

## Paper 2

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## Quality in the future

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### Abstract

Quality concept is evolving and a central criterium of the economic organisation in developed countries characterised by abundance and industrialization of the food system. Its analysis need new developments of economic sciences, which bring some lights on the different ways for management according to economic and technological conditions.

In rice market, innovations is meeting an increasing demand and there are several ways to manage quality to satisfy consumers. But the diversity of situations in Europe maintains a high level of uncertainty for the future

### Keywords

-  Quality, Theory of Conventions, Rice
-  Europe

## Introduction

Quality is a complex concept which plays a more and more important role in economic competitiveness. When we prepared a Concerted Action on research in quality and competitiveness of European rice, we had the conviction that it could contribute to European rice industry development. And we were sure also, that the research could play an important role.

But at the same time, we were facing the difficulty to use a common language about the quality. There are different dimensions of the quality and each scientific disciplinary has its own criteria : physical, chemical, nutritional,... with their particular measures. There is also a specific perception of quality for each economic actor, according to : he is consumer, grocer, industrial or producer.

In these conditions, if it is possible to define specific criteria in each disciplinary and to improve them with new knowledges, it is more difficult to take them into account together and to link them with different perceptions from decision makers. The analysis of the quality has to take into account the behaviour from all economic actors, including how the quality is defined, who defines it, and... for whom scientifics are working. That's why marketing, management and more generally economic dimension are more and more prevailing.

Therefore to introduce this symposium, we propose to give some views about :

- the evolution of quality concept in agro food system
- how the economic analysis takes into account the quality
- some proposals to define and analyse quality in food system
- and at the end what we can say about the future of rice quality.



## The evolution of quality concept in agro food system

### (the quality in the heart of agro food system)

In developed countries, we can say that the evolution of quality concept depends directly on the agro food system transformation, characterised by abundance and industrialization.

The abundance is manifested both by a large availability of commodities and a weak part of the income spend for food and therefore a weak pressure on consumers to choose commodities. In these conditions, we have a real blooming of tastes and expressions of the diversity. To meet this new type of demand, industry has to develop new products and put more attention in marketing approach. In practice, a permanent flow of behaviour analysis has to realised to define different parts of the market.

On the other hand, the industrialization of food economy, mobilising technical and organisational innovations, is at the origin of abundance. This objective has been achieved, in a first step by a high level of standardization to produce at lowest cost. Now, facing abundance, the competition between enterprises shifted from price competitiveness to quality competitiveness. And progressively, to make and control quality products, enterprises had to reorganize their management.

Therefore, the quality concept which was mainly used to define technical characteristics, is becoming a major criterium to organise production and exchange activities. From now on, a quality product, has to have, of course, specific qualities to correspond with specific demands, but too, produced to certified process. We can say that the quality concept which was, could be considered as exogenous factor is now a building or endogenous factor.

We have two clear illustrations of this change : the evolution in the official quality definition and the evolution of European market food policy.

The official quality definition shifted from technical definition to marketing definition. Thus according to International Standard Organization (ISO), since 1993, the quality is the " Whole characteristics for an entity, which give it the aptitude to satisfy needs expressed or implicit."

The second example concerns the evolution of European food policy. Before 1985, to accelerate the unification of the European food market, a policy of harmonization was chosen. The objective was to define "Euro-standards" concerning first, in 1969, 50 agro-foods sectors. But at the end of the period, only 14 sectors were treated. The approach was apparently simple, because it only took into account scientific criteria, eliminating symbolic aspects, food behaviors, specific enterprises, regional or national interests, so and so. But for each product, the technical description had to be necessary realised type by type, requiring a high level of expertise's and involving an important administrative activity, saturating the possibilities of community. Moreover procedures were very long, about 3 to 7 years by commodity.

After 1985, the new policy has been oriented towards the diffusion, in European area, of the new principles of quality management.

Seeing that the quality concept takes a clear economic dimension, how does the economic analysis take this evolution into account ?



## The quality as discriminant factor in economic analysis

The new importance and economic role of the quality creates the need for elaboration of new theories taking into account behavior's diversity observed.

Until now, economic analysis took the quality like an exogenous criterium, a specific characteristic for one product given. Its economic value is considered as the result of the buyer judgement which analyzes different available supplies. This value will change if the relation between supply and demand change and therefore the quality is unstable. But in a normal market condition, the quality is perfectly determined, and the selling price constitutes the only general registration of the quality.( according to Eymard Duverney 1989).

In fact, statistic systems are generally inadequate to analyze the quality, because the insufficient level of the precision in product definition and the rapid change in products. However when data allow it, we can rigorously show a quality effect (Combris 1991). In U.S. rice market, (E. Wailes-1995), has also identified and measured no prices elements, with the quality, which play a role in market adjustment. But it is difficult to analyze why and how the quality is operating.

Facing these difficulties, others authors are proposing as a postulate, that the quality is a field of market regulation, according to distinct ways of the price regulation. Then, it is possible to recognize different forms of coordination between economic actors, corresponding to different principles of definition for quality evaluation (L. Boltanski, L. Thouvenot 1987). Then economic activity is organized by confrontation between these different forms of coordination. Three of them can be briefly presented:

The most simple, where economic agents, buyers and sellers, can evaluate directly the quality of commodities. It is the pure market coordination form.

The industrial coordination, where commodities are very well defined by "objectives" rules. Each one agent accept rules or standards, to organize relations with partners.

The domestic coordination, where relations between partners are organized on the basis of the confidence, in reference with past transactions.

To illustrate these different forms of coordination in rice market, we can take some examples:

In Japan, more generally in Asia, at the retail level mainly, buyers and sellers have a very good knowledge of the rice product and their relations are built according to a pure market coordination form;

In U.S. rice market, standards are clearly defined by industry with bodies organizations. We are in situation of the typical industrial coordination;

In Europe, the diversified rice markets offer many examples of the domestic coordination type, where confidence in experience plays a major role.

The distinction between different ways to organize the economy from different principles of definition for quality evaluation, is allowing to better understand some aspects of the competition at the international level or between different categories of enterprises in the same country.

Pursuing in this approach, we can propose a method for quality economic analysis.

## Method for food quality economic analysis

Many observations confirming the role of the quality conventions in transactions between economic actors, a model has been imagined to describe systematically different situations (B. SYLVANDER 1991)

The model considers four items which are currently used by partners to organize their transactions about quality:

- characteristics of the product
- inputs to produce it
- identification to distinguish it
- quality which is looked for partners.

If we analyze relations between characteristics and quality, we can make following observations:

- . in exchanges activities, the provider is looking for to propose the exact presentation asked, using all resources of the innovations and management,
- . but it exist a radical gap between commodity offered and commodity desired. Situations are very rare where it is possible to define exactly a commodity by physical or others characteristics,
- . in these conditions, between partners (buyers and sellers) is settling what we call a quality convention (implicit or explicit) which looks for to reduce this part where the definition of characteristics remains difficult.

Therefore we are led to talk about quality only where uncertainty remains in product definition

## Definition of the quality

***"the quality is the uncertainty on the definition of the characteristics evaluation taken into account by partners during a transaction"***

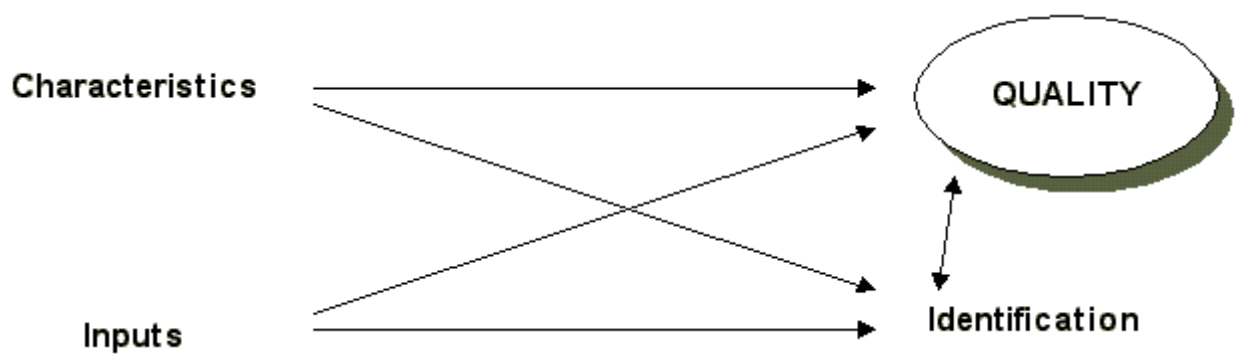
Facing this part of uncertainty on the definition, each partner can use different ways to reach his objectives.

The consumer, for example, to be sure of the quality, will buy his product directly near a producer known by him. Or more generally, he will look for to link the quality desired with representation he has for the processing or for inputs used ( wood cooked bread, olive oil first cold extraction, parboiled rice...) He will be able also to have confidence on the brand, origin, land or other clearly identified on the product.

Between producers themselves or between producers and distributors, to reduce the uncertainty about the definition of the quality, there are more and more explicit conventions defined in "terms of reference" or "cahier des charges". Often, these agreements are an important element of competition in business and their terms of reference are out of common rules, in perspective of enterprise certification.

In a graph we can resume and imagine all relations between the four items which are taken into account in quality conventions.

Figure 1 :



As a matter of fact, quality definition changes, for a same product, according to the place of the actors along the supply chain. It changes too with the technological development, the level of organisation, the dimension of the enterprises and so and so. The model takes into account this diversity by combination of the different dimensions on which the quality is evaluated.

In short, first we have seen that the quality has become an important criterium for economic organisation. Then that it depends strongly from implicit or explicit conventions between partners and their analysis show the large diversity of situations; Conventions are necessary to reduce uncertainty on the qualities. In this situation, each actor is lead to define products profile and building specifics means to guarantee the reality of the quality. But all actors have not the same capacity to manage the quality, therefore collective conventions will be more or less clear. The uncertainty, is too, a source of power which can be used by actors.

## Lessons for rice quality in the future

For the two or three last decades, the evolution of the rice industry in US and in Europe is characterized by innovations, meeting extension and diversification of consumption. The long grain rice's share was constantly increasing in US since 1960, more recently in Europe. Long grain, parboiled rice, different specialties and aromatic rice, in France and in Europe, have been progressively offered to consumers. The choice, constantly was enlarged facing a higher level of income and more educated consumers. Rice is bringing a good illustration of the general food system transformation, characterized by abundance and industrialization.

In this context, measures of quality were developed by research for market and industry. Grades and standards for rough rice, brown rice and milled rice, have not changed significantly since their introduction and are currently used. Their adjustment are following industry needs in US. Measurement technology for various quality factors in rice has relatively become stable for last decade. However, because appearance is very important, many criteria keep a high degree of subjectivity. Constant improving in procedures tend to normalize their effectiveness. Now, with the development of specialties, major problem is relating cooking properties to physical characteristics of uncooked rice. Finally control of origin and aromatic properties is also an important problem with the diversification of consumption. News progress have been recently realised in this field and will be presented in this symposium.

Economically it is important to identify and to measure the respective role of various quality factors to help decision makers. But in this field analysis are less developed and their application difficult.

In US, several studies analyzed quality factors at the level of rough rice and brown rice, where the role of percentage of head yield is the most important factor of quality. But the role of the others factors, as the red rice for example, varies with circumstances. Rough rice grades also inadequately represent the value of rough rice (Brorsen and alii 1984, in Wailes 1995) calling news researches for more accurate evaluation of quality.

At the consumption level recent micro-economics studies (Wailes 1996) are showing the role of quality. In

France we have shown the dissociation between a low income market decreasing and the extension of market for news products associated with increasing income (Chataigner, d'Hauteville 1989). Marketing studies in US underline the progressive learning from new consumers. More recent works in Europe, precise the role of cultural aspects and meals circumstances for consumer choice (d'Hauteville and alii 1998).

Attempt to link different levels of analysis from producers to consumers, by hedonic price models brings a weak support for decision makers and measure benefits from quality control (Wailes 1995), because function of supply and demand vary from year to year. (We have a clear illustration of the instability of quality in economics terms). News sophisticated analysis are possible, but for economic analysis of quality price relations the main handicap is the lack or the weakness of free and adequate information. Moreover, in US, as in Europe, information concerning prices and different quality factors are more and more a strategic value and their access for public research is more and more difficult.

The marketing approach for quality management at the enterprise level, remains the main tool for decision.

New economics approaches by conventions analysis could bring some lights about the rice quality in future. We recall that this approach considers that the quality is a field of market regulation, where economic activity is organized by confrontation between different forms of coordination described according to the model presented before. In Europe particularly we are facing a variety of quality conventions that we can analyze at different levels to identify some trends or problems.

At consumer level we can say that in traditional areas of production quality is perceived through precise characteristics of grain uncooked. With the progressive learning of consumers we can expect more attention about physical rice characteristics. Recent works (d'Hauteville and alii 1998) are also showing that the relation between perception of cooked and uncooked rice is positive for much larger population. Until now the main quality convention which supported the market extension was the identification through brands. Progressively with aromatic rice, origin plays an important role. In Europe, we think that the consumer will spend more and more attention to characteristics and origin of product.

This situation, supported by new European policy about "appellations" or guaranteed vintage, is favorable for structures of production reinforcing relations between producers and consumers. The strong competition between industry and distribution leads also to enterprise certification and quality control where information to consumers can be developed yet.

Between industry and producers, in Europe, where the role of common market organization is important, the situation is complex because Europe is an important importer. Rules are moving, where contradictory interests are regulated with difficulty. Information and its dissemination are deficient. We can say that the uncertainty is important and source of power for minorities.

Facing this situation, the reputation of US rice quality, built on the norm system, shows the effectiveness of a clear quality convention all along of the chain market. In the next international trade negotiation, Europe should spend more attention to adapt its system for a dynamic development of domestic market for European producers.

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## Conclusion

Quality has become an important criteria for market organization in food economy. And it is necessary to consider the diversity at consumption, production and distribution level to analyze the phenomenon.

But it is no sufficient to recognize and to promote the role of quality in the future. It is essential to control it, because quality is a building concept. Research offers the possibility to improve and measure various quality factors. Economic and marketing approaches can be developed to facilitate the adaptation to consumers behaviors. Good experiences show also the capacity of industry and producers, according to different situations, to adapt their activity. Finally Europe production can find particular niches markets for different origin or specialties linking with various cultural dishes and so and so.

However, it is difficult to elaborate a common quality convention probably because Europe is the most open rice market in the world, and common market is not really completed,. This weakness should be overcome



with the opportunity of the next international trade negotiations. Scientific community could be mobilized for this important challenge.

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