INCREASE RESPONSE RATE IN ITALIAN SURVEYS: A REWARD MODEL PROPOSAL[1]

Michele Camisasca, Fabio Falcone, Livio Gigliuto, Giuseppina Sola

Abstract. The proliferation of new sources of information, varying in reliability, reinforces the view that society as a whole can be observed, described and quantified through an analysis of the data generated and stored in the Internet of Things (IoT). The automatic gathering of data from our actions, purchases and online browsing habits provides a direct and automated method of data collection, offering insights into our behaviour and habits.
In this context, private research institutes and national statistical offices (NSOs) must develop strategies to increase direct respondent participation and reduce the occurrence of non-response. Indeed, the use of monetary incentives is not always sufficient, and further measures must therefore be considered. The paper begins with an analysis of legal provisions concerning mandatory participation and goes on to propose a new approach that transforms the experience of participating in surveys from a "duty" to be fulfilled to a "benefit" to be enjoyed. This proposal would shift from a punitive approach involving monetary sanctions to a purely administrative approach based on verifying statistical compliance and issuing a specific attestation document. The possession of this document would then determine eligibility for rewards and/or benefits.

1. Direct surveys and other sources of statistical information

The increasing availability and reliability of new sources of data, which have emerged in competition with direct respondent participation, are reinforcing the view that the only effective approach to examining, describing and quantifying society is through the analysis of the data that each individual leaves in the internet of things. Data is collected automatically from individuals' actions, purchases and online behaviour. Much of the information that used to be provided by traditional research techniques (polls, market research and quantitative surveys), can now be captured through the use of big data. This makes respondents less likely to give information they think statistical agencies already have (Savoldelli, 2018). As a result, response rate decreases.

It would, however, be erroneous to assume that big data can entirely replace more traditional survey methods. This is due to the fact that the latter are based on

[1] Authors contributors: § 5. to M. Camisasca; § 4., 4.1 and 4.2 to F. Falcone; § 2.1 and 3.1 to L. Gigliuto; § 1. and 3. to G. Sola. Paragraphs 2.2 and 3.2 are written jointly by F. Falcone and G. Sola.

established conceptual frameworks and can be produced in a systematic and reproducible manner. Consequently, they are better suited to meet the particular cognitive requirements of researchers, public decision-makers and private users. Additionally, there is a possibility that big data may yield an inaccurate or misleading representation of reality (Pratesi, 2017).

The success of a traditional survey depends on the participation of potential respondents: setting clear cognitive objectives, preparing the perfect questionnaire and identifying accurately the target population is useless if responding units (individuals, households, businesses) decide not to respond. So, private research institutes and national statistical offices (NSOs) are obliged to experiment with new solutions to encourage such participation.

2. Analysis of the response rate

2.1 Response rate in market research

The inclination to engage in market research frequently coincides with the everyday lives of individuals and their situational and tangible readiness to dedicate the requisite amount of time and attention to a given survey.

One of the key factors influencing participation is the method used for data collection. The average response rates demonstrate a greater success for CAWI (Computer-Assisted Web Interviewing) compared to CATI (Computer-Assisted Telephone Interviewing), with the former achieving a response rate of approximately 7%, and the latter a rate of 2.6%[2]. Nevertheless, the difference between these methods is not substantial. While a notable difference is apparent, the response rate for the total number of links dispatched is comparable to the response rate for the total number of contacts utilising the CATI approach[3].

There are four principal reasons for this difference:

[2] The paper analyzed 10 surveys, each with the same sample size (just over 13,000 contacts), related to current affairs and carried out by the Piepoli Institute during the year 2019. The surveys were conducted using the CATI method. The response rate is calculated as the ratio of the completed interviews to the total number of contacts.
With regard to the CAWI method, a further five surveys, also conducted by the Piepoli Institute and carried out between 2021 and 2023, were analyzed. These related to social and topical issues and involved varying sample sizes (ranging from 10,000 to 30,000 units to whom the relevant survey participation link was sent. The response rate is calculated as the ratio of completed interviews to the links sent.

[3] On average, 13,300 people were contacted in the 10 CATI surveys; while an average of 18,000 links were sent in the 5 CAWI surveys.

a. spread of technology: the growth and increasing accessibility of the CAWI method has been enabled by the proliferation of the internet. However, this has not been universally embraced, with certain sections of the population remaining less familiar with digital technologies;
b. perceived invasiveness: telephone interviews frequently give rise to a sense of intrusion into private life, which in turn places a particular responsibility upon the role of interviewers;
c. contingency of the individuals involved is another factor to consider. People tend to respond more willingly to CAWI surveys during free time and without pressure, whereas telephone interviews require immediate engagement.
d. trust: the respondent may feel more confident answering an online survey rather than providing personal information during a phone call, especially if they do not know the interviewer.

It can be reasonably deduced that CAWI is somewhat more efficacious than CATI, as it appears to offer greater convenience to participants, thereby facilitating research participation even among younger age groups. In contrast, CATI may be a valuable tool for reaching segments of the population with limited familiarity with the Internet. It also allows for the maintenance of the valuable relationship between the interviewer and the respondent, which can help to maintain the respondent's focus.

2.2 Response rate in official statistics surveys

Official statistical surveys conducted by the Italian National Statistical Institute (Istat) generally show an uneven response rate. The trend is mainly influenced by the increase in perceived reporting burden and the expectation of sanctionability resulting from non-response. With regard of reporting burden, companies complain of: low rotation of the audience (often dictated by the methodology and criteria established by European regulations) and consequent involvement of the same company in numerous surveys; collection of information perceived as redundant, because it has already been provided to administrative authorities, for other surveys or previous editions of the same survey; the completion of the questionnaire at inappropriate times (periods of intense work activity or, conversely, periods of company closure) and/or addressed to units structurally not equipped with dedicated staff, etc. Sanctionability results in a physiological increase in response rate for

surveys whose violation results in the imposition of a fine (from 60% per year for mandatory non-sanctionable surveys up to 75% per year for sanctionable ones)[4].

In non-sanctionable mandatory surveys, the highest response rates are recorded for surveys with statistic sample limited to a few survey units[5], with which there is a tendency to establish a direct loyalty relationship, and those in which survey units perform public interest services[6]. Conversely, response rates are greatly reduced in short-term surveys[7] and if companies are involved in more than one statistical survey, due precisely to reporting burden. In particular, if survey units have to partecipate to non-sanctionable mandatory surveys and to sanctionable ones, they give priority only to sanctionable surveys.

Because of sanctionability usually tied to meeting size thresholds (number of employees and/or turnover), for sanctionable surveys the highest response rates occur for that ones whose field of observation consists exclusively of larger structural size units[8]. In contrast, for surveys whose statistic sample also consists of smaller units – for example, units operating in service sector – there is a less pronounced increase[9].

One possible explanation for these values is to be found in the more or less widespread organizational articulation of the survey units and the non-'punitive' perception of the financial penalty. In other words, some survey units consider it more cost-effective to pay the penalty rather than provide the data[10].

[4] The paper analyses the response rates of 23 surveys carried out by Istat in 2023 using the CAWI method (including 12 sanctionable surveys). The surveys were in the fields of environmental and spatial statistics, economic statistics, socio-economic statistics and national accounts.

[5] For instance, but not limited, in Rail Transport Survey, the response rate is 100 percent.

[6] For example, but not limited, the response rate for both the Survey of Museums and Similar Institutions and the Survey of Libraries is approximately 91 percent.

[7] In the Monthly Confidence Surveys, the response rate ranges from 45 percent for manufacturing firms to just under 19 percent for service firms.

[8] In the survey on employment, working hours, wages and labour costs in large enterprises, the response rate is approaching 98 percent.

[9] In Services Revenue Survey, the response rate is about 82 percent.

[10] This phenomenon includes units with very high turnover that perceive the amount of the financial penalty as insignificant, as well as units that choose to pay the penalty amount instead of dedicating an appropriate resource or turning to the accountant or an outside consultant to source the data. It also includes those units that, despite assurances of statistical confidentiality, choose not to provide the data due to privacy issues.

3. The use of incentives to increase the response rate: advantages and disadvantages

In general, respondents participate in surveys because they wish to make themselves useful, have a genuine interest in survey topic, or participation guarantees a tangible benefit, usually in the form of an incentive (Lipps, 2019, Singer, 2002).

Incentives are mainly monetary (money or goods of economic value received directly by respondent) and semi-monetary (money or goods of economic value that associations and charities obtain by virtue of the participation of third parties), and only rarely non-monetary (rewards of psychological and social value received directly by respondent) rewards or benefits[11].

Incentives increase motivation to participate by two mechanisms: they activate the reciprocity norm[12] and compensate barriers to participation, thereby increasing response rate and questionnaire completion rate, building respondent loyalty and making them likely to participate in future surveys, and reducing survey costs[13].

Conversely, offering incentives may induce to participate only people interested on the reward and not in the survey topics. They might give unmotivated or random answers just to complete the questionnaire and get the incentive. So it could introduce bias because respondents feel an obligation to give positive answers or answers in line with the proposer's expectations, instead of honest answers. Consequently, incentives must be sufficiently attractive to motivate participation, while avoiding excessive generosity.

3.1 Incentives in market research surveys

The objective of market research surveys is to facilitate improvements in products or services offered by companies. This is done by collecting feedback from consumers or potential consumers who have purchased or could purchase the products or services in question. Consequently, market research serves the dual purpose of benefiting both the company and the consumer. From the company's perspective, it enables the optimisation of the effectiveness of its offerings in the

[11] Monetary and semi-monetary incentives include: discount codes or coupons; cash or gift card rewards; free samples or trial periods; offering airtime top-ups; professional development opportunities (access to webinar or workshop); social media shoutout or shares; customized merchandise or swag; donations to associations (voluntary or scientific research or non-profit associations, etc.).
Non-monetary incentives include: appeal to self-interest; appeal to social status; appeal to public value.

[12] At a psychological level, the norm of reciprocity causes the respondent to read all questions and response options carefully before selecting the one that best represents his or her experience.

[13] As a result, less time can be spent on field data collection because the desired response rate is achieved earlier.

target market. From the consumer's standpoint, it facilitates the identification of avenues for greater satisfaction with their needs.

From the perspective of the consumer, the primary motivation for participation in market research remains the potential for enhancing the quality of the products and services they utilize, or could utilize, and, consequently, the quality of their own lives. However, despite the common perception that offering incentives to participate in market research is essential, it is crucial to carefully consider the target audience and the design of such rewards to ensure they do not introduce bias into the data collected (Marbach, 2000).

In the case of surveys conducted on enterprises, it is often found that a beneficial incentive can be in the form of a summary of the research findings provided at no cost. Demonstrating how and to what extent the results of the survey may affect the company's decision-making process is a more effective strategy for securing cooperation than the offer of a financial incentive. Conversely, if the respondents are consumers, a symbolic reward system may be employed, whereby the incentive does not unduly influence the respondents' responses. It is important to note that the distribution of prizes should be perceived as an act of goodwill. The objective is to foster a stronger relationship between the researcher and the respondents, rather than focusing on the company, or the product being tested, as a means of improving the quality of the relationship. For this reason, it is imperative that rewards are not categorised as part of the product under investigation. To illustrate, if the research pertains to shower gel, the reward cannot be the gel itself, nor can it be classified as toiletries.

3.2 Incentives in official statistics

Official statistics rapresent pubblic good[14]. They are an indispensable pillar of democracy, and because they impartially provide credible information, they enable survey units to go beyond the "perception" of their own experience to observe and quantify the surrounding reality in a national and international comparison[15]. Therefore, participating in the production of official statistical information is a duty

[14] The basic principles were set out in the ONU UN Resolution, Fundamental Principles of Official Statistics (A/RES/68/261 from 29 January 2014), https://unstats.un.org/unsd/dnss/gp/FP-Rev2013-E.pdf.

[15] This obligation at the european level was established by European Statistics Code of Practice, in particular in Principle 2 – Mandate for Data Collection and Access to Data, according to which "Administrations, enterprises and households, and the public at large may be compelled by law to allow access to or deliver data for European statistical purposes at the request of statistical authorities" and "the statistical authorities may compel response to statistical surveys".

of survey units. In some cases, the obligation to participate can lead to penalties for failing to comply with this requirement. Generally it is a fine, applied by the national statistical offices themselves or by legal authorities on their report[16]. So, because penalties are foreseen, monetary incentives cannot be used for respondents. However, except for a single experiment by the U.S. Census Bureau in conducting two longitudinal demographic surveys (Survey of Income and Program Participation – SIPP and Survey of Program Dynamics – SPD)[17], no similar monetary incentives experiences can be found in other states, European or otherwise.

More workable, however, would seem to be the original and unusual idea of facilitating the collaboration of survey units by providing them with software or apps designed to interconnect with the management software in use and simplify data retrieval and questionnaire completion. Deserving of mention is the experience of the Australian Bureau of Statistics, which offers small and medium-sized companies, affected by the Quarterly Business Indicators Survey, a Web app (ABS Business Reporting) developed in collaboration with accountants and industry consultants. The goal is to facilitate the quarterly transmission of mandatory statistical data[18].

4. Enhancing survey units participation: a proposal for a reward model

The transformation from a top-down authoritative model to an egalitarian approach seems to be a viable alternative to ensure compliance with the principles of cooperation and good faith between survey units and PA. It is in this direction that the proposal to incentivize voluntary statistical participation moves.

4.1 Obligation to reply and sanctionability in official surveys

In Italy, the obligation to provide statistical data for surveys under the National Statistical Program (NSP) is stipulated in Article 7 of Legislative Decree No. 322 of

[16] For example, in England, under the Census Act 1920, the national statistical office cannot challenge violations, but merely supports the Crown Prosecution Service in the relevant prosecution for the purpose of applying fine.

[17] The first experiment was conducted from 1996 to 2000 for the SIPP survey. Survey units were sorted by size and divided into three incentive groups ($0, $10, $20 in paper vouchers and debit cards). A $20 incentive significantly reduced non-response rates among households, especially those with low incomes or near poverty, while the $10 incentive group did not have significantly higher response rates. At an expenditure of about $415,000 over 4 years, an increase of about 2.25 percentage points was estimated over the rate that would have been achieved without using incentives (Creighton, 2001).

[18] In-depth information can be found at the link abs.gov.au/participate-survey/business-reporting.

1989. The obligation covers all public administrations, agencies[19] and institutions. Private entities are also subject to the obligation, limited to the surveys specified in the NSP and included in the "Mandatory List". For some surveys included in the "Sanctionable List", non-response is subject to a monetary fine. Both lists are updated annually.

There are two articles of Legislative Decree No. 322 of 1989 (7 and 11) that, alone, determine the structural configuration of the administrative penalty in statistics. But it is an 'imperfect' configuration, which has failed to adapt to the many technological changes in the mode of data acquisition (e.g., questionnaire is no longer hard copy, but digital).

Article 7 is a clear expression of the authoritative power of government departments to impose their own determinations on other parties in terms of the behavior to be carried out. It has proven to have little impact compared to its original objective: in fact, despite the provision of an obligation, not all violations are subject to an administrative fine, but only those that fall under the "Sanctionability List".

This choice by the legislator renders violation inconsequential, effectively neutralizing the very scope of the legislation. Moreover, the tendency to set high sanctionability thresholds (dimensional and/or turnover) has also unintentionally led to the failure of smaller units to acquire data (as discussed in more detail in Section 2.2).

Article 11 identifies ways and subjects that enforce sanctionability. It has also manifested, over time, the rigidity and inadequacy of the dynamics of assesment, leading to a deep crisis of the sanction system.

4.2 A proposal for a reward model

In order to overcome the critical issues highlighted, a transition to an alternative model to the sanction system is proposed, within which the survey units will no longer perceive the obligation to respond as an imposition, but as a benefit to be enjoyed.

The model aims to introduce elements of simplification, moralization and transparency in order to reduce the phenomenon of non-response, involve the survey units in a multi-subjective context that incentivizes virtuous behavior, creates and consolidates the relationship of trust between the units and Istat, and recognizes them benefits and reductions of various kinds (concessions, subsidies, grants, specific economic advantages, access to certain services and/or multiple commercial and financial opportunities, etc.).

[19] Such as non-profit entities, associations, etc.

With unchanged legislation, it would be a shift from a repressive, 1:1 sanction model (determining body and offender) linked to the payment of a fine, to a reward model with a strong deterrent character and with the involvement of a varied audience of public and private stakeholders[20] that simultaneously serves as a lever and a multiplier effect to induce the detecting units to comply with the obligation. Therefore, compliance will no longer be seen as the result of adverse selection or reporting burden, but rather will paradoxically be perceived as an opportunity to be taken advantage of.

Greater is the multiplicity of rewards and stakeholders involved and greater will be the upsurge for fulfilment.

Borrowing from experience gained in other contexts different from the purely statistical sphere, the model finds its realization in Istat's issuance of a document valid for administrative purposes, called Statistical Regularity Document (SRD), containing attestation of the fulfillment of statistical obligations by the survey units.

This document assumes the function of comprehensive monitoring of the statistical participation of each survey unit and certifies its statistical regularity by assigning a rating[21].

Basically, the SRD will be subjected to a system of synthetic indicators of the fulfillment of the statistical requirement, which will take into account the different statistical quality and regularity standards (statistical rating) – including, but not limited to, number, timing, and percentage of fulfillments –, using a score between a minimum (*) and a maximum (***).

Survey unit will obtain the basic score (*), increasable by a fraction of a score (+) if it meets all requirements. Achieving three fractions (+++) will result in an additional point, until the maximum score is reached (***).

Based on the acquired score, stakeholders may grant individual units reward benefits[22]: for example, it could count as an additional score in calls for proposals, a requirement for access to reserved portions of public funding or other forms of business support (such as tax credit, tax bonus, guarantee grant, capital subsidy, interest subsidy, soft loan), or more or less extensive periods of statistical 'relief'[23] (during which some questionnaires will not be administered or the number of questions will be reduced).

[20] The main stakeholders will be central and local state governments, tax agencies, chambers of commerce and trade associations.

[21] The SRD has the value of a declaration of science, to be placed among the acts of certification or attestation, having a merely declaratory character of the data, held by the Public Administration.

[22] SRD does not establish the right to the bonus. It exists regardless and it is linked to the requirements for accessing the benefit. Therefore, it does not affect the origin, extinction, or forfeiture of the right, but arises solely on an administrative level.

[23] The initiative launched in Canada on January 1, 2015 to benefit small companies with a good prior history of statistical participation (Accumulated Response Burden Initiative – ARBI).

SRD can be used alone or in combination with other rating systems (e.g., with legality or sustainability ratings), making it flexible and adaptable to any assesment[24].

Due to the operational distance between the two models described (sanction system and the reward one), an immediate transition from one to the other is not conceivable. A period of coexistence will be inevitable, which should be seen as an opportunity to test the functionality of the new reward model.

In fact, by taking advantage of the provision for the proceeds of administrative penalties to flow into a special chapter in Istat's budget (Art. 7(1)), an experiment (adequately publicized) can be launched establishing a special fund aimed at guaranteeing the coverage of benefits provided exclusively to the survey units involved in certain surveys. This will allow comparison between the response rate of the experimental edition with the previous ones of the same survey, so that we can assess how much the reward system may have affected the response rate percentage.

5. Conclusions: survey units' engagement and civic partecipation

Given today's information overload, it is undeniable that official statistical information constitutes a fundamental pillar of modern participatory democracy. The essential criteria that official statistics fulfil – relevance, timeliness and punctuality, accuracy and reliability, coherence and comparability, accessibility and clarity – are the basis for facilitating citizens' individual and collective engagement with the institutions that govern them and the exercise of their right to participate in public decision-making.

Participation in statistical surveys as a respondent contributes to the generation of more optimal public policies. Such policies are more efficient, fairer and easier to implement. This can be attributed to respondents (even those considered "ordinary citizens") possessing a deeper understanding of actual needs, and thus providing information that is more accurate and beneficial for decision-making purposes.

Civic participation ensures that these services are tailored to people's real needs and preferences. Citizen participation in statistical surveys fosters a sense of ownership and trust in the data collection process. When citizens are actively involved, they are more likely to trust the results and the institutions that produce them. As a result, participation in statistical surveys as a respondent contributes to the generation of more optimal public policies.

[24] SDR could also be provided to Prefectures to determine the amount of the fine under Article 11 of Law No. 689/81.

To enhance participation and promote active and mindful involvement, it is vital to transition from a system reliant on compulsion, which has evidenced suboptimal efficacy, toward a collaborative and egalitarian approach. This entails engaging with respondents (individuals, families, businesses, and institutions) on an equal footing, in a way that is mutually beneficial. To put it another way, official statistics must abandon the practice of regarding respondents as mere "targets" to be reached and instead recognise them as genuine participants in the statistical process. Such an approach requires a focus on empowering the respondent to enhance their capacity for critical thinking and analysis. It is insufficient for respondents to have merely access to information and the capacity for independent reasoning; they must also be made aware of how the data collected in various surveys has been used by those making public policy decisions.

To facilitate greater comprehension amongst respondents, it would be advantageous to provide each individual's digital domicile with an informative booklet on an annual basis. This booklet would delineate the measures taken based on the provided data. Such an initiative might be modelled on the example of the Internal Revenue Service, which has distributed a summary table of the allocation of taxes related to tax returns. The aforementioned document delineates both how tax resources are utilized by the state and the extent to which individuals contribute to disparate domains of public expenditure. To provide tangible recognition for their participation, one may consider utilising the Statistical Regularity Document (SDR), as proposed in this study, or, with respect to individual respondents, the implementation of incentives closely aligned with the specific survey for which they provided data.

In conclusion, the implementation of an appropriate, strategic and coordinated use of a range of communication techniques and incentives represents a critical factor in advancing the quality of statistical participation. It is solely through such means that official statistics can facilitate the growth of a robust civic culture. When individuals possess greater awareness of their contributions, they tend to become more responsible and aware of the practical implications associated with each choice. This heightened awareness also encourages active engagement in decision-making forums, where they can propose innovative solutions.

References

BERĘSEWICZA M., LEHTONEN R., REIS F., DI CONSIGLIO L., KARLBERG M. 2018. An overview of methods for treating selectivity in big data sources, *Statistical Working Papers*, Eurostat.

CREIGHTON K.P., KING K.E., MARTIN E.A. 2001. *The Use of Monetary Incentives in Census Bureau Longitudinal Surveys*. Washington: U.S. Census Bureau.

FLORESCU D, KARLBERG M, REIS F, et al. 2014. Will 'big data' transform official statistics? *retrieved from http://www. q2014.at/fileadmin/user_upload/ESTAT-Q2014-BigData OS-v1a.pdf.*

LIPPS, O., HERZING, J. M. E., PEKARI, N., ERNST STÄHLI, M. POLLIEN, A., RIEDO, G., REVEILHAC, M. 2019. Incentives in surveys. *FORS Guide*, n. 08, Version 1.0. Lausanne: Swiss Centre of Expertise in the Social Sciences.

MARBACH, G. 2002. *Le ricerche di mercato negli anni della discontinuità*, Roma: UTET.

PRATESI M. 2017. I big data: il punto di vista di uno statistico. Menabò di Etica e Economia, *retrieved from https://eticaeconomia.it/i-big-data-il-punto-di-vista-di-uno-statistico/*

SAVOLDELLI S. 2018. Perché I big data non uccideranno la ricerca tradizionale, retrieved from *https://sandrosavoldelli.wordpress.com/2018/11/25/perche-i-big-data-non-uccideranno-la-ricerca-tradizionale*/.

SINGER, E. 2002. The use of incentives to reduce nonresponse in household surveys. In GROVES, R. M. , DILLMAN, A., ELTINGE J. L., & LITTLE R. J. A. (Eds.), *Survey nonresponse*, Hoboken, NJ: Wiley. pp. 163-177.

Michele CAMISASCA, Istat, michele.camisasca@istat.it
Fabio FALCONE, Istat, fabio.falcone@istat.it
Livio GIGLIUTO, Istituto Piepoli, liviogigliuto@istitutopiepoli.it
Giuseppina SOLA, Istat, giuseppina.sola@istat.it