

The Cultural Consumption Barometer. A case study of communication in statistics in Romania

Doctor Anda Georgiana BECUT
National Institute for Research and Cultural Training
ROMANIA
anda.becut@culturadata.ro

Doctor Carmen CROITORU
National Institute for Research and Cultural Training
ROMANIA
carmen.croitoru@culturadata.ro

Abstract: The Cultural Consumption Barometer is one of the most important studies carried out by the research team of the National Institute for Cultural Research and Training, starting with 2005. The Cultural Consumption Barometer is a representative survey and its goal is the description and analysis of the cultural sector in Romania, as far as the level of the cultural consumption is concerned. The main objectives of the study are: measurement of the degree of adjustment of cultural goods distribution infrastructure to the population needs, measurement of the cultural consumption and participation, measurement of the population's cultural needs, identification of the preferences and cultural consumption behaviour. For ten years the statistical data have been produced and presented to various categories of beneficiaries. Each year a large amount of statistical information is produced and the challenges are to present them to the general public, who is interested in this topic, as well as to the experts in various fields of culture, who are willing to use the results in a more pragmatic manner. The goal of this article is to have an in-depth insight into the topic of presenting statistical data in culture for the general public, who in most of the cases is not familiar with this approach on the cultural field. How to present statistical data to the journalists, experts in culture or local public administration representatives? What is the most relevant information and how to present it, in order for it to be used for cultural strategies and projects? How was the data from the Cultural Consumption Barometer presented in mass media and what reactions did they generate? These are the most important questions we want to answer in our article. We shall present a case study carried out on the archives, including media news about the results of the Cultural Consumption Barometer. First, we shall present the way statistical data were selected and included in the public report and then we shall discuss the way they were presented by the journalists in the mass media news and what reactions they generated from the beneficiaries. The conclusions of our paper highlight the importance of paying attention not only to the content and methodology of research, but also to the manner of presenting data to beneficiaries.

Moreover, the communication strategy is very important in an environment with low rates of quantitative literacy.

Keywords: cultural data, communication in statistics, quantitative research, quantitative literacy

Le Baromètre de la consommation culturelle. Etude de cas sur la communication en statistique en Roumanie

Résumé: Le Baromètre de la consommation culturelle est l'une des études les plus importantes menées par l'équipe de recherche de l'Institut National pour la Recherche et la Formation Culturelle depuis 2005. Le Baromètre de la consommation culturelle est une enquête représentative qui vise à décrire et analyser le secteur culturel roumain, en particulier la consommation culturelle. Les principaux objectifs de l'étude sont d'évaluer si les infrastructures de distribution des biens culturels sont adaptées aux besoins de la population, d'estimer la consommation et la participation culturelles, de mesurer les besoins culturels de la population, d'identifier les préférences et les comportements en termes de consommation culturelle. Depuis dix ans, les données statistiques sont produites et présentées à différentes catégories de bénéficiaires. Chaque année, une grande quantité d'information statistique est produite, mais le défi principal reste leur présentation au grand public intéressé, ainsi qu'aux experts des différents secteurs culturels qui souhaitent utiliser ces résultats d'une manière plus pragmatique. Le but du présent article est d'offrir une perspective approfondie de la présentation des données statistiques du secteur culturel, pour le grand public qui, dans la plupart des cas, n'est pas familiarisé avec cette approche. Comment présenter les données statistiques aux journalistes, aux experts ou aux représentants de l'administration publique locale ? Quelle est l'information la plus pertinente et comment la présenter, pour qu'elle puisse être utile aux stratégies et aux projets ? Comment ont été présentées les données du Baromètre de la consommation culturelle dans les médias et quelles réactions ont-elles générées ? Telles sont les questions les plus importantes auxquelles nous voulons répondre. Pour cela, nous présenterons une étude de cas réalisée à partir des archives et des informations présentées dans les médias, sur les résultats du Baromètre de la consommation culturelle. Nous présenterons tout d'abord comment les données statistiques ont été sélectionnées et incluses dans le rapport public puis nous expliquerons comment elles ont été présentées par les journalistes dans les médias, ainsi que les réactions qu'elles ont générées. Les conclusions de notre étude relèvent l'importance du contenu et la méthodologie de recherche, mais aussi la manière de présenter les données aux bénéficiaires. En outre, dans un environnement où le taux d'alphabétisation quantitative est faible, la stratégie de communication reste très importante.

Mots-clés: données culturelles, communication des statistiques, recherche quantitative, alphabétisation quantitative

Introduction

For many people statistics is generally associated with numbers and mathematics and, as a science, it is considered as a field reserved only to experts who have different perceptions of the social things and a different language, which cannot be deciphered by the ordinary people. Though statistics has become a part of everyday life since the nineteenth century and now it has an important role in science, policy making and management, there is little knowledge about how statistics came into our lives, what its purposes are and how it can be used to improve the society. This lack of information about the use of statistical data is considered as a form of illiteracy, which is not an exception and it is applicable to other social and natural sciences. Therefore, it is important to present how science and society interact and how the general public relates with scientific data and perceives the scientists and their work.

Few people know that the history of statistics started in the 18th century in France and England and it was used as a way to collect information about social issues, such as diseases, criminality or prostitution, demography or weather forecast. Being a state activity, it was called statistics, from the Latin *statisticum collegium*, and those who conducted numeric studies were called statisti (Best, 2001). During the 19th and 20th centuries statistics gained the trust and attention both of the general public and of the governments and policymakers, considered to be a useful tool for collecting, analysing, interpreting and predicting social and natural phenomena. Thus, Statistics also became an authoritative way to describe social problems and was accepted as the best way to measure and understand them (*Idem*).

In that period, this was the general trend of trust and attention paid to other sciences, too, and there was no exception in the case of statistics when, in the last century, the public interest and trust in science have decreased. Nowadays there is a deficit of confidence in scientific results, from the viewpoint of citizens and experts in other fields, too, mainly because of the illiteracy regarding numbers, which has been called lack of knowledge in numeracy.

Martin W. Bauer, Nick Allum and Steve Miller (2007) identified this trend in statistics as being similar to the public understanding of science research paradigms. According to them, the public's perception related to large-scale surveys can be explained by three paradigms: *science literacy*, *public understanding of science* and *science and society*. The first one (1960s onwards) refers to the deficit of science knowledge which could limit the public activism in the social and political sphere, and therefore the solution could be the public education. The second paradigm (after 1985) expresses an old problem which comes from far back in history and it is manifested through a negative attitude of society towards science and scientists. For this issue the right solution would be to seduce the public by using a more familiar language and appropriate communication means. The third paradigm (1990s–present) refers to the deficit of technical experts and it is also expressed by a trust deficit and a crisis of confidence. Therefore, the solutions could be the impact evaluation and the so-called “angel” mediators.

In the following lines we shall present the main reasons for illiteracy and low understanding of science in general and of statistics in particular. We shall see that the

gap between science and society is not new and has a long history; this could explain the deficit in communication between scientists and the general public. We shall present the main solutions identified in order to fill the gap and use scientific data to solve the social problems or to improve the life quality in the future. Moreover, we shall present the results of a case study regarding the use of statistical data in culture and how they are presented, used and perceived by the journalists, general public and experts in the cultural field.

1. Between data illiteracy and big data society

The first paradigm abovementioned refers to the deficit of scientific and statistical knowledge. The low level of numeracy and literacy regarding statistics were explained through the general ignorance related to sciences and numbers. Many people, including journalists and other specialists from humanistic and social sciences, suffer from “number phobia” or have a ‘blind spot’ for numbers, thus they tend to dismiss statistical data altogether (Nguyen & Lugo-Ocando, 2015). And this happens despite the fact that statistics is an interdisciplinary science, combining numbers, social knowledge and imagination. There are few studies available about the level of literacy regarding the statistical knowledge, but the widespread opinion is that there is a growth in the public illiterate in statistics, including scientists (Roten & Roten, 2013).

The scientific illiteracy in general comes from an old gap and the experts considered that it was essential to find a bridge between science and society. Bernadette Bensaude-Vincent (2001) explained that this rupture derived from the ancient notion of the gap between science and opinion in the works of Plato and Aristotle. Like in the cave myth, the scientist has a knowledge of things which is not accessible to the common people, and whatever he/she will do in order to bring them into the light, they will never see in the same way as him/her. In their turn, in their effort to understand the cosmic order of the universe, scientists fail to understand the most ordinary phenomena that are before them (Bensaude-Vincent, 2001). The dichotomy ignorance versus knowledge was explained by Socrates through the distinction between opinion (*doxa*) and science (*episteme*), creating an effect of symmetry and recognizing the special knowledge of the people for the ordinary things (*idem*).

Therefore, in the effort of finding a bridge, the experts proposed the scientific education, as part of the educational system, which will have to function in the same way as the basic literacy in reading, writing and numeracy. They considered that the science literacy is vital for the civic vitality of the citizens, because their political and civic competences depend a lot on the scientific knowledge, especially in statistics or surveys (Bucchi & Trench, 2008).

In the second paradigm, the negative attitude towards scientists, including statisticians and their work, was explained partly through the lack of knowledge and partly through the bad habits of some researchers or the untrustworthy results of some studies. Since the beginning of the 19th century, the general opinion has been that social statistics had two purposes, one who was told to the public, and the other often hidden. People sometimes mocked on the statistics, like in the Levenstein’s quote: “Statistics are like a bikini. What they reveal is interesting. But what they

hide is vital". They began to think that numbers were created and used as political means, in order to support certain points of view or certain political agenda (Best, 2001).

This approach was sustained by the experts' recognition of the limits of statistics, expressed in the dichotomy between survey (quantitative) researches, considered to be positivist, de-contextualized and prone to create anxieties, and the qualitative researches, which are critical-constructivist and have a contextual insight (Bucchi & Trench, 2008). This dichotomy and the polemic around it are still valid today and they apply to social and humanistic sciences, where there is a general and sometimes reciprocal mistrust in the results from both quantitative and qualitative studies.

In order to limit the effects of mistrust in statistics, the governments began to establish official units for collecting and producing statistical data, with the purpose to control the quality of statistics released to public sphere. This initiative was also taken in order to settle some ethical rules regarding the responsibilities involved in the production and communication of statistics and results from surveys or other quantitative researches.

Some solutions for a reconciliation between science and society were found not only in relation to education, but also related to communication between the two fields. As part of the democratic duty to inform the citizens, the scientists were encouraged to popularize their findings using different instruments and channels. Despite the scientific jargon and the differences in language, there were many initiatives to educate people in science and statistics through formal and informal means of education. The final purpose of these efforts is the statistical literacy, which is a key ability expected from informed citizens in the Big Data Society. This implies that people should have the skill to interpret, critically evaluate and communicate about statistical information and messages (Gall, 2002).

Sometimes the informal education implied using mass media as an intermediate, more proper to translate the scientific language into daily/ordinary language. The people were encouraged to think over and to ask questions whenever they found out about statistical data and surveys results such as: How are indicators constructed? What affects these constructions? Are statistics aimed to inform? Was it used to put an issue on the agenda? (Roten & Roten, 2013).

This brings us to the third paradigm presented before, in which the "angel" mediators were the best solution for bridging science with society. But sociologists considered them a false solution to a false problem, because in transmitting the message from the scientist to the people, these mediators could distort the results by adding their personal viewpoint in the process of communication. Bernadette Bensaude-Vincent (2001) considered that the self-image of mediators as the "third-man" invested with the noble mission of bridging the social gap between "scholars" and "illiterates" turned out to be a rhetorical strategy of self-legitimization.

The "chain of statistical information" involves on one hand the data producers (who are engaged in the collection, production and analysis of data) and the data consumers (who receive statistical information through various channels, including mass media) on the other hand, and between these categories there are also the data communicators, who are at the same time consumers and producers (Rumsey, 2002).

2. Communication of statistical data in the public space

As we have seen earlier, people are not used to deal with statistics and there is a widespread innumeracy in the general population. But people are more used to words and images and therefore this might be the proper communication channel between them and statisticians. In the effort of finding the bridge between science and society, it is increasingly obvious that the scientist must make the effort to translate the data into a more accessible language for the general public. But sometimes the statisticians who use their skills to work with numbers and to discover structures and patterns unavailable at first sight tend to mystify the results (Hand, 2009). Instead of revealing the findings, they fall in the trap of presenting them in a way that is not accessible for most of the people. Martin de Santos (2005) argued that statistics are not simply better or worse mirrors of social reality, and they live a life beyond the specialists' laboratory, as they are catapulted into the public sphere. What happens with the data after production and communication escapes from the specialist's control and the result of his study in Argentina showed that statistical imagination plays an important role not only in the phase of statistical production, but also in the perception of data by the general public.

Joel Best (2001) considers that the general tendency is to perceive "social problems as harsh realities like gravity or earthquakes, that exist completely independent of human action". But in reality, they are social and cultural constructs, depending on the time, place and purposes of production and communication, too. Therefore, it is important for the experts in statistics to adapt the presentation of data and to choose the proper communication means, depending on the target and on the context wherein the statistics are made available. Jennifer A. Hoeting and Geof H. Givens (1997) consider that "writing understandable, interpretable prose describing statistical results is a challenging endeavor and knowledge of complicated statistical techniques are of little help unless the results of your analyses are accompanied by explanations and interpretations".

Another important thing in the communication of statistical data is the topic of the research, because some fields are more exposed to numeracy than others. For example, economics, demography, politics or sports are using statistics and numbers a lot and there is a common perception that it is right and trustful to use statistics in these fields, in order to explain the trends and to make predictions. But there are some areas of society, such as culture, religion or even medicine, where using numbers in order to explain the social phenomena is considered to be a risky adventure.

For most of the people, including those who are working in the field, culture is something that cannot be measured or expressed in statistics. It is seen as something abstract and theoretical and in the first years of producing cultural statistical data we dealt not only with illiteracy, but also with a rejection of our work. There was mistrust in statistics through their association with political surveys. This is not an exception, because the quantitative literacy is something new for all societies, as Lynn Arthur Steen showed in the book *Mathematics and Democracy* (2001).

When we speak about statistics in culture it is important not to forget that the term "culture" is defined and understood in a different manner by different categories of public and even by categories of professionals in culture. The perception of culture

in all its manifest forms of art and education is generally still present in Romania, while culture's social aspects are still blurred or unclear and culture conceptualization is a field for the experts.

Most people perceive culture in its manifest forms (cultural products or communities' cultural expression, heritage, book, film), while culture's conceptual social aspects or its identity implications are less perceived. When relating to culture, Romanians have firstly an approach from an historical perspective and only afterwards they assimilate contemporary forms of expression. From this point of view, the study on the mapping of the perception of heritage (Becuț, 2014) is relevant; in this study we find automatisms that we deem outdated.

In this perspective, culture is ruptured from the social, it is deemed the field dedicated to connoisseurs by excellence, and putting together numbers and statistics alongside culture generates an attitude of irritation or rejection from experts in the field. This attitude may be explained through the concept of "symbolic pollution" (Mead, 2008), which translates the pollution of an area loaded with symbolism or sacredness through the contiguity or touch of areas deemed impure or incompatible. The phenomenon is similar to the reaction of certain professionals to the crossroads between culture and economy, or culture and social, while trying to isolate the artistic act and to keep it in a protected and septic area. In this sense, culture quantification or its operationalization through statistical data is unacceptable for a certain category of experts, and their reactions to the surveys or to the results of statistical research should be primarily interpreted in this spectrum.

In order to familiarize people with numbers and to open the door for public understanding of statistics there were produced a lot of best practice guidelines or manuals of statistic communication. Their purpose was not only to educate people in numeracy or to give advice to statisticians about the proper way to communicate their findings, but also to strengthen the public trust in statisticians and their work. This was part of a transparency intended to raise awareness and understanding of the importance of statistics in developing good policies, adapted to the society needs.

According to *The Great Britain House of Commons Report 2013-2014*, there are some information that should be made available to the public as this will allow audiences to understand the context and limitations of each statistical research: the client commissioning the survey, the purpose of the investigation, the "universe" effectively represented, how survey participants were selected and method of interview, the sample size, geographic coverage, fieldwork period and response rate, what was measured and how data were weighted, if relevant; the survey results, taking into consideration the statistical margins of error and overall reliability from which they were calculated.

With respect to this issue and in order to improve statisticians' ability to communicate data the Making Data Meaningful guides prepared within the framework of the United Nations Economic Commission for Europe states that "an effective news release is one that: tells a story about the data; has relevance for the public and answers the question "Why should my audience want to read about this?"; catches the reader's attention quickly with a headline or image; is easily understood, interesting

and often entertaining; encourages others, including the media, to use statistics appropriately to add impact to what they are communicating”.

But besides methodological details, there still remain some important issues related to the people's lack of familiarity with numbers and therefore the best solution for statisticians is to go beyond this limitation by using a story. And the best way of telling the story is to accompany words with images and visual effects. Therefore, “a carefully designed graphic representation can enhance the interpretation of data, provide an opportunity to understand how change has occurred, and make interpretation of the findings more accessible” (Francis, Jacobsen, & Friesen, 2014).

Referring to our case study, on how *The Cultural Consumption Barometer* was presented to the general public, we have to highlight some details which are relevant for understanding the way data were communicated in the media or in our publications. It is important to mention that when we presented the data, we complied with the general rules, as specified in various manuals or guidelines for using statistics in communications. First, we presented the survey results, taking into consideration the statistical margins of error and overall reliability of the findings, as well as the percentages or proportions upon which conclusions were based. This information helps audiences to make an assessment of how authoritative the survey is and how reliable the results are. This way, we make sure that audiences are not misled or do not inadvertently misunderstand what is being reported.

The methodology was presented in a familiar language for non-experts, but we used the terminology specific to social science, too. This way we intended to facilitate the access to information for a large category of beneficiaries. We used many graphics, maps and tables, in order to simplify and synthesize the information and to make the report easy to read and user friendly. We consider the visual aspect of the report an important way to communicate the results of a research. Visuals and graphics have been used for conveying complex ideas since 1786, when William Playfair invented the line graph and bar chart (Francis et al., 2014).

We consider them the core of our research report and we pay maximum attention both to the content and to its visual impact. The results of our communication strategy were positive and, after the first years of mistrust and rejection of cultural statistics, the journalists and the experts in culture began to get used to our work. As a consequence, more and more institutions and local authorities began to ask us to provide statistics on different themes and they began to use our data in their daily projects and strategies.

The Cultural Barometers have made their way into the public conscience quite slowly, and only after our eleven years' constant effort, after having insisted on the differences, achievements, as well as on alarming decreases, have they become a habitual instrument on professionals' desks. Still, we cannot assert that culture professionals have become dependent on these data, but we can certainly say that, after years of intervention into the public space, it has become almost unconceivable that a strategy, a public cultural policy, an organization or even an important program can dispense with statistical data when setting up projects.

It is critical to highlight the fact that an important category of users and disseminators of statistical data utilization practices is made from cultural managers. In their

desire to remove as much as possible of the relativism and subjective interpretations of their performance, the managers of the public cultural institutions, as well as of non-governmental organizations, have often appealed lately to statistical data and have frequently required competent analyses for certain segments. Oftentimes, the marketing strategies and the segmentations proposed to reach new categories of public are based exclusively on the data provided by the Cultural Barometers as the only specialized sources in Romania, which confirms the success of the production and communication of statistical data.

3. The Cultural Consumption Barometer in Romanian media

Though statistical data are daily available in newspapers, on TV or on the Internet, most of the people, including many reporters and journalists, do not have the proper knowledge to understand and read them critically, and this happens especially for bias reasons (Utts, 2003). A study carried out in 1994 on the data available from the 1989 Eurobarometer survey, showed that there are cultural differences between the industrialized countries (according to their level of economic and industrial development) in terms of knowledge and understanding of science (Bauer et al., 2007). These results could explain the differences in numeracy levels not only for the general public, but also for the communicators of statistical data, such as journalists and experts in other fields.

As we have seen earlier, data communicators are in most cases members of the mainstream media, who are at the same time consumers and producers of statistical data. The way they perceive, understand and interpret the data depends on the quality of the message and the accuracy of the data to the final receiver, who is the general public. Therefore, data reporters are in charge with a very important task, which is the proper and comprehensible interpretation of the statistical information (Rumsey, 2002). However, understanding and interpreting statistical data require other skills, not necessarily related to mathematics or to scientific knowledge. This process involves a good knowledge of the context in which data were produced, as well as a critical evaluation of the statistical information (Gall, 2002).

According to Martin de Santos (2005), despite “the important critiques of particular statistics and their media representations, the literature on social problems has not produced a sustained and systematic analysis of the role of numbers in the media or in public debates”. Though much attention was paid to the production and communication of statistics, there are few studies about the way ordinary people perceive and use statistical data.

In the following lines we shall present a case study on the Cultural Consumption Barometer appearances in the Romanian media. Important questions in our analysis were: How do the mass media write and speak about statistics to audiences who are not specialized? Which statistics are highlighted? What are the most presented areas of information or fields of interest for journalists? Do they use a neutral tone when presenting the data? How was the methodology presented in the communication of statistical data?

The statistical communication case study is based on the archive of mass media appearances of the results of the 2014 Cultural Consumption Barometer research, made public in March 2015 on the occasion of the launch of the National Institute for Research and Cultural Training, at the Ministry of Culture headquarters. The case study included in the analysis 85 articles from the central and local online and print media. Certain items were followed, aimed at the manner in which journalists presented the statistical data and the results were compared to the statistical data communication rules recommended by the aforementioned good practice guidelines.

The analyses highlighted a poor knowledge of recommendations in the field regarding the manner of presenting and diffusing the statistical information, materialised in a series of aspects that we shall detail hereinafter. Furthermore, the case study confirms Martin de Santos' hypothesis and shows how the statistical data have their own trajectory and dynamics, following their exposure in the public space.

As we have previously seen, when reading the presentation of the results of a survey in an article, it is essential that the institution which conducted the study be mentioned, along with some general information about it, in order to understand the context wherein those data were produced. Most of the analysed articles mentioned the name of the institution that publishes the Cultural Consumption Barometer, but little information about this organisation was presented and the full name of the publication was mentioned only in 57 articles (the results of the study were included in a book launched on the same occasion).

Still in order to set the context of the research it is important to point out the survey's objectives and main beneficiaries, and these aspects were only mentioned in 10 of the 85 articles. The only methodological details presented to the wide public were those related to the structure of the sample, the error margin and confidence level, which were mentioned in 21 articles. Most of the time, the results present the percentages and consumption frequency, but there are several articles where these pieces of information are absent. As regards the main themes approached by the journalists, there were mainly included: theatre (62 articles), museums (52 articles), books (51 articles), film (33 articles), opera and operetta (20 articles), music (17 articles), dance (10 articles).

The results of the survey were presented by comparison on several types of dichotomies: rural versus urban, Bucharest versus national or versus specific Development Regions, youth versus elderly, men versus women, public versus domestic consumption, cultural consumption versus other forms of consumption. Furthermore, 35 articles presented information rankings (the top of public cultural institutions, of preferences, of satisfaction degree etc.).

As regards the journalists' degree of neutrality in presenting and interpreting the statistical data, the analysis of the articles highlights a medium-to-low level of neutrality and impartiality expressed through the presentation with a strong highlight on low percentages (sometimes below the error margin), the (often) worried or (rarely) optimistic tone in regard to the results presented, the use of bombastic or alarming phrases or titles, the presentation of the statistical data with no additional interpretations, or by taking them out of the context of the initial interpretations given by

experts. This becomes all the more important as the mass media representatives should play the role of the aforementioned "angel mediators".

This case study reveals a low degree of Romanian journalists' literacy regarding the statistical data and numbers and, in some cases, a certain (intentional or accidental) ignorance as regards the statistical interpretations performed by experts in the field. Although visuals were used – such as graphs or tables – with the role to synthesise information and to present it to the wide public in an accessible manner, these instruments were not used by the journalists, neither "as is", nor in a narrative form. The effect of presenting the data without the initial interpretations was the misguidance on a certain theme (e.g. the Top of Museums or the reading-practices related data), which resulted in adverse reactions from the representatives of some professional institutions or organisations that operate in the field. This observation may be interpreted as a signal concerning the responsibility of both statistical data producers and intermediaries (journalists in this case) as regards the manner of communicating the results of studies and research, in order to avoid confusions, misinterpretations or de-contextualisation of some public interest data and information.

The medium- and long term effects of this state of fact are harmful at the level of the wide public (who is deprived of accurate and reliable information), at the level of the mass media (which is perpetuating illiteracy in terms of statistics and numeracy), at the level of experts in the field of culture (who are misinformed or partly informed) and at the level of experts in social sciences (whose work is discredited).

Mass media in general and the specialized cultural mass media in particular remain anchored in data absolutization, attempting manichean or comprehensive interpretations, which frequently lead to obscure assertions. This type of partial reading represents a constant challenge for the statistical data communicators and one solution might be the development of communication campaigns in order to introduce into the public space the idea that the data are not absolute truths, neither should they be cut off the context too easily.

In some situations, an emotional approach from some culture producers has also influenced the perspective of the data reading. From this point of view, a delay of the statistical perspective is still maintained in Romania. Statistical data have often-times been interpreted in a direct, personal manner, without an understanding of the context or without trying to replace often subjective personal perceptions with the openness to rational, objective, demonstrable and verifiable arguments, as the statistical analysis are, most of the time.

The remedy solutions regarding the manner of mass media presentation of statistical data could include a better expert statisticians' communication with the journalists (via periodical communications in the mass media, press folders or even specialised courses). Moreover, it is important that the experts in the field of statistics adapt their language according to the context of communication, perform periodic analyses of mass media appearances, of the main topics of interest for the wide public and periodically and constantly adapt their public communications to various categories of beneficiaries.

In our quality as statistical data producers, besides the campaigns for the familiarization of the public, of the culture and media professionals, we also have started several punctual actions of presentation or workgroups where the participants were informed on what, to what extent and how measurements are made and what they mean in the context. This is an efficient way to achieve literacy in numbers and statistics among the professionals in the field of culture. Because it has the feature to develop professional training courses, the Institute periodically organizes education sessions for cultural entrepreneurs or managers who learn how to use the provided statistical data correctly and efficiently. Furthermore, the communication of the statistical data was also carried out at the level of local authorities, in order to provide them with ways of statistical data instrumentalization and to promote the applied research practice on various geographical regions.

Conclusion

This article started from the prerequisite that there is a traditional rupture between science and society and that this hiatus should be remedied through the intervention of both experts in the field and the wide public. Statistical data and survey-type studies have become routine at the level of the communication within the public space, but the degree of understanding and the abilities to decipher the message behind the surveys is quite low at international level, and our country is no exception. Although a range of good practice guidelines were published, the latter are rather addressed to statistical data experts than to intermediaries. Moreover, education in the sense of numerical literacy is still in its beginnings and the majority of the population is not familiarised with the use of statistical data. The case study based on the communication of the Cultural Consumption Barometer's results highlights a low level of literacy in statistics, even among journalists or experts in other cultural fields.

Besides, there is a resistance in associating statistical data with the field of culture, which obstructs the tasks of data collection, analysis and interpretation, as well as their dissemination within the public space. This is why it is essential that statistical data producers monitor and analyze periodically the manner in which the results of their work are presented in the public space. Moreover, it is very important that statistical data producers initiate statistics literacy actions addressed both to professionals in other fields and to the wide public.

References

- Bauer, W. M., Allum N. and Miller S. (2007). What can we learn from 25 years of PUS survey research? Liberating and expanding the agenda. *Public Understand. Sci.* 16, 79–95.
- Becut, A. (2014). The Built Cultural Heritage. An analysis of the population's perception. In Becut, A & Croitoru C. *Cultural Consumption Barometer 2014. Culture between Global and Local* (p. 61-99). Bucharest: Pro Universitaria.
- Bensaude-Vincent, B. (2001). A genealogy of the increasing gap between science and the public. *Public Understand. Sci.* 10, 99–113.

- Best, J. (2001). *Damned Lies and Statistics. Untangling Numbers from the Media, Politicians, and Activists*. Berkley and Los Angeles: University of California Press Ltd.
- Bucchi, M. & Trench, B. (2008). *Handbook of Public Communication of Science and Technology*. New York: Routledge.
- De Santos, M. (2009). Fact-Totems and the Statistical Imagination: The Public Life of a Statistic in Argentina 2001. *Sociological Theory*. 27 (4), 466-489.
- Francis, K., Jacobsen, M., & Friesen, S. (2014). The use of graphics to communicate findings of longitudinal data in design-based research. *Journal of Information Technology Education: Research*. 13, 233-255. Retrieved February 15, 2016 from <http://www.jite.org/documents/Vol13/JITEv13ResearchP233-255Francis0659.pdf>
- Gal, I. (2002). Adults' Statistical Literacy: Meanings, Components, Responsibilities. *International Statistical Review*. 70 (1), 1-25.
- Hand, D. (2009). Modern statistics: the myth and the magic. *J. R. Statist. Soc.* 172 (2), 287–306.
- Hoeting, J.A. and Givens G.H. (2002). *Communicating Statistical Results*, Retrieved February 15, 2016 <http://www.stat.colostate.edu/~jah/teach/st540/write.pdf>
<http://www.jite.org/documents/Vol13/JITEv13ResearchP233-255Francis0659.pdf>
- Mead, M. (2008). Deschiphering a meal. In C. Counihan & P.Van Esterick. (Eds.). *Food and Culture. A Reader*, New York: Routledge.
- Nguyen, A. (2015). Introduction: The state of statistics in journalism and journalism education – issues and debates. *Journalism*. 17 (1), 3– 17.
- Roten, F. C. & Roten Y. (2013). Statistics in science and in society: From a state-of-the-art to a new research agenda. *Public Understanding of Science*. 22 (7), 768– 784.
- Rumsey, D. (2002). Discussion: Statistical Literacy: Implications for Teaching, Research, and Practice. In Gal I., Adults' Statistical Literacy: Meanings, Components, Responsibilities, in *International Statistical Review*. 70 (1), 1-25.
- Steen, L. A. (2001). *Mathematics and Democracy*. The Woodrow Wilson National Fellowip Foundation.
- Utts, J. (2003). What Educated Citizens Should Know about Statistics and Probability. *The American Statistician*. 57 (2), 74-79.

