Towards a New Definition of Quality: Identification of the Best Existent Definition and Agenda for Future Research

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Abstract
It is easy for anyone who takes a look at the quality literature to note the absence of consensus in quality definition. In this article, we try to answer two questions. First one: which definition is the best? To compare and judge, we propose four criteria of “good quality definition”, and then, we list different definitions and enumerate the major existent classifications in the literature. The most important critics formulated are also listed. Finally, we balance between listed definitions in order to get the best one that meets the four criteria.

The second question concerns the direction which should be taken for new research. Consumption of goods and services is directly related to consumer behavior. The 2008’s financial crash has led changes in this behavior during and after the crisis. We believe that any new research should take into consideration these changes and mix it with a questioning of the relationship between business and consumer.

Key words: Quality definition, choosing criteria, classification, best definition, consumer behavior.

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1. INTRODUCTION
Quality is “a master key” word: everyone uses it! Quality of product, quality of life, quality of care, quality of education ... But what is the meaning of “quality”?

Demanding quality product is not a new tendency. The human nature leads people to request the best, but the quantification of quality and standardization are new: they were born in the 20th century [26].

The evolution of the term quality in modern times cannot be separated from the evolution of production methods and systems. Before the industrial revolution, goods were made by craftsman in response to direct customer’s request. The craftsman met the demand perfectly and he felt proud of a well done job [31, p2].

The industrial revolution generated a new kind of society characterized by abundance of goods and consumption [31, p1] [3]. In this society, the relationship between the producer and the customer has
evolved in several stages and during this evolution, the way through which the quality is perceived kept changing [28, pp. 2.13-2.16] [31, pp. 2-5]. This evolution has led academics, managers and consultants to try to define quality, which generate a wide range of various and divergent definitions. However, current uses of this word are ambiguous. In this sense, Bouchard & Plante say that everyone wants quality but no one wants to bother himself to find a good definition [6]. The reason is simple: each time a writer tries to do this job, he failed to grasp the meaning [39]. This difficulty leads some writers to say that developing a useful definition of quality is not an easy task [26].

Kélada relates, according to a study carried out by Hardie in 1998 that "every guru, researcher, consultant, author, or expert gives a different definition of quality and the majority of these definitions are not objective, do not allow an objective measurement and are not operational [31, pp. 27-28].

In this context, the present work aims to identify the best definition of quality among the existent ones and to set an agenda for new research.

2. HYPOTHESIS

Before digging into the various definitions of quality that we can find in the literature, a question arises: what is a good definition of quality?

Fedele says that the definition of quality must be clear and easy to understand by ordinary people [15]. This idea is logical because quality is everyone’s business [10] [11, p6]. So, the wording of the quality definition must be clear to enable everyone to understand it.

But, what can we do with a clear and understandable definition if it is impossible to use it? Each time we say that a product or service is better than another we use an evaluation and comparison process. To do a rigorous and fair evaluation, we must be able to quantify compared characteristics which mean that those characteristics are defined and measurable. Hence, we can decide and act.

The importance of the measure is not strange to the quality. Indeed, several authors have mentioned it [6] [31, p21]. The verb to measure has many meanings. The one that interests us is: to discover the exact size or amount of something [9, p773]. So, having an operational definition means that it must be totally measurable and give us the possibility to quantify all of its components.

Many authors have tried to define quality in their working areas starting from the specificities related to these areas. But quality is a universal concept that touches all areas and, at the same time, it is independent of their specificities. So, the definition wording has to take it into consideration. It must be universal and can be projected in any area.

What is the suitable size of the area covered by this definition? The life of a product starts with an idea which has to meet a "need". This idea is developed, materialized and then commercialized. But when the product life will end? The most evident answer is to make a link between the product life and the possibility of its use: The product life ends when it is impossible to use it. Here, we have to answer some questions. Who decides on the use? Using a product is related only to its principal function? What about secondary functions and the product's constituent materials? Those questions are difficult to surround. Indeed, a product which is usable for some ones is not for others, and what can be used in a very specific situation may not be so in another. The second life of products complicates the issue. In fact, many goods that citizens of western countries abandon, find users elsewhere. Once the product is unusable, does its life end? Lavoisier said that nothing is lost, nothing is created, everything is transformed. In the case of unusable goods, the principle is true. A portion may be recycled but not all. The rest will disintegrate in nature or be burned.

Should assessing the quality of a product be limited to the product itself or it must go over and affect its impact on all related fields? We believe that the definition of quality must be limited to the recycling and the environmental impact. In fact, it is possible to push the thought but it will lead us into a maze.

In this sense, the case of plastic bags is a good example. They are recyclable but certainly highly polluting. An alternative to these bags are biodegradable plastic bags. If the quality assessment is limited to pollution,
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it is likely that the biodegradable bags widely win. Now, if we take into consideration the fact that part of them is produced from biomass (e.g., corn starch) and that biomass can be used to feed people who suffer from hunger, our vision of the quality of biodegradable bags will always be the same?

To sum up, in our opinion, the definition of quality must be clear, universal, measurable and cover the suitable area.

As advanced, the quality literature is full of definition. In the following sections, we will talk about some of them. Also we will integrate the various classifications and include criticisms that have been made against them.

3. DEFINITIONS OF QUALITY

When we look at the quality literature, we can distinguish a kind of stratification. Some authors are considered more important than others and their ideas are highly influential. However, there is no agreement on the most important ones. Thus, when Forker speaks about quality among US, Japanese and Soviet, she evokes Deming, Juran, Crosby, Taguchi and L’vov as major quality experts [18]. Ghobadian and Speller name Deming, Juran, Crosby, Feigenbaum, Groocock, Taguchi and Ishikawa [22]. For Bendell et al., the “gurus” of quality are Deming, Feigenbaum, Juran, Ishikawa, Taguchi and Shigeo [5]. In the case of Kéada [31, pp. 60-61], this list consists of Deming, Juran, Crosby, Feigenbaum and Ishikawa while Hoyer & Hoyer mention 8 names they consider as "gurus" : Crosby, Deming, Feigenbaum, Ishikawa, Juran, Persing, Shewhart and Taguchi [26]. David A. Garvin works [19] [20] are often cited in the classification of different approaches to define quality. In addition to the “gurus”, the quality literature contains definitions developed by organizations such as the American Society for Quality ASQ or the International Organization for Standardization ISO. In our quest, we will try to go around the definitions made by these "gurus", those of the two organizations mentioned above and we will expand the overview to some definitions expressed by lesser-known authors which can bring added value to our research. The ranking will be in alphabetical order.

3.1. ASQ (The American Society for Quality)

For the American Society for Quality, quality is “a subjective term for which each person or sector has its own definition. In technical usage, quality can have two meanings: 1. the characteristics of a product or service that bear on its ability to satisfy stated or implied needs; 2. a product or service free of deficiencies” [1].

3.2. Crosby

For Crosby, quality means conformance to requirements [11, p15]. This definition reflects the perspective of engineering and operational management functions [18]. In terms of measurability, he affirms that quality is measured through the costs of quality [11, p15]. But, in Crosby’s vision, the concept of quality levels has not been explained. His writings give to the reader the impression that only two levels of quality exist: acceptable and not acceptable which means the absence of any difference between two distinct products that meet the same requirements [26]. Another problem pointed in the literature about Crosby’s definition concerns the appropriateness to take technical specifications as a quality standard. On this point, Smith says that the specifications can be taken as standard only if the needs of a wide range of consumers have been well assimilated and have been considered. Otherwise the specifications are inadequate [42]. Also, Deming and Juran criticize Crosby’s vision. For Deming, the “zero defects” is just a slogan, whereas Juran believes that Crosby does not specify what it should be done right the first time: is it what we have to do or what we are asked to do? [31, pp. 65-66].
3.3. Deming
Deming attributes quality to a product or service, if it helps somebody and enjoys a good and sustainable market [13, p2]. He considers that quality is multidimensional. Its definition depends on who is the judge and this involves a multitude of different definitions. But the most significant is the one given by the most important part of the chain: the consumer which changes status from one situation to another [12, pp. 168-182]. However, Deming’s vision of quality is blurred and its impacts the understanding of his writings. For Hoyer & Hoyer, it is difficult to extract from Deming’s work a clear, concise and practical definition. In their sense Deming considers that such a definition does not exist or, if it exists, it is useless [26].

For Forker, Deming defines quality by decomposing it into three distinct parts: quality of design, quality of conformance and quality of performance related to the quality of the product performance [18].

Wicks & Roethlein argue that Deming defined quality based on current and future customer’s needs [45], while Ghobadian & Speller say that the sense given to quality by Deming is synonymous with "satisfying the customer, not merely to meet his expectations, but to exceed them" [22].

3.4. Fedele
Fedele does not define quality. He expresses the need to formulate a new definition taking into account changes affecting our society. He starts his analysis from an interesting fact: the definition of quality as it is formulated by the International Standard Organization (ISO) is based only on the technical rules. For him, the changes that the society knows lead us to re-examine the ISO’s definition. As rules and laws have limitations, it is not enough to respect them to ensure quality. In addition, the ISO definition is ambiguous and enigmatic. In Fedele’s opinion, the definition we need must be able to give us simple, fundamental and unavoidable answers which go beyond the respect of technical rules and laws to reach values and principles. So he proposes a roadmap that will lead to a new definition which focuses on responsibility because he believes that such a thing can be a factor of competitiveness and growth, despite the difficulty identifying responsibility. He also points the importance of inspection in the quest for the new definition [15].

3.5. Feigenbaum
Initiator of the total quality control [31, p61], Feigenbaum defines quality as all the elements of marketing, engineering, manufacturing and maintenance through which the product and service in use will meet the expectations of the customer [26]. He considers that it is not only a set of techniques but also a way to federate, inspire and integrate efforts and manage for profitability and growth [16]. Through his definition, he illustrates the multidimensional nature of quality and the need for compromise between the different characteristics [22]. However, his definition is limited to the industrial environment and quality of product [31, p66].

3.6. Garvin
Garvin is one of the most cited authors in quality literature. In his works [19] [20], he focuses on strategic quality management and its importance for a company. Rather than giving a definition, Garvin has identified eight dimensions of quality: performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality. He considers those dimensions as critical and represent a framework for strategic analysis.

Performance is the primary operating characteristic of the product. This dimension, measurable, combines two approaches, one based on the product and the other on the user. However, Garvin says that the relationship between performance and the quality remains ambiguous because of the importance of consumer preferences in the judgment of this dimension. Features or secondary product characteristics are also measurable. Garvin recognizes the difficulty of separating between this dimension and the first. Reliability is the probability that a product fails during a very specific period. The importance of this dimension increases when failures become more frequent and maintenance costs more. He defines
compliance as the degree to which a product meets established standards (Garvin considers that all products are related in one way or another to specifications). Durability is the measurement of the lifetime of a product. It consists of two sub-dimensions, the first technique (since acquiring the product to its deterioration) and the other economic (since the acquisition until the change become more advantageous than repair). Serviceability is the claims processing speed. It is composed of measurable elements and other more difficult to quantify, and can be a major asset to conquer the market. The seventh dimension listed by Garvin is aesthetics while the eighth is perceived quality. These two dimensions are subjective and depend on individual judgment.

3.7. Groocock
Groocock defines quality as the degree of conformance of all the relevant features and characteristics of the product to all of the aspects of a customer's need, limited by the price and delivery he will accept. Ghobadian & Speller argue that this definition is simply the sum of Crosby’s definition and Juran’s one [22].

3.8. Ishikawa
For Ishikawa, quality is equivalent to consumer satisfaction [26]. In a more explicit way, it is the development, design, production and service of a product that is most economical, most useful, and always satisfactory to the consumer [22]. Furthermore, Ishikawa does not limit the quality of the product. For him, it must encompass the management, the company and the welfare of man [4]. Ghobadian & Speller claim that Ishikawa’s definition is similar to Groocock’s and Feigenbaum’s ones [22].

3.9. The International Standard Organization
In the ISO 9000:2015 standard, the International Standard Organization defines quality as the degree to which a set of inherent characteristics of an object fulfills requirements [27]. The difference between 2015’s version and 2005’s one is the introduction of the term object [2]. In this focus, Fedele’s critics are still valid.

3.10. Juran
Juran's definition of quality has evolved. Indeed, Reeves & Bednar [36] have traced its evolution in the different editions of Juran's Quality Handbook. Thus, in the first edition (1952) Juran made the distinction between two types of quality, quality of design and quality compliance. In 1962, he identified eight primary uses of quality including market quality which is defined as the ability of a product to meet the desires of a client, and he considers this ability as the most fundamental for industry. In the 3rd edition, he introduces for the first time the term “fitness for use”, which expresses the degree of response of a product to the user’s needs. He considers it as a universal definition because we can apply it to industry and services (he recognizes the difficulty of measuring the external compliance due to its complexity and this makes the application to services difficult). In the edition of 1988, Juran maintains the term «fitness for use ». He criticizes the different meanings that are associated with quality and affirms that the definition “conformance to a standard” is incomplete because any definition must simultaneously meet the needs of internal and external customers, and be free of failure. In the 1999 edition, Juran points the importance of two senses of quality cited above. He says that they have different impacts on cost. The first increases it while the second contributes to its reduction. Juran acknowledges that this may be the source of confusion in the company and some of this confusion can be eliminated through training and the establishment of procedures to show the difference between the two concepts. However, he says that a part of this confusion cannot be eliminated because one expression is used to express two different senses. He doubts the relevance of the definition “fitness for use” because he believes that it is extremely difficult to describe quality with a simple and reduced expression [28, pp. 2.1-2.5].
3.11. Kélada
Kélada notices the importance of defining quality. He reports, according to Hardie, an analysis of the results of 43 studies carried out by different companies on the quality showed that the results were different and even contradictory. Hardie explains this finding by the fact that the quality does not have a direct impact on business performance but rather on intermediate factors which affect the performance. In addition, the outcome of any study depends on how it defines quality. The majority of these definitions are not objective, not operational and do not allow an objective measure. Also, starting from the importance of the customer to the company, Kélada says that his definition of quality must take precedence over all others. This means the need to clarify the sense given to customer, to identify his needs and to define meaning of the non-quality and the over-quality. Thus, for Kélada, the quality of a product or service is defined by a number of characteristics that it should have to make it able to meet some explicit or implicit client’s requirements. Also, he stresses the importance of knowing the user’s aim. The reason is simple: the most important characteristic is the suitability for use. Also, the use can be functional or non-functional. Kélada associates the functional use to a main function and secondary functions. In addition to the intended use, the satisfaction of needs requires a set of characteristics including durability, reliability and other characteristics which depend on the nature of the product. These characteristics directly affect the intrinsic quality of the product while the extrinsic quality is related to the perception of the buyer [31, pp. 27-36].

3.12. L’vov
According to Forker, L’vov studied the meaning of quality from different viewpoints. He finally defines quality as “the totality of properties of a product, which determine the possibility of its utilization in service” [18].

3.13. Pirsig
Pirsig does not believe in the possibility to define quality. For him, it is a characteristic of thought and judgment recognized by an irrational process. He adds that the definitions are the result of a formal and rigid thinking process and that quality cannot be defined. However we can recognize it when we see it [35, pp. 206-207].

3.14. Shewhart
In trying to define quality, Shewhart pinpointed the importance of measurability, which must arise from definition. He identified two quality sides: an objective face, easy to measure consisting mainly of product features and a subjective face, difficult to measure and these are the wants of consumers. To ensure the total measurability of quality, Shewhart suggests transforming subjective characteristics to an objective and measurable ones by translating the customer’s needs on technical features then implementing the means to achieve the characteristics defined and minimizing the margin of error [41, pp. 53-54]. However, he did not set out a well-formulated definition, but despite that, Hoyer & Hoyer think that his vision is the best [26].

3.15. Smith
Smith’s starting point is a simple observation: the researchers who tried to define quality did not focus their attention on conceptualization. So he tried to define quality from a conceptual point of view. In his analysis, he distinguishes between quality as a property term and quality as a relational attribute. According to him, the first one is not a physical characteristic and, therefore, cannot be measured directly. In this case, quality is an abstract characteristic encompassing physical attributes and determining quality through measurement of its attributes.

For the second one, Smith says that “such attributes apply to an entity but characterize it only in relationship to something else”. In this case, quality indicates a relationship between certain attributes of
the entity and an evaluation standard that reflects the ideal as conceived in the mental of people. The fact that we cannot measure quality directly implies that assessment is simply a type of judgment. Quality assessment is a process that begins with the identification of users’ needs. The second step is the determination of the attributes related to these needs to evaluate each one of them. The last step is consolidating all of partial assessments to form the final judgment. The lack of rigor in quality assessment, as well as the inability of analytical methods to determine the exact users’ needs, explains why quality is always subjective. Smith distinguishes between the definition of a concept and its measurement. He thinks that the definition of the transcendental approach as it was defined by Garvin reflects the meaning of the concept of quality even if the measure is difficult. Finally, he proposes the following definition: “Quality is the goodness or excellence of something. It is assessed against accepted standards of merit for such things and against the interests/needs of users and other stakeholders” [42].

3.16. Taguchi
At first sight, Taguchi’s approach seems strange [29]. He studied the meaning of quality from the cost point of view. For him, quality is defined as “the loss caused by the product to the society from the time the product is shipped” [44, p171]. In other words, the costs generated by product malfunctioning to producer (in warranty period) or customer (after the end of warranty period) or society, have an impact on customer satisfaction. This could hurt the company’s brand image and causes a customer loss. From this definition, Taguchi developed a method to quantify these costs: the quality loss function. But this definition is incomplete because the production process can also generate losses [29] [31, p425] and causes environmental pollution [31, p425].

3.17. Wicks & Roethlein
Wicks & Roethlein [45] studied the evolution of quality’s definitions and concluded that they are approaching more and more from customer satisfaction. That is why they tried to build a definition around it. So they define quality as: "The summation of the affective evaluations by each customer of each attitude object that creates customer satisfaction". The attitude object means “the particular entity of interest for customer” while the term 'customer' takes the broadest possible sense and refers to all stakeholders of an organization whose needs and expectations must be considered.

4. DEFINITIONS’ CLASSIFICATIONS
The enrichment of the quality literature pushes some academics to try to classify different definitions. It starts from simple classification, like the Hoyer & Hoyer one, to more developed ones. Thus, Hoyer & Hoyer [26] distinguished two categories: definitions based on fulfillment of specifications and those that focused on customer satisfaction.

The most cited and used classification quality literature is that of David Garvin [19] which identified five approaches to defining quality:

- The transcendent approach: In this approach quality is synonym of excellence. It cannot be defined with precision but is recognized by experience.
- The product-based approach: this approach has emerged in the field of economy. This type of definition tends to be precise and measurable. The difference of quality between two products reflects a difference in a component or attribute. Garvin reported that, for Abbot, it is possible to classify the quality of a product according to an attribute only if it is the favorite of all consumers.
- The user-based approach: This approach has emerged out from marketing literature. It reflects a personal and subjective vision of quality which is linked to providing satisfaction to customers (like fitness of use). Garvin identified two problems which have been ignored in most writings related to this approach. The first problem is the way to group the individual preferences in order to get a definition of quality that goes with the size of a market. The second one is how to draw a distinction between attributes that connote quality of those that maximize customer satisfaction.
• The manufacturing-based approach: This approach is linked to practical engineering and manufacturing practices and has an internal focus. Here, quality is identified as conformance to specifications which simplifies the work of engineering and quality control and helps with costs reducing.

• The value-based approach: in this approach, the most important components of the definitions are cost and price. A quality product is the one that provides either performance at an acceptable price or compliance at an acceptable cost. For Garvin, it is equating excellence to the value which gives a hybrid concept of "affordable excellence" and is difficult to define and apply.

In Garvin’s opinion, the multitude of definitions is a concrete illustration of divergence of vision and it can lead to conflict. He believes that what is based on a single definition can be a source of problem. This means that, despite the risk of conflict, companies must try to take advantages from differences between definitions to achieve high quality products and that is why Garvin suggests that the definition of quality must change as the product moves throughout the chain.

In his classification, Smith [42] evokes the usefulness of Garvin’s work. He speaks of product-based approach, conformance to specifications, fitness for use and it sets up a new category: the quality characteristics. This category, which derives essentially from Ishikawa’s works and Garvin ones, is an operationalization attempt. It does not aggregate concrete definitions of quality but tries to create links between requirements and product specifications (Figure 1).

Garvin’ classification is also the basis for Seawright & Young [39] work: a seven categories classification. In addition to Garvin’s five approaches, they identified the multidimensional quality and the strategic quality. A number of definitions of quality combine several aspects, which give them the multidimensional character. Strategic quality, derived from Garvin’s work, refers to the strategic benefits of quality. Also they distinguish between objective and subjective definitions and their meanings. And even if the different approaches to defining quality seem contradictory, they consider them as partial definitions that reflect one or more aspects of quality. This is explained by the fact that most authors are practitioners and each of them is based on his background. This finding leads them to say that these approaches are parts of the same puzzle and they are linked by a logic of continuum (Figure 2).
Reeves & Bednar [36] have traced the roots and evolution of different definitions and they classified them into 4 categories:

- Quality is excellence: The advocates of this kind of definition state that evaluating quality in areas dominated by individual preferences cannot be done only through abstract terms. They think that defining quality as excellence gives the company a push on the marketing and the human resources plans and this is a sign that the company adopts strict standards and that we can expect from its products high performance.

- Quality is value: Reeves and Bednar stated, according to Feigenbaum’s work and Abbot’s one, that the distinction between quality and price levels are important in the consumer decision making process. They also report, according to Cronin and Taylor, that the purchasing process can be influenced by the convenience, availability, or price as well as by judgment of quality. The concept of value includes important attributes for consumers and drives the company to become more efficient. In addition, defining quality by value gives us the ability to compare different products like substitutes.

- Quality is conformance to specifications: Originally, this definition stems from the need to have interchangeable parts for the mass-production industries. In a second phase, the use of statistical tools to reduce the costs of inspection has increased, giving new impetus to this category of definitions.

- Quality is meeting and/or exceeding customers’ expectations: originally from the marketing services literature, it is the most common of quality. Due to developments of services in Western countries and the inadequacy of the definition "conformance to specifications" to the special services, a consumer-oriented definition was born. Defining quality in such a way means that the company is focused on its environment and gives importance to the customer's point of view. Also, for Reeves and Bednar, this family of definition is applicable to all sectors and can encompass different perceptions of quality in the same industry.

5. DEFINITIONS’ CRITICS
Gradually, as the quality literature has been enriched, critics have been formulated showing the malfunctioning zones in new definitions. Critics were directed to a definite definition or a category of definitions.

In their work on quality, and in addition to tracing the roots of definitions, Reeves & Bednar [36] have tried to determine the weaknesses of each family of definition. For them, when we define quality by excellence we make it difficult to exploit, because this definition provides few indicators for operation and it is not measurable. Moreover, they think that the notion of excellence, which is defined by consumers, can change direction quickly by following factors influencing the consumer opinion. In the case where quality is defined by value, it is difficult, according to Reeves and Bednar, to pick out the components considered by the customer to make a judgment on the product. Also, they affirm the existence of a point of divergence in this family: is the value included in the quality or the opposite? They also report that in some cases quality and value are considered synonymous, but in most of the literature they are considered different concepts.
For the 3rd family, they think that a big part of goods are not assessing for their conformance to specifications. They state that the consumer may not be aware of disinterested in specifications, and that his evaluation of products cover the entire package not only specifications. Also, they believe that this kind of definition is not suited to services especially when human contact represents a large part of the delivery and they consider difficult to specify standards in human interactions. Other critics, made by Reeves and Bednar, concern the ability to determine the appropriate specifications which depend directly on identifying customers’ needs correctly. Even more, focusing the attention exclusively on conformance with internal specifications can push the company to ignore what competitors are doing. Finally, meet and / or exceed customer expectations, according to Reeves and Bednar, is the most complex and consequently more difficult to measure because the same attribute does not have the same weight in the consumers’ opinions. They think that customers cannot give their true opinion before using the product and it is difficult to predict their reactions because of their «idiosyncrasies”. The weaknesses of this family are not limited to what has been stated. The authors talk about the difference between short-term and long-term evaluation and their relationship with satisfaction. They also evoke the difficulty to distinguish between customer service and customer satisfaction.

On the other side, Smith [42] used his own classification to formulate critics. For him, the product-based approach ignores the relational character of the quality and its dependence on a standard or an external stakeholder. He states that equating quality in a measurable attribute helps on getting around the difficulties of operationalizing quality but it is accompanied by a large loss in the adequacy of the concept. In terms of conformance to specifications, Smith acknowledges that this approach is operational but the quality of the definition depends on the relevance of the specifications. For him, conformance to specifications can be a good approach if the requirements are established by studying the needs for a wide range of users. This will inhibit the random specifications usually made by design function which is one of the weaknesses of this approach. In terms of fitness for use, the main problem for Smith is its operationalization because it is difficult to determine the needs of customers as much as it is difficult to transform them into attributes.

Smith has also formulated critics against Garvin’s classification like value-based definitions. Smith thinks they are wrong because the price and quality of a product are completely different. Indeed, the cost is a component of product quality for the producer as it impacts profitability but for consumers, price is the compensation given to acquire the product, its features and its quality.

6. WHICH DEFINITION IS THE BEST?

Ruling on the best definition of quality is worth thinking about. The continuum proposed by Seawright & Young [39] is interesting (all existing definitions are partial definitions that reflect one or more aspects of quality). It is true that the way to see a product (or service) can change depending on point of view and each author transcribes his experience, but is that a reason to have this range of definitions? We think that Seawright & Young are right: we must speak of partial definitions. Each one is the projection of quality definition on given axis. We believe that the definition of quality must cover the suitable area. So, it is imperative that this definition covers the entire value chain and includes the recycling and the environmental impact.

In our opinion, there are enough critics against different quality definitions in the literature. So we will do with what has been listed in the literature. We will also share some ideas about transcendent definition family (especially ASQ et Persig ones) and customer satisfaction.

In the definitions listed above, some ones are not clear and they only get us muddled. Quality for ASQ is a subjective term for which each person or sector has its own definition. This means that it is possible to have, for a very specific product, a number of definitions equal to its customers. A hundred millions of people buy the same model of Smartphone because they consider it as the best in the market. Does this mean that the characteristics of this product correspond to a hundred million definitions of quality? In
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addition, this definition does not meet any of the identified criteria: clarity, universality, measurability and covering the suitable area.

The same remarks can be applied to the vision of Pirsig, who thinks that we do not know what quality is, but we recognize it when we see it. It is true that Hoyer & Hoyer think that Pirsig’s book is among the best works which talk about quality since the writings of Shewhart, but his idea of quality is questionable. When we speak about “recognizing quality when seeing it”, it supposes that we have prior knowledge of the subject and the ability to make a judgment. The importance of prior knowledge of the subject and the ability to judge can be illustrated by two examples. Does a born blind person have the ability to describe colors? To judge an artistic masterpiece? Is it possible for a person, who believes in sacred cow, to judge the quality of a beef steak? Prior knowledge is a kind of reference point which is used to evaluate quality through the faculty of judgment: it is itself, a kind definition.

Meeting customer expectations cannot be absolute. It is true that a change in consumer behavior begins to manifest and that the consumer has become more informed and more warned [14] [24] [33] [34] [38], but the rationality of the homo-economicus as described in the economic literature exists only in theory and that it is to generalize and simplify [40, pp. 156-157]. In fact, most people do not control their impulses and can strongly be influenced. This means that a part of the wants expressed by the consumer, are not reasonable and, in some cases, they can have a detrimental effect on his own interests or those of his circle or entourage. In this case, customer satisfaction has to be limited. Indeed, there are some partial limitations. Laws that forbid the consumption of narcotics or limit CO2 emissions hinder somehow, the consumption of some products. Ethics and values do the same thing. For quality, different standards are, somehow, limitation tools. So, why not to incorporate this in the definition of quality? Taguchi does it, but in a limited way. The critics formulated by Kackar and Kélada against Taguchi’s definition are reasonable. The losses are not confined to the shipping or manufacturing. They can be present throughout the chain, starting with the definition of need, design, manufacturing, logistics, after-sales service and recycling. This goes in the same direction as the idea advanced by Fedele on the need to introduce the responsibility in the definition, which will give it the same expanse as the quality itself.

In the first part, we identified the criteria that a good definition of quality must meet: clarity, universality, measurability and covering the suitable area. Logic dictates that a comparison between the different definitions and perceptions identified should be made on the basis of those criteria. The results of this qualitative comparison are illustrated in figure 3.

![Figure 3](image-url) A qualitative comparison between quality definitions according to 4 criteria universality, clarity, measurability and covered area

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In this diagram we can notice that the definitions sets by Kélada encompass others. This is normal because his vision of quality was built in such a way to integrate existent visions. Indeed, in this definition we found the ISO definition (a number of characteristics that [the product] should have to become able to meet some explicit or implicit customer needs), the Juran’s one (Kélada uses the term suitability but he gives to it the same sense of fitness for use). We can also find the definition sets by Garvin (satisfaction of the need requires a set of characteristics including durability, reliability and others which depend on the nature of the product), and Deming (because of the importance of the customer for the company, his definition of quality must take precedence over all others). Taguchi’s vision is indirectly integrated by using the quality loss function as an important tool to implement quality.

7. CHANGES IN CONSUMER BEHAVIOR DURING AND AFTER 2008’S CRISIS

Regarding to established criteria, the best definition of quality is Kélada’s one, and we consider it as a starting point for any new research. Now, the question to ask is: Do we need a new definition?

Products and services are here to meet consumer’s demand which is the manifestation of their behavior. For Kotler and Keller, “consumer behavior is the study of how individuals, groups, and organisms select, buy, use and dispose of goods, services, ideas, or experiences to satisfy their needs and wants”. This behavior is not motionless. It evolves over time and it “is influenced by cultural, social and personal factors” [32, p151]. Hébel states that changes in consumption are translation of changes in lifestyle and the daily consumer behavior opens the way for varied demand in economic crisis times [24].

The literature on consumer behavior during crises is scarce [23] [30] [43], but existents scientific productions allow us to conclude that economic crises affect the consumer’s psychology [30] and lead them to re-evaluate their purchasing beliefs and attitudes: they become more rational and careful regarding consumption [43].

Some authors, like Zurawicki and Braidot or Latham and Braun [43], have established classifications related to consumer behavior in crises times. Zurawicki and Braidot identified two types of reaction: active and proactive. The active reaction is an adaptation of consumption by changing priorities and re-evaluating their real needs. Proactivity consist of taking temporary measures such as using saved money, selling assets or even taking out a loan. Latham and Braun, meanwhile, has listed four types of consumers that emerge in times of crisis: Substituting consumers who try to substitute their usual product with a similar and cheaper one, satisficing consumers who try to find adequate solutions when it is impossible to get ideal ones, reducing consumers who simply reduce the consumption of some products and negotiators who try to reduce price or get extra services.

In addition to the mentioned classifications, many scholars have studied consumer’s response to 2008 crisis. And even if a large part of those studies focus on different countries (USA, China, Turkey, France, Romania …) consumer behavior was almost the same. Thus, they notice a lack of confidence [7] [30] [33] [34] [38], which is accompanied with behavior changes. Consumers become more demanding, more informed [14] [34] and more rational [14] [24] [33] [34] [38] with greater price sensitivity [7] [14] [30] [33] [34] [38]. Consumers have also change their shopping places [7] [14] [34] and switch from their usual brands to private labels [7] [14]. The ultimate objective is to reduce expenditure [14] [30] [33] [34].

Unlike some previous crises, whose impact was temporary, the impact of this downturn is not limited to recession times [7] [17] [21]. Thus, Flatter & Willmott [17] believe that consumers, specially people who were 35 years old or less at the beginning of the crisis, will remember this experience throughout their lives. Also, they believe that eight trends will be affected. As dominant ones, they identify a more demand for simplicity and a focus on the boardroom and they cite discretionary thrift and mercurial consumption as advancing trends. Moreover, they consider that a slowdown will affect green consumerism and the decline of deference but they notice that, after a while, they will recover. The arrested trends they identify are extreme—experience seeking and ethical consumerism (with a slight recovery for the last).

For Gerzema & D’Antonio [21], changes in consumer behavior started before 2008, the crisis gave them a momentum and they will continue after the recovery. For the said authors, four principles can help
us to understand these changes. First, changes are “blind to demography, geography, education, age and income”. The second principle is thrift. People redefine the meaning of success and happiness which leads them to live with less while feel greater and give them the possibility to turn back to an “old fashioned value”: Thrift. The third one is the importance of transparency in consumer purchasing decision. A lack of trust in information given by companies drive people to dig for it themselves using internet, particularly, social media. The last principle is the importance of kindness and empathy consumer which is a translation of an alignment of values and spending. Gerzema & D’Antonio are not the only authors who believe that changes started before the crisis, it is the case of Hébel [24]. It starts with different activist groups and spreads slowly. Economic crises increase the change and, at the same time, they accelerate the emergence of new consumption trends. In the French case and even after the recovery, some changes that have marked the period of recession are still here like the “do it yourself”. Now, people consider waste as a very negative act and accord a great importance to the corporate social responsibility [25].

It seems that changes in consumer behavior are only a step in the process of metamorphosis of the relationship between consumers and business. Indeed, consumers have realized that the way they spend their money is a power they have in their hands and they try to use it to show their believes and values and also to influence the various institutions [21]. The new consumer is powerful, he is aware of this situation and wants to change the rules [21] [23] [25].

8. WHAT IS NEXT?

As shown above, the best quality’s definition that exists in the literature is Kélada’s one. But seen from Fedele’s angle of vision, this definition does not go over the respect of technical rules and laws and touches the values and principles. This shift to the values and principles cannot be done without asking ourselves the right questions and having the courage to answer them. The most obvious question that comes to mind is related to changes in consumer behavior and the way to deal whit it. Some scholars believe that companies must understand the post-recession consumer and adapt their Marketing Strategies [7] [8] [17] [21] [37], but is it enough?

In our opinion it is impossible for companies to keep the same approach. Currently, the relationship between producer and consumer is based solely on profit. Each one tries to make the most of this relationship without worrying about the interests of the other. In one hand, the producer does the best to reduce costs and make his production system more efficient and, at the same time, he made everything possible to increase the margins. In the other hand, and even if he is currently the weakest party in this relationship, the consumer is always seeking the right deal, regardless of the interests of the company.

Insofar as the takeover by consumer is becoming a reality, the actual imbalance in relationship consumer/business, which leans toward companies, is likely to give way to another imbalance, which will lean toward consumer. In our point of view, it is essential to strike equilibrium. The ideal situation would be a real win-win relationship, where each party cares about his interests and also those of the other party. This new relationship will be accompanied by changes in business world and especially in the way of defining and perceiving quality. We believe that the result of mixing Kélada’s quality definition, Fedele’s idea (going over the respect of technical rules and laws and touching the values and principles) and the new equilibrium will be amazing.

REFERENCE


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Towards a New Definition of Quality: Identification of the Best Existent Definition and Agenda for Future Research


