelled agri-food products, except that it is important to specify that these facts are not constant or to be generalized, as long as consumers can express their wish not to acquire these products, including a concern strongly linked to behavioural variables. Moreover, Kranjac and al. (2017) have shown this in their study based on the profile of consumers of labelled products, of which these consumers have proven their inability to acquire organic food products, in the main reason is related to the level of salary.

At this level, the review literature revealed several variables as being determinant such as experience in purchasing labeled agri-food products, scale of production, traceability, ethical concern for food, level of awareness, desire to support the local community, level of education, ownership of children; age, gender, location, perception of quality.

Then, we can say that, certainly, and through the studies conducted, consumers have expressed their desire to consume certified or labeled agri-food goods, especially because of the sanitary safety and the fictitious commitment to sustainability and local development, except that it was shown that this desire cannot be directly translated into a purchase act, because of the price granted by the merchants.

Indeed, the willingness to pay varies from one consumer to another thanks to a set of the variables already mentioned. Businesses and farmers therefore find themselves trapped by the inability to judge their market share and the price that will be affordable to their customers. This is where the interest in the question of the measurability of willingness to pay begins.

### 3.3.2. Measurability of willingness to pay

Often, economic evaluation, is easy to conduct by comparing supply and demand, able to derive prices for products and services sold on the market. But when it comes to social or environmental goods that are characterized as non-market, one does not limit oneself only to the value linked to the directly requested service, but also to other elements to constitute the total economic value. Given the characteristics of labelled agri-food products, which to a large extent serve health safety, preservation of the environment and promotion of development, we can see that they generate positive externalities in favour of consumers on several levels (health, social, environmental), including the need to pay to ensure their sustainability.
At this level, Pearce and al. (1989) invented the concept of Total Economic Value (TEV), which is composed of two values, namely use and non-use, capable of providing a monetary value to environmental assets and social externalities. Indeed, in the framework of their book "Blueprint for a green Economy", they widely discussed the monetary measurement of environmental assets, concluding that they are capable both of providing a fictitious use or benefit to the consumer, linked to the consumption of goods or services, and of guaranteeing preservation for future generations through the sustainable and responsible processes put in place, which is unfortunately ignored and underestimated, the basis of the two values respectively (Kitoto, 2018).

\[
\text{TEV/WTP} = \text{Value in Use (VU)} + \text{Non-use value (NUV)}
\] (1)

On the basis of these theoretical foundations conducted by Pearce and al. (1989), several works refer to the concept of TEV to evaluate consumers' willingness to pay in order to acquire positive externalities or avoid negative ones. A recent study by Zhao and al. (2020), who investigated the measurability of willingness to pay to preserve agricultural assets during the production of lychee (fruit), using the foundations of total economic value, were able to monetize the value of non-use. The results obtained showed that based on 458 respondents, 305 proved their willingness to pay a willingness to pay which ranged from 1.00 CNY to 1000 CNY or about $0.15 to $146, the non-use value of which was estimated at 49.9 million CNY for the whole population and more than $7 million for the total population. This example can clarify that to estimate the social or environmental benefit of a strategy implemented by one or all stakeholders; to generate positive externalities or avoid negative ones, the value of willingness to pay (WTP) can be multiplied by the total number of the population (N) and not only by the number of samples.

\[
\text{Social or environmental benefit} = \text{WTP}\times\text{N}
\] (2)

Whatever the basic principle used to evaluate willingness to pay, it is important to remember that the monetary value obtained is not a determination made in the market, but is the result of a rigorous analysis of behaviour, influenced by a fairly large list of variables, including the need to administer the basic questionnaire properly. In this way bias can be avoided and a clear understanding of WTP can greatly assist in the implementation of strategic plans for enterprises and farmers, incentive policies, sensitization and support by other actors.

4. Discussion of results

To begin the discussion of the different results expected from this systematic literature review, we will organize it into 2 sub-axes.
4.1. Purpose and objective of the research

At the beginning of our work, we focused on date products labeled as research objects, and through which we wanted to analyze consumer behavior. But, given the important lack of scientific publications of all types, which deal with this object-objective duality, we tried to substitute our basic object by another one, which has common characteristics. To do so, we have chosen labeled agri-food products, in particular fruits and vegetables, in order to identify and delimit the fundamental factors, influencing the consumer's behavior towards these products.

This research objective allowed us to understand several facts. Firstly, the promotion of agri-food products has a remarkable effect on the promotion of healthy lifestyles, the maintenance of biodiversity, the contribution to the development of national and international markets, but also, the strengthening of local development. It is at this level that not only companies, farmers, but also public authorities want to strengthen the labeling system.

In spite of the rather important number of data and publications, we have not been able to determine the level of perception of the labeled products among consumers, but we can say that it appeared that this new trend has begun to occupy an important place among consumers, the majority of whom affirm their approval and satisfaction with this typology of products, and the few studies that have shown that the consumption of labelled agri-food products is of no interest to consumers, have shown that this fact is to a large extent linked to various limitations of an informative or confidential nature, which hinders consumption and therefore negative sensitivity towards these products.

In the review literature, again, we have understood that behavioural analysis is strongly linked to the evaluation of the price of these products, since labelled agri-food products present positive externalities in favour of consumers, who have to sacrifice an additional premium to acquire them. Through the research results, it was shown that this premium, strictly speaking called the willingness to pay, must be the object of a structured measurement. It is at this level that the evaluation framework was presented as a set of processes capable of identifying monetarily the additional sum that can be paid.

4.2. Behavioural factors

The review literature has enabled us to understand that both consumer behaviour and willingness to pay are largely influenced by internal and external factors of behaviour, in the need to have them questioned in a rigorous and structured way in the questionnaires, firstly to ensure an exhaustive analysis of the behaviour and secondly to ensure the readability of the research results. All of the factors that we were able to draw from and which concern
our two basic axes, we organized them into several headings to ensure the organization and harmonization of the questionnaire (table 1).

**Tab.1. Grid of factors and variables**

<table>
<thead>
<tr>
<th>Basic factors</th>
<th>The basic variables</th>
<th>The source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Socio-demographic factors</strong></td>
<td>Sex, age, origin of residence, level of education, socio-professional category,</td>
<td>Wang and Gao (2017)</td>
</tr>
<tr>
<td></td>
<td>income level, marital status, number of children</td>
<td>Zindy and al. (2017)</td>
</tr>
<tr>
<td>**Factors related to the purchase and</td>
<td>Liability in connection with races</td>
<td>Yi, (2019)</td>
</tr>
<tr>
<td>consumption action**</td>
<td>- Ensuring a health guarantee</td>
<td>Rodriguez-Bermudez and al. (2020)</td>
</tr>
<tr>
<td></td>
<td>- The specificity of the product (ingredients, nutritional quality, packaging)</td>
<td>Vitale, and al. (2020)</td>
</tr>
<tr>
<td></td>
<td>- Origin of the product</td>
<td>Vapa-Tankosic and al. (2020)</td>
</tr>
<tr>
<td></td>
<td>- Product identity and traceability</td>
<td>Jonell, and al. (2016)</td>
</tr>
<tr>
<td></td>
<td>- Preference in terms of the label</td>
<td>Pyburn and al. (2016)</td>
</tr>
<tr>
<td></td>
<td>- Level of understanding of labels</td>
<td>Kranjac and al. (2017)</td>
</tr>
<tr>
<td></td>
<td>- Attention to labels</td>
<td>Owusu and al., (2017)</td>
</tr>
<tr>
<td></td>
<td>- Level of familiarity with the different types of labels</td>
<td>Silva and al. (2018)</td>
</tr>
<tr>
<td></td>
<td>- Preference in terms of label typology</td>
<td>Bhattarai (2019)</td>
</tr>
<tr>
<td></td>
<td>- Beliefs and experiences with labeled products</td>
<td>Fan and al. (2019)</td>
</tr>
<tr>
<td></td>
<td>- Frequency of purchase</td>
<td>(Saidi and Diouri, 2017)</td>
</tr>
<tr>
<td></td>
<td>- Place of purchase</td>
<td>Eldesouky and al. (2020)</td>
</tr>
<tr>
<td><strong>Commitment factors and responsibility</strong></td>
<td>- Personal standards</td>
<td>Vitale, and al. (2020)</td>
</tr>
<tr>
<td></td>
<td>- Attachment to the territory</td>
<td>Yang, and al. (2020)</td>
</tr>
<tr>
<td></td>
<td>- Promotion of the territory's image</td>
<td>(Ait Hou and al., 2015)</td>
</tr>
<tr>
<td></td>
<td>- Valorization of products and territorial resources</td>
<td>Vapa-Tankosic and al. (2020)</td>
</tr>
<tr>
<td></td>
<td>- Contribute to the maintenance of the skills, knowledge and agricultural practices of the local population</td>
<td>Nandi and al. (2016)</td>
</tr>
<tr>
<td></td>
<td>- Strengthen the identity of the territory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Protection of the agricultural heritage (practices, experiences, gastronomy,)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Contribute to the development of local rural areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Environmental Concern</td>
<td></td>
</tr>
<tr>
<td><strong>Humains et relationnels</strong></td>
<td>- Confidence in the paganisms in charge of awarding labels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Raising awareness,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Training and information, accompaniment</td>
<td></td>
</tr>
<tr>
<td><strong>Agricultural practices</strong></td>
<td>- Food composition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Storage, processing, transport and distribution conditions</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors.
Having identified the main factors influencing consumer behaviour towards labelled agri-food products, as well as the level of willingness to pay, we can say that they can be widely used in an empirical study whose results will be increasingly concrete.

5. Conclusion

Through this article, a Systematic Review Literature, by mobilizing scientific and academic criteria, was developed, based mainly on the analysis of 43 scientific publications, to understand the consumer's behaviour towards labeled food products and more particularly date products.

At this level, this article first justified the choice of labeled food products by presenting their context of emergence, as well as their strategic and political advantages, both on a territorial scale and internationally, mainly lie in the development of local products and traditional local knowledge, the implementation of increasingly responsible practices such as traceability and transparency, and strengthening the safety of food products especially in a context characterized by increased consumer demand.

Considering all the positive effects that can be expected from the valorization of labeled products, we considered in this work, the need to understand the behavior of consumers vis-à-vis this typology of still recent products by identifying a range of factors and variables influencing their behavior. After research, analysis and exposure of certain experiences in this field, it became clear to us that the consumer is becoming increasingly vigilant, particularly with regard to his act of purchase, very often conditioned by a set of variables forming the basis of labelled products and on which he is ready to pay additional consents to acquire them.

It is within this framework then that we were able to organize these variables into 4 factors, namely:

- A socio-demographic factor, such as sex, age, level of education and income level;
- A factor related to the action of purchase and consumption, linked to the interest and attention given to the typologies of labels, traceability; and the origin of agri-food products.
- A factor of commitment to responsibility, linked more particularly to the personal standards of the consumer in terms of his or her responsibility in terms of valorization of local products and his or her contribution to the promotion and preservation of local knowledge.
- A human and relational factor, linked to the degree of trust established between consumers and labeling organizations.
- Factor of agricultural practices, integrates all the variables related to the process of supply of agri-food products.
It is important to recall that, if we identify today these different factors containing about ten variables, it is to achieve results on the theoretical and empirical level, reside more particularly in the concretization of a possible case study based mainly on the perception of consumers, able to apprehend their behaviors to favor more and more date products in the Daraa-Tafilalet region in Morocco, and this, within the framework of an international project called ValueTeam/ArimNet2.

Thus, the results that can be achieved at this level, can be useful at several levels to guide policy decisions towards priority areas on which public authorities can act, and to help stakeholders involved in the date sector in the Daraa-Tafilalet region in Morocco to define offers in line with consumer expectations.

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