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Quality Attributes for Press Articles and Habermas' Theory of Communicative Action¹

The results reported in this paper are part of a broader research aiming at studying the relationship between (perceived) quality and (economic) value of information. To do so, one must be able to measure information quality (IQ). We report an empirical study with 106 University students to test an IQ-measurement system using articles of the periodical written (or internet) press. The first step consists in identifying IQ criteria by which these articles can be assessed. The solution is to endogenously generate the criteria that subjects can then use for IQ assessment. The results revealed four families of such criteria, which, it turned out, corresponded very closely to Habermas' four criteria of Communicative Action. In addition, the perceived hierarchy between the first criterion (intelligibility), which was cited by practically all respondents, and the other three criteria reflected Habermas' theory, in which intelligibility is regarded as a prerequisite to any communicative action. The paper thus provides, first, a procedure for generating a consistent measurement of IQ applied to the written press and, second, establishes that Habermas' Theory of Communicative Action constitutes an appropriate framework for interpreting the empirical results.

Keywords: information quality, Habermas, Theory of Communicative Action, measuring information quality, written press.

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1. Introduction

This work aims at determining quality attributes for articles in the periodical written or internet press (articles in periodical publications of the written or internet press aimed at the general public, mainly daily newspapers and weekly or monthly magazines, henceforth referred to as “press articles,” or simply as “articles”), as perceived by a panel of University students. In an open questionnaire, we ask students about the quality attributes that they spontaneously ascribe to press articles. The analysis of the answers shows that fundamentally, all spontaneously perceived quality attributes can be interpreted as closely reflecting the four general validity claims, or criteria which, according to Jürgen Habermas characterize *communicative action*. In his *Theory of Communicative Action* (TCA) Habermas (1984, 1987, 1995) indeed defines a set of norms underlying *communicative action*, meaning the conditions under which information is exchanged or transferred in an undistorted and transparent way. These four *validity claims*, or *contentions for validity* (*Geltungsansprüche*), which can be interpreted as broad quality attributes (denoted in what follows as C1 through C4), should lead to a free and open discussion. These are (C1) *comprehensible character* or *intelligibility*, (C2) *truth* (of propositional content), (C3) *sincerity* (or truthfulness), and (C4) *appropriateness* or *legitimacy* (or rightness, with respect to pre-existing norms and values)¹.

Furthermore, Habermas’ TCA has lent itself to a number of applications, as documented in a number of works. It has, for instance, been applied to corporate annual reporting (Yuthas et al. 2002; Lesourd & Schilizzi 2008), to the practice of communication and to the design and management of information systems (Chriss 1995; Cecez-Kecmanovic & Janson 1999; Heng & de Moor 2003), as well as to corporate brand management (Kernstock & Brexendorf 2009).

However, at least to our knowledge, Habermas’ theory of communicative action has not been used to interpret the quality aspects of communication in the written media.

Whether Habermas’ validity claims can be related to quality-driven demand functions in the economic sense of the expression is, at the

¹ Habermas uses the German terms *Verständlichkeit*, *Wahrheit*, *Richtigkeit*, and *Wahrhaftigkeit*.

present stage of our research, beyond the current scope of this paper. Our purpose here is mainly empirical: this paper aims at assessing how quality attributes of press articles are perceived by a suitable panel of readers, and to bring some order in their perceptions through a classification of these quality attributes, as revealed in the survey. It turns out that, interestingly enough, Habermas' four norms of communicative action fit the bill nearly perfectly. The quality attributes described in the previous section could thus be classified according to Habermas' model.

Our paper is organised as follows. After the introduction, a second section discusses in more detail the background of our empirical work: we thus discuss Habermas' four validity claims and their pertinence for being used in an empirical classification of the information quality attributes. A third section presents the method of investigation and the results obtained. A fourth section examines the statistical quality of our results and of their classification according to Habermas' validity claims. Finally, conclusions and research perspectives are offered.

2. Background

Habermas' TCA has achieved and developed a precise description of free communication, from a philosophical point of view but with already a number of practical applications, as discussed above in our introduction. To be able to relate our empirical findings to Habermas' TCA, we have to discuss and thoroughly understand the practical implications of Habermas' model and in particular of the four validity claims of TCA. We now proceed to give their gist, adapting to the specific context of this paper's discussions that have been conducted in several previous works (see in particular, among other discussions: Yuthas, Rogers & Dillard 2002; Lesourd & Schilizzi 2008; Heng & de Moor 2003; Kernstock & Brexendorf 2009).

First of all, according to Habermas, the message issued by the speaker must be *comprehensible* or *understandable* (C1). This understanding by the receiver of information refers to the language (in the most general sense of the term) in which the message is expressed. Both the emitter and the receiver must clearly understand the language of the message. This might be a question of language in the restricted sense of the term. If a reporting or piece of news is expressed in English, all persons receiving

this information must understand this language. However, even if the report is expressed in English, and if all receivers to whom it is directed understand this language, they might not understand some of the technical developments if they know nothing about the underlying technical field. Even if the receivers are both literate in English and in the relevant technical field, they must often be aware of technical norms or conventions being used in the statements or piece of information; for instance, a financial journalist must be aware of accounting norms as well as of accepted or mainstream accounting and financial theory.

A second condition (C2) is that the speaker's message must be trusted as being *true* from an *objective* point of view, in what Habermas calls the *objective world*, by all persons who receive the information. This implies the possibility of verifying what is said, either by themselves using other pertinent information that does not falsify, in Karl Popper's sense (Popper 1959), the statements issued in the message received, or by other persons that are empowered by the persons receiving the information to verify it, such as newspaper readers.

A third condition (C3) is that the speaker must be considered as *truthful*, or *sincere*, through his/her behaviour in the context of the communicative action, as appreciated from a *subjective* point of view, in what Habermas calls the *subjective world*. As stated by Yuthas, Rogers & Dillard (2002: 142) in the case of corporate reporting, does the firm intend to "transparently communicate performance information, or to instrumentally influence stakeholders [...]"? This leads to problems of so-called *credence quality* attributes, as discussed in Ackerloff's seminal work on "lemon" goods (1970) as well as in the subsequent papers of Darbi & Karni (1973), and Nelson (1974). This notion of credence quality also applies to information in that, unlike experience quality attributes, it often cannot be directly verified by the receiver, so that the emitter must be credible and reliable.

A fourth and final condition (C4) of Habermas' model is that the speaker's utterance has to be *legitimate*, or *appropriate* (pertinent, justified or right), in the sense that it has to be adapted, from a *normative* point of view, to the conditions that prevail in the social world. This last validity claim is defined by Habermas himself (1984: 49) as legitimacy or rightness in the sense of "what can be legitimately expected, what is commanded or ought to be" in the existing social world. This indeed is a less

straightforward concept than the three previous ones since it applies to appropriateness with respect to all existing social norms, which are manifold. According to the definition, this can apply to many sorts of social norms, including ethical norms, legal norms, as well as (in the context of our work concerning press articles) to other norms such as style, spelling, or pertinence of the article with respect to its novelty, or topical character. Accordingly, several expressions are being used in the literature applying Habermas' TCA to various fields. Examples of expressions used in this context are "legitimacy," a term used by Habermas himself, (Yuthas, Rogers & Dillard 2002), "legitimacy and justification" (of norms) (Cecez-Kecmanovic & Janson 1999), "socially acceptable conduct" or "rightness" (Kernstock & Brexendorff 2009). Furthermore, this legitimacy concept appears as a multi-dimensional one, since it applies to (1) the legitimacy of a given message, which may, or may not, conform to existing norms, and to (2) a prescriptive, or normative message, which may, or may not, in a more abstract sense, conform to existing principles or values.

Habermas' post-TCA work has broadened its theoretical and practical perspectives (Habermas 1995a, 1995b, 1998) with far-reaching implications for a number of disciplinary fields such as economics, law, management and political science, among others. In particular, as discussed in Deflem (1996), Habermas' *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy* (1998)² appears to extend TCA to the foundations of law and of legal norms in a democracy; the same is true of Habermas' debate with J. Rawls on Rawls' economic theory of justice (Habermas 1995; Rawls 1995). While these debates are outside the scope of our paper, they show that Habermas' TCA has lent itself to a number of further theoretical developments and applications.

In the context of communicative action (i.e., with the intention to inform rather than to persuade or manipulate), Habermas' theory closely links information quality to communication quality. Indeed, the degree to which a receiver is truly informed by an emitter depends on the quality of the communication as well as on that which is communicated, which is the information transmitted. Habermas' claims to validity focus specifically on communication between two or several agents, but his thinking

² Original publication: 1992.

is also closely related to the notion of information quality. It may therefore be useful to briefly situate his approach in the broader context of information quality assessment.

The literature seems to have focused on two key issues: defining information quality (IQ) and assessing or measuring it, although both challenges are often brought together in the effort to design what we may call a “quality assessment framework”. Contributors to Wormell (1990) specifically discussed IQ and its multi-dimensionality, while Lillrank (2003) tried to formalise IQ as a function of context. Later work focused on this approach and includes such work as Meijer (2001), Bovee et al. (2003), Hope & Li (2003), Price & Shanks (2005), Stvilia et al. (2007), and Price et al. (2008). Some of the discussions have been more specifically related to the quality of information technology data, but all with the broader ambition to include qualitative data as used by business managers and decision makers. Thus, a distinction between syntactic, semantic and pragmatic IQ (Price et al. 2008) clearly establishes a link with the Habermassian criteria of, respectively, C1 (understandable), C2 (true, verifiable) and C4 (appropriate, relevant), with only C3 (sincere) being left aside. Lillrank (2003) defines IQ as the combination of technical quality of artefacts (related to C1 and C2) and of negotiated quality of deliverables (related to C3 and C4). Other classifications, like Stvilia et al. (2007), focus on what they term non-ambiguity (C1), completeness (C2), accuracy (C2), consistency (C1 and C3), and non-redundancy (C4), although the correspondences do not fit perfectly. There are yet other similar categorizations of IQ, but these examples suffice to highlight the close relationships between, on the one hand, IQ and Habermas’ validity claims interpreted as quality criteria, and, on the other hand, between quality of information and quality of communication.

3. Our Empirical Study

The results reported in this paper are part of a broader research aiming at studying the relationship between the (perceived) quality and the (economic) value of information, the latter being measured by recipients’ willingness to pay for it. To do so, one must be able to measure information quality (IQ). We report an empirical study with 102 University students

to design and test an IQ-measurement system using press articles from the written press. The first step consisted in identifying criteria by which these articles could be assessed for their informational quality. Given the role of subjectivity in information quality assessments, the researchers could not decide by which criteria the study participants should assess the articles. The solution was to design a protocol to endogenously generate the criteria that subjects could then use for assessment. The data thus generated was then analysed to yield semantic clusters or categories. We then asked the participants to use these categories to rate a sample of articles and also to weight each of the categories in terms of their relative importance for judging information quality. In this way it was possible for the researchers, using both individual ratings and individual weightings, to work out a collective assessment of information quality. Here we shall report only on the first part of this study.

The first stage of the study was carried out with the help of 106 people, of which 102 were university students in Marseille, France, enrolled in Masters classes of the EJCM (School of Journalism and Communication of Marseille, Université de la Méditerranée), in journalism and in communication-related curricula. The remaining four were professional and non-academic instructors.

Questionnaires were anonymous, but some background information was asked for in the questionnaire. This enabled us to categorize respondents as follows:

- In terms of gender, we had 64 female students, 40 male students, and two that did not answer the questionnaire on that point.
- In terms of subjects, we had 78 students in journalism-related curricula (31 in first year, and 47 in second-year of Master's degrees), 24 students in communication-related curricula, and 4 instructors in the curricula of the school.
- In terms of age, there were several groups, including 80 students in initial training aged between 19 and 27, 20 students in further education aged between 28 and 43, 2 students that did not answer that part of our questionnaire, and the 4 instructors.

As per Questionnaire (A1) shown in the Appendix, the participants were asked to provide between three and five criteria they thought were most

important for judging the quality of press articles. These criteria were not ranked by the participants, at least not explicitly, but just listed. The data collected by questionnaire A1 was then categorized by the researchers into semantic clusters, used as IQ categories.

We were able to interpret the results of the survey in terms of Habermas' TCA. More precisely, we were able to relate expressions and words used by the survey participants to describe what they perceived as quality attributes for press articles to all four validity claims of TCA. It turns out, quite interestingly, that we were able to relate all of the expressions and words used by survey respondents as quality attributes to Habermas' validity claims, as shown in Table 1 hereafter.

Table 1: Expressions or Words reported in our Survey as related to Habermas' Criteria

Criteria (N = 106)	Expressions of newspaper quality used by respondents
C1 – Intelligibility	Clarity, readability, simplicity, brevity, concision, precision, vocabulary adapted to readership, illustrations
C2 – Truth	Sources, reliability of sources, exactness of information, completeness of information
C3 – Truthfulness	Reliability, veracity, objectiveness, honesty, neutrality, impartiality, critical analysis
C4 – Appropriateness	Relevance, original character, topical character, pleasantness, attractiveness, quality of style, ethical character

The degree of agreement across the four categorizations was almost perfect, so we do not present any inter-coding fidelity score, which would be very close to 100 %.

4. Statistical Validity of Survey Results

We now move on to the quantitative analysis of our results. We discuss them from the statistical point of view in order to assess their significance; secondly, and more fundamentally, we discuss the quantitative importance of each of the four groups thus defined as related to Habermas' criteria.

A quantitative analysis of the frequency of the expressions and words used by survey respondents, classified according to the four criteria, is given in Table 2, together with their 95 % confidence intervals. Let us define x_1 , x_2 , x_3 , and x_4 as the apparent *proportions* of respondents having cited criteria C1, C2, C4, and C4, respectively. The statistical significance of the observed data was studied on the basis of sampling theory assuming binomial distributions of proportions for all citations related to quality attributes C1 through C4 (x_1 , x_2 , x_3 , and x_4). Table 2 gives the apparent proportions x_1 , x_2 , x_3 , and x_4 with confidence intervals at the 95 % confidence level, calculated on the basis of normal approximations for x_2 , x_3 , and x_4 . As far as x_1 was concerned, inasmuch as the apparent proportion was close to 1, the normal approximation was questionable and the confidence interval was determined on the basis of the underlying "true" binomial distribution.

Table 2: Times cited and Frequency of Citations of Expressions or Words reported in our Survey as related to Habermas' Criteria

	C1 Intelligibility-related	C2 Truth-related	C3 Truthfulness-related	C4 Appropriateness-related
Times cited out of 104	101	42	62	51
95 % confidence interval*	97–106	32–52	52–73	41–61
Frequency of citations (%)	95.28 %	39.62 %	59.6 %	48.11 %
95 % confidence interval (frequencies)*	96.05 % ± 3.95 % [92.09 %– 100 %]	39.62 % ± 9.31 % [30.31 %– 48.93 %]	59.04 % ± 9.45 % [49.59 %– 68.49 %]	48.11 % ± 9.51 % [38.6 %– 57.62 %]

* Boundary values refer to lower nearest integer for lower boundary, and to larger nearest integer for the upper boundary.

We also determined whether the differences between observed apparent proportions x_1 , x_2 , x_3 , and x_4 by respondents were significant (Table 3). Inasmuch as we dealt with comparisons of dichotomous data regarding

proportions of citations by respondents, the McNemar test (McNemar 1948) was adequate to compare proportions. Table 3 shows that the null hypothesis of equality of proportions was rejected in all cases of comparisons between x_1 and other proportions x_2 , x_3 , and x_4 with very high significance (confidence levels were more than 99 % in all cases). However, in the cases of comparisons of x_2 against x_4 , and of x_3 against x_4 , the null hypothesis was not rejected even at a 95 % confidence level. We thus conclude that, statistically, x_1 appears to be very significantly ahead of all other proportions, and that differences between proportions x_2 , x_3 , and x_4 are much less pronounced.

Various subsamples and, in particular, the two subsamples corresponding to women and men students were investigated for significant statistical differences: did they differ in the proportions of citations x_1 , x_2 , x_3 , and x_4 (Table 4)? Among the 64 women and 40 men who answered that part of the questionnaire, and on the basis of Fisher's exact test carried out for these comparisons between the subsamples concerning men and women, we found that, at a 95 % confidence level, the null hypothesis that each of the proportions x_1 , x_2 , x_3 , and x_4 were statistically different could not be rejected³.

Table 3: Comparisons of Proportions of Citations x_1 against x_2 , x_3 , and x_4 (whole sample, paired data)

Rank of proportions (in decreasing order)	Comparisons of proportion x_1 against x_2 , x_3 , and x_4	Comparisons of proportions x_2 through x_4
$x_1 = 95.28\% >$ $x_3 = 58.49\% >$ $x_4 = 48.11\% >$ $x_2 = 39.62\%$	$x_1 = x_3$: rejected $< 0.000001^*$	$x_2 = x_3$: rejected 0.004534
	$x_1 = x_4$: rejected $< 0.000001^*$	$x_2 = x_4$: not rejected 0.24296
	$x_1 = x_2$: rejected $< 0.000001^*$	$x_3 = x_4$: not rejected 0.143865

* McNemar test results (Two-tail); null hypothesis is that both proportions are the same.

³ The details of the various statistical tests performed are available upon request.

Table 4: Comparisons of Proportions by Gender

Proportions compared	Women (subsample of 64)*	Men (subsample of 40)*	Comparison of subsamples**
x_1	63 citations 98.4 % [96.13 %–100 %]	36 citations 90 % [0.8285–1.0000]	$p = 0.0708$ not rejected
x_2	25 citations 39.1 % [27.11 %–51.01 %]	16 citations 40 % [24.82 %–55.18 %]	$p = 0.5428$ not rejected
x_3	37 citations 57.8 % [45.71 %–69.91 %]	24 citations 60 % [44.82 %–75.18 %]	$p = 0.8411$ not rejected
x_4	30 citations 46.9 % [34.65 %–59.11 %]	20 citations 50 % [34.50 %–65.50 %]	$p = 0.5428$ not rejected

* Second line: apparent proportion; third line: confidence intervals between square brackets.

** Fisher's exact test p (Two-tail); null hypothesis is that proportions in both subsamples are the same.

Thus, the *intelligible* or *understandable* character of the article (C1) appears to be the most important criterion for our respondents. Directly (using the words themselves) or indirectly (using a periphrasis), expressions and words such as clarity, readability, simplicity, brevity, concision, precision, vocabulary adapted to readership, presence of illustrations ... are cited in almost all the questionnaires. More precisely, these intelligibility-related characteristics appear in 101 of the 104 available⁴ questionnaires (apparent frequency: 95.3 %), by far the most important proportion. Finally, we conclude that C1-related criteria (or criteria related to *intelligibility*) are by far the most cited group of criteria, being cited by an overwhelmingly large proportion of respondents (95.3 %).

By comparison, C2- or truth-related attributes, are observed in only 42 questionnaires (apparent proportion: 39.6 %), C3- or truthfulness-related attributes are observed in 62 questionnaires (apparent proportion:

⁴ There remained 104 questionnaires after exclusion of two of them in which respondents did not answer the part of the questionnaire regarding gender.

58.5 %), and, finally, C4- or appropriateness-related attributes are observed in 51 questionnaires (apparent proportion: 48.1 %). From the statistical point of view, all proportions differ from each other with high statistical significance, except perhaps for comparisons of x_2 against x_4 and of x_3 against x_4 .

Therefore, quite logically, it appears that an article has to be fully and readily understood according to almost the totality of our panel before any of its other quality attributes are considered. In other terms, intelligibility appears as a prerequisite to all other attributes. This finding is closely in line with Habermas' theory of communicative action. In Habermas' theory, there is a hierarchy between intelligibility (C1) and the other three criteria C2 to C4. Indeed, Habermas discusses only a class of information characterized by its *intelligibility* or its understandable character (C1). This means that any information which falls into the category of communicative action is oriented towards mutual understanding. Thus, Habermas discusses information which has first of all to be understood before it can be appreciated in terms of other validity claims, or criteria C2 through C4.

The results of our questionnaire are thus fully in line with Habermas' theory of communicative action with respect to the status of C1, intelligibility.

The second Habermassian criterion is *truth*, or the verifiable character of the information reported in the article (C2). Directly or indirectly related expressions and words include (see Table 1) the nature of information sources, reliability of sources, exactness of information, completeness of information. However, such truth-related expressions or words are less frequently encountered in our questionnaires than C3- and C4-related attributes. The most frequently encountered criterion among the C2 through C4 "contention for validity" criteria is C3, truthfulness or sincerity. More precisely, it appears (see Table 1) through expressions and words such as reliability, veracity, objectiveness, honesty, neutrality, impartiality, critical analysis ... in some 62 questionnaires out of 106 (59.6 %).

The fact that C2-related expressions and words are less often encountered in our questionnaires than those related to C3 probably stems from the fact that C2-related characteristics are, as discussed earlier, typical *credence quality* attributes. More precisely, a reader cannot readily verify that information contained in a newspaper article is true. This means that he/she has to rely on the journalists' sincerity and/or more generally truthfulness-related

attributes, because, again, we are discussing here typical credence quality attributes. Finally, we find in our questionnaires a number of C4- or appropriateness-related expressions such as (see Table 1) relevance, original character, topical character, pleasantness, attractiveness, quality of style, ethical character. These are quality attributes that reflect the interaction between the emitter and the receiver in terms of the context of transmission and of the interests of the receiver; by contrast, C3-related attributes refer specifically to the journalists' behaviour or attitude. It appears that C3-related attributes, although they are more often cited in our questionnaires than C4-related ones, seem to be, roughly speaking, of comparable importance.

As expected in the background discussion of section 2, these C4-related attributes are appropriate or legitimate in terms of several groups of norms:

- 1) Some of these attributes are related to the fact that the information presented in the article is really new and of interest to the readers (relevance, novelty, and the topical character ...)
- 2) Other attributes are aesthetic attributes or refer to the fact that reading the article is agreeable to the readers (pleasantness, attractiveness, quality of style ...)
- 3) Another attribute, which is mentioned only once, is the ethical character of the article itself (as opposed to the C3-related integrity of the journalist or informer). Thus, the journalist could be reporting honestly on some socially very unethical topic which perhaps should not be communicated to the public.

Of course, these quality attributes are diversified and one might suggest distinguishing them, for example between the "novelty" attribute and the "attractiveness" attribute. But let us note that all the attributes that we have grouped together as related to C4 reflect the interests or the values of the receivers from an appropriateness or a legitimacy point of view. This is very much in line with the characteristics of Habermas' C4 validity claim, which, as noted previously, applies to several social norms and to several objects.

5. Conclusion

This paper first provides a procedure for generating a consistent measurement of information quality applied to the written press and, secondly,

establishes that Habermas' Theory of Communicative Action constitutes an appropriate framework for interpreting the empirical results.

The empirical study, based on a survey of 106 Masters students in journalism and related studies, such as communication, strongly suggests that quality attributes for press articles can be classified into four groups which closely reflect the four criteria introduced by Habermas' Theory of Communicative Action (TCA). Knowing that our goal was not to study all aspects of the reception of information, nor to study what the receivers do with the information, our empirical results reveal four main families of information quality criteria.

These four groups or families turn out to be closely related to the four validity claims of TCA, and intelligibility-related characteristics are cited in almost all questionnaires. We can interpret this through the fact that understanding articles is a prerequisite to the assessment of other quality attributes. This is in line with Habermas' theory of communicative action, which focuses on a class of information understood by all potential receivers.

We thus conclude that Habermas' theory of communicative action provides an appropriate framework for analysing and classifying the perceived quality attributes of press articles. Whether this framework extends to other types of media will need to be investigated by future work. The method designed for this study should be general enough to carry out other similar studies.

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Appendix : Questionnaire used in the Survey

Questionnaire A1 : Critères pour juger de la qualité d'un article de presse.

Question: Pouvez-vous SVP indiquer au moins 3, si possible 5, critères qui vous paraissent les plus importants pour juger de la qualité d'un article de presse? En faisant cela, vous êtes totalement libre de décider ce qu'est pour vous la « qualité » d'un article de presse.

Exemple dans un tout autre domaine : l'automobile

- Exemples de mots clefs pour la qualité d'une auto (différents selon chaque personne):
 - o Confort
 - o Couleur
 - o Puissance
 - o Consommation
 - o Sécurité
- Exemples d'expression de la qualité d'une automobile (différente selon chacun)
 - o On s'y sent en sécurité
 - o Elle accélère vite
 - o Elle a une belle couleur
 - o Elle est économique en essence
 - o On n'y est pas à l'étroit

Si vous pouvez trouver le mot juste, utilisez plutôt des mots clefs.

Vos mots clefs ou expressions de la « qualité » d'un article de presse (Vos critères personnels)	
Crit 1	
Crit 2	
Crit 3	
Crit 4	
Crit 5	

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