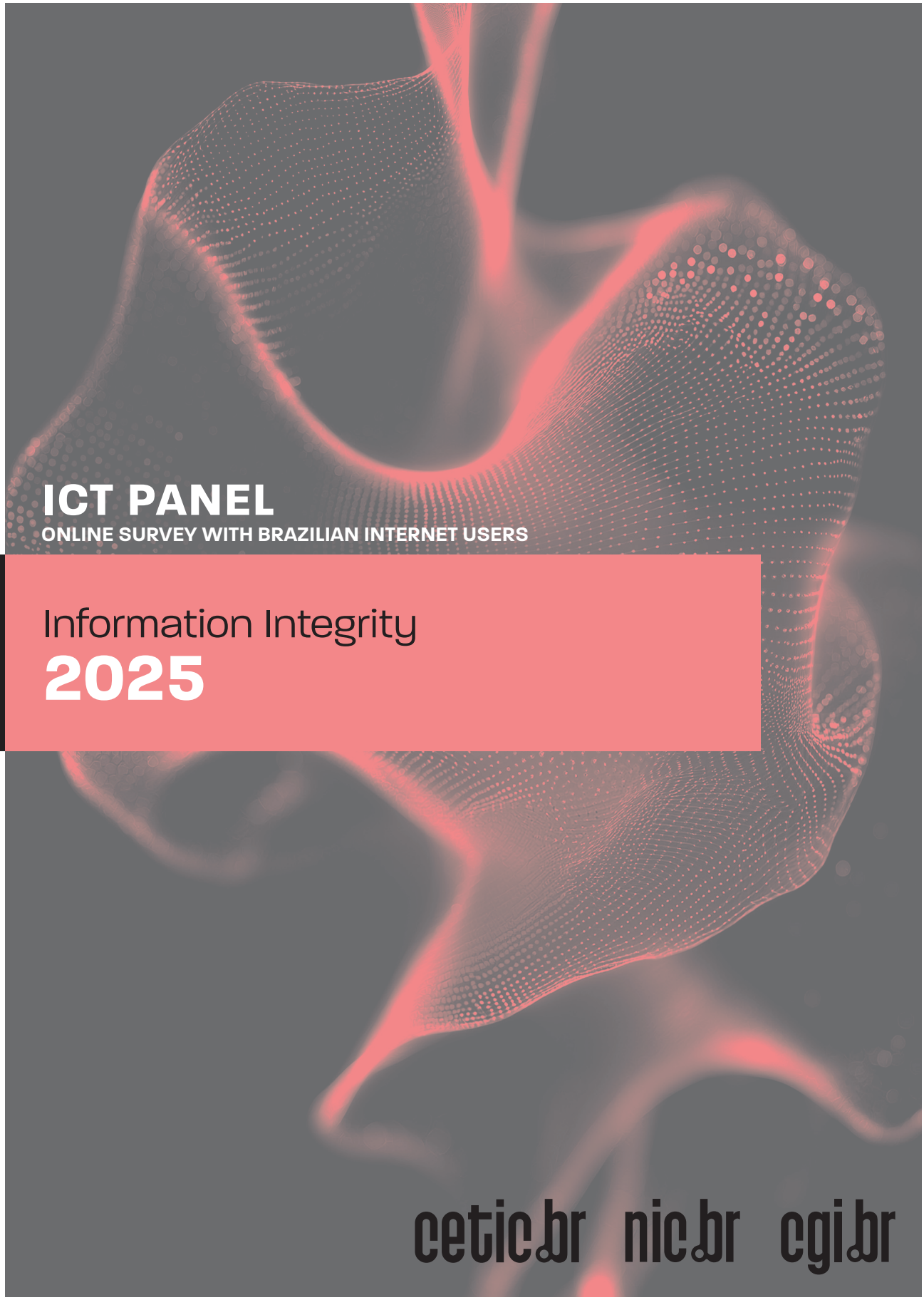

ICT PANEL

ONLINE SURVEY WITH BRAZILIAN INTERNET USERS

1ST EDITION

Information Integrity
2025

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Brazilian Network Information Center

ICT PANEL

ONLINE SURVEY WITH BRAZILIAN INTERNET USERS

Information Integrity

2025

1st edition

Brazilian Internet Steering Committee
www.cgi.br

São Paulo
2026

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Foreword

The Internet is a network built over decades through collective effort. It has established itself as an essential infrastructure for contemporary society, enabling economic activities, public policies, fundamental services, and various forms of social interaction. More than just offering a set of applications and services visible to end users, the Internet operates on an open, neutral, interoperable, and distributed technical architecture, whose integrity is a prerequisite for innovation, inclusion, and the exercise of rights in the digital environment.

Following the guiding principles of the Internet and in constant interaction with the Brazilian Internet Steering Committee (CGI.br), the Brazilian Network Information Center (NIC.br) plays its role in coordinating and strengthening the Internet in Brazil. In 2025, 20 years after its reconfiguration as a legal entity, NIC.br reaffirmed its commitment to managing critical network resources, operating stable infrastructure, and promoting a secure, accessible, and high-quality digital environment for Brazilians. This institutional milestone occurred in an equally significant context, alongside the celebration of the 30th anniversary of CGI.br—internationally recognized as a successful experiment in multistakeholder Internet governance.

One of NIC.br's various areas of activity focused on digital security is the Brazilian National Computer Emergency Response Team (CERT.br), which has played a central role in coordinating incident responses, disseminating best practices, and strengthening technical capabilities for online security, contributing to the resilience of the country's Internet infrastructure. These actions are linked to the publication of extensive awareness-raising and training material, always reinforcing the importance of a preventive and collaborative approach to security in the digital environment.[1]

Promoting a more accessible and inclusive Internet is also part of NIC.br's agenda. The Web Technologies Study Center (Ceweb.br) plays a role in this area, developing initiatives focused on digital accessibility and the standardization of web technologies.[2]

[1] More information about these actions can be found at https://internetsegura.br/

[2] Among the initiatives related to technical standards, Ceweb.br|NIC.br was part of the committee that drafted the ABNT NBR 17225 standard, focused on accessibility requirements for web content and applications. More information at https://ceweb.br/projetos/norma-abnt/

In a more technical field, the Center of Study and Research in Network Technology and Operations (Ceptro.br) works to continuously improve Brazil's Internet infrastructure through initiatives to measure connection quality, disseminate best practices for network protocols, train professionals, and provide services essential to Internet operations.[3] It was also through the actions of Ceptro.br|NIC.br that the Brazil Internet Exchange (IX.br)[4] originated and operates. It currently reaches more than 40 Tbit/s of aggregate traffic in the 38 locations where it is present, being the largest set of Internet exchange points (IXPs) in the world, with approximately 3,900 participating Autonomous Systems (AS). It should be noted that the São Paulo point is currently the world's leading IXP.

Adding to NIC.br's efforts is the creation of the Brazilian Artificial Intelligence Observatory (OBIA). It provides data and indicators that broaden understanding of the impacts and challenges of Artificial Intelligence (AI) in the country, supporting public debate and the formulation of policies aimed at its responsible use.[5]

Throughout its activities, NIC.br maintains and supports initiatives to promote the Internet and its safe, responsible, and conscious use. Annual events such as Safe Internet Day,[6] the Seminar on Privacy and Personal Data Protection,[7] and the Symposium on Children and Youth on the Internet[8] represent the ongoing effort to coordinate technical, legal, and social debates on key issues on the digital agenda. These actions highlight the importance of protecting personal data, ensuring information integrity, and safeguarding rights in the digital environment, especially for children.

In this context, the Regional Center for Studies on the Development of the Information Society (Cetic.br) is the NIC.br department responsible for regularly producing indicators and analyses on access, use, and appropriation of information and communication technologies (ICT) in Brazil. Cetic.br|NIC.br has established itself as a national and international reference in the production of reliable, comparable data aligned with internationally recognized methodological standards, which support the formulation of public policies, academic research, and multisectoral debate on the development of digital technologies.

In 2025, Cetic.br|NIC.br expanded its participation in international forums and agendas, contributing empirical evidence and methodological expertise to debates within the scope of BRICS and the Southern Common Market (Mercosur) meetings,[9] as well as other multilateral spaces. In these instances, topics such as meaningful connectivity, AI adoption, and reducing inequalities in access to and use of digital technologies took center stage, underscoring the importance of comparable, context-specific indicators to guide both regional and international cooperation.

[3] The main projects and initiatives of Ceptro.br|NIC.br can be accessed at https://ceptro.br/#projetos

[4] More information at https://ix.br/

[5] More information at https://obia.nic.br/

[6] More information at https://www.diadainternetsegura.org.br/

[7] More information at https://seminarioprivacidade.cgi.br/

[8] More information at https://criancaseadolescentesnainternet.nic.br/

[9] Publications with BRICS and Mercosur, among other international organizations, can be accessed at https://cetic.br/pt/publicacoes/indice/outros/

This year, Cetic.br|NIC.br began new studies focused on strategic topics for the development of the Brazilian digital ecosystem, such as the analysis of data center infrastructure, which is now essential for data processing, storage, and sharing, as well as for the expansion of applications based on cloud computing and AI. Another strategic topic concerns information integrity, which is central to analyzing information flows and trust in data sources, as well as to addressing challenges associated with misinformation in the digital environment.

By swiftly addressing emerging and relevant topics such as connectivity quality, digital competencies, privacy, AI use, critical infrastructure, and security, Cetic.br|NIC.br's surveys help understand the multiple factors that enable effective, meaningful connectivity. Measuring access remains essential, but it is increasingly necessary to understand the conditions of use, associated risks, and capabilities required for individuals and organizations to fully benefit from digital technologies.

The financial resources generated by .br domain registrations, managed by Registro.br|NIC.br, enable continuous investment in research, security, training, and technological development, sustaining a virtuous cycle that benefits the Internet in Brazil. In a scenario of rapid technological change and growing dependence on digital infrastructure, the governance model adopted by the country since 1995 remains current and fundamental, supporting an open, secure Internet guided by the public interest.

The purpose of this publication is to contribute to the quality of public debate and strengthen the formulation, monitoring, and evaluation of evidence-based public policies. By gathering reliable data and consistent analyses, NIC.br and CGI.br reaffirm their commitment to multistakeholder governance, the promotion of rights, the reduction of inequalities, and the construction of a more inclusive, accessible, and secure digital environment, capable of responding to contemporary challenges and expanding opportunities for Brazilian society.

Enjoy your reading!

Demi Getschko
Brazilian Network Information Center – NIC.br

Presentation

The intensification of digital transformation has significantly expanded the role of the Internet as an essential infrastructure for exercising rights and accessing information, education, social participation, and knowledge production. The Internet is also a strategic tool for formulating, implementing, and evaluating public policies aimed at innovation and economic and social development. In a context of rapid technological change, the expansion of digital platforms, and the growing use of automated data-based systems, there are increasing challenges associated with organizing the digital ecosystem. Ensuring that this ecosystem reduces inequalities, protects rights, and serves the public interest and national sovereignty is an urgent task that requires participatory institutional arrangements capable of guaranteeing democratic governance.

It is in this context that the Brazilian Internet Steering Committee (CGI.br) operates. In 2025, it celebrated 30 years of defending an open, secure, and inclusive Internet. The Brazilian multistakeholder model of Internet governance has established itself as a legitimate space for dialogue and collective construction, bringing together the government, the private sector, civil society organizations, and technical and academic communities in the formulation of principles, recommendations, and guidelines that steer the development of the Internet in the country. This approach becomes even more relevant in light of the growing complexity of challenges associated with the digital environment, such as personal data protection, transparency and accountability of digital platforms, tackling disinformation, and the impact of the use of automated systems and Artificial Intelligence (AI) on fundamental rights.

Throughout 2025, CGI.br actively participated in key debates on the future of Internet governance in Brazil and around the world, with an emphasis on discussions and public consultations[1] related to the regulation of digital platforms and the protection of rights in the online environment. The Committee contributed to the formulation of principles and recommendations aimed at balancing technological innovation, the protection of freedom of expression, and the need to safeguard users, particularly groups in situations of greater vulnerability, such as children.

[1] One of the results of this debate was the publication, in 2025, of the *Princípios do CGI.br para Regulação de Plataformas de Redes Sociais* (CGI.br Principles for the Regulation of Social Networks), available in Portuguese at https://cgi.br/pagina/principios-cgibr-regulacao-redes-sociais/

The contributions of CGI.br to the debate on the Brazilian Digital Statute of the Child and Adolescent (ECA Digital),[2] enacted in 2025, were based on the understanding that the comprehensive protection of children in the digital environment must be accompanied by measures that preserve the open architecture of the Internet and avoid solutions that compromise fundamental rights. The recommendations on age verification, the responsibility of application providers, and the promotion of safer digital environments reflect the pursuit of proportionate, evidence-based solutions aligned with the principles of multistakeholder Internet governance.[3]

Within the scope of this activity, the 15th edition of the Brazilian Internet Governance Forum (FIB, as per its acronym in Portuguese) in 2025 reinforced CGI.br's role as a facilitator of plural and qualified debates on the digital environment. The FIB brought together representatives from different sectors to discuss topics such as platform regulation, information integrity, digital sustainability, and meaningful connectivity. More than just a space for debate, the event has established itself as an environment for listening, building consensus, and formulating proposals aligned with both the national context and international Internet governance agendas.

The work of CGI.br is inseparable from the production of quality data and empirical evidence that inform public debate and decision-making. The Regional Center for Studies on the Development of the Information Society (Cetic.br), a department of the Brazilian Network Information Center (NIC.br), plays a strategic role in providing fundamental data for the formulation, monitoring, and evaluation of public policies related to digital technologies. In 2025, upon completing 20 years of operation, Cetic.br|NIC.br reaffirmed its ability to respond quickly and competently to debates on the digital environment, systematically incorporating new topics and indicators into its research agenda.

An example of this responsiveness is the production of indicators and analyses widely used to monitor the implementation of public policies and regulatory frameworks, such as ECA Digital and Law No. 15.100/2025,[4] which provides for the use of personal devices by students in basic education facilities. Regular surveys by Cetic.br|NIC.br, such as ICT Kids Online Brazil and ICT in Education, produce data on the use of digital technologies by children and families, school mediation practices, and exposure to risks in the online environment. This data contributes to a deeper understanding of the challenges these young people face and is essential for evaluating the effectiveness of adopted policies and regulations, as well as guiding adjustments that protect rights without compromising access to or the positive use of digital technologies.

[2] Available at https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2025/lei/L15211.htm

[3] CGI.br's recommendations regarding the ECA Digital can be found at https://cgi.br/media/docs/publicacoes/4/pt/20251118175422/CGIbr_Contribuicoes_Consulta_MJ_Afericao_Idade.pdf and https://cgi.br/media/docs/publicacoes/4/pt-br/20251215152052/Contribuicoes_CGIbr_Tomada_Subsidios_ANPD_ECA_Digital.pdf

[4] Available at https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2025/lei/l15100.htm

By disseminating indicators and studies on meaningful connectivity, digital competencies, responsible use of technologies, information integrity, and protection of rights, among other topics, Cetic.br|NIC.br helps to provide a more comprehensive understanding of the effects of digital transformation on Brazilian society and to strengthen evidence-based public policies.

At the international level, in coordination with CGI.br and in cooperation with ministries, Cetic.br|NIC.br maintained active participation in multilateral and regional forums, such as the BRICS and the Southern Common Market (Mercosur) agendas, contributing to debates on digital governance, connectivity, inclusion, and sustainability. This action reinforces the importance of international collaboration and the production of comparable indicators to address common challenges, while respecting national and regional specificities. In the same vein, it is worth highlighting Brazil's commitment to multisectoral governance, evidenced by CGI.br's participation in the WSIS+20 renewal process.

In 2025, a sectoral study on data centers in Brazil was launched and conducted by Cetic.br|NIC.br with the support of a multisectoral group of experts and government agencies, including the Ministry of Science, Technology, and Innovation (MCTI), the Ministry of Development, Industry, Trade, and Services (MDIC), and the Ministry of Finance (MF). The study seeks to fill information gaps in a context where these infrastructures play an increasingly strategic role in the digital economy, development policies, technological sovereignty, and environmental challenges.[5]

Therefore, in a global environment marked by growing tensions, rapid technological advances, and disputes over regulatory models, CGI.br reaffirms the centrality of multistakeholder governance to strengthen a secure, open, and public-interest-oriented Internet. This publication showcases the efforts to gather reliable, robust public data produced within the scope of Cetic.br|NIC.br, which supports democratic debate, the formulation of public policies, and the construction of a more just, inclusive, and human-development-oriented digital environment.

Renata Vicentini Mielli
Brazilian Internet Steering Committee – CGI.br

[5] The initial results of this study can be accessed at https://cetic.br/pt/publicacao/ano-xvii-n-4-data-centers-no-brasil/

Executive Summary

ICT PANEL 2025
INFORMATION INTEGRITY
2025

Executive Summary
ICT Panel - Information Integrity

The information integrity agenda has been guiding international public debate, especially with regard to tackling disinformation and promoting access to reliable, evidence-based information. With the aim of contributing to reflections on the topic, the ICT Panel - Information Integrity investigated the informational dynamics of Brazilian Internet users 16 years old and older. The survey covers practices for accessing and verifying information, social media usage, perceptions of the information ecosystem, digital skills, and the ability to correctly identify information on the Internet.

Practices for accessing information

Brazilian Internet users predominantly accessed information about what is happening in the world, the country, or their city through digital platforms, compared to radio and television media, for example (Chart 1). The survey results showed that 60% of Internet users 16 years old or older reported receiving, viewing, or searching for information daily through messaging apps, followed by short video feeds (53%), video websites or apps (50%), and news feeds on social media (46%). The proportion of those who accessed information daily exclusively through messaging apps and social media was 13%, with a higher proportion among females (15%), those in socioeconomic classes DE (18%), and those in the age groups 16 to 24 years old (17%) and 25 to 34 years old (16%).

Access to information was more frequent among Internet users in classes AB, those with tertiary education, in urban areas, and with Internet access via both mobile phones and computers. Daily access through websites or news portals on the Internet, for example, was reported by 58% of those in classes AB, a higher proportion than that observed among classes C (33%) and DE (27%).

Five platforms stood out as for daily use, regardless of purpose. WhatsApp, the most widely utilized platform, was reported to be used "almost all the time" by 54%, while total daily usage reached 91%. The other four most widely used platforms were Instagram (73% daily usage), YouTube (73%), Facebook (57%), and TikTok (50%).

DAILY ACCESS TO INFORMATION IS GREATER AMONG THOSE WHO ACCESS THE INTERNET VIA BOTH MOBILE PHONES AND COMPUTERS

According to the survey results, 65% of Internet users consumed some type of news daily, with an emphasis on national news and news about their city or state—both reported by 54% (Chart 2). Age proved to be a relevant variable in the analysis of information consumption habits: 79% of users 45 to 59 years old consumed some type of news daily, whereas this proportion was 46% for those 16 to 24 years old.

Another practice of access to information investigated was the use of generative Artificial Intelligence (AI), with ChatGPT being the tool most cited by Internet users (47%). Among users who accessed the Internet only via mobile phones, the use of WhatsApp AI was reported more frequently (38%).

Perceptions of the information ecosystem

About half (48%) of Internet users 16 years old and older reported that they "always" or "most of the time" distrusted information produced by traditional news outlets, a proportion that was higher among those with primary education (59%) and men (52%). Distrust was also investigated for other items, being lower in relation to information from "friends and/or family members on social media" (39%) and "official information and public media" (39%).

The study also evaluated the degree of engagement of individuals with practices for verifying information, i.e., the perception of their necessity and effectiveness. The results showed that only one in five Internet users had a more engaged attitude on this theme, which was more prevalent among individuals 60 years old or older (30%), females (23%), those in classes AB (30%), and those with tertiary education (26%). Some trends in disengagement stood out, such as thinking that "it is not worth researching whether the information I receive is true or false," or believing that "there is no point in checking whether information is true or false because it will not change other people's opinions".

ENGAGEMENT WITH INFORMATION VERIFICATION PRACTICES IS ASSOCIATED WITH GREATER SKILLS IN IDENTIFYING TRUE AND FALSE CONTENT ON THE INTERNET

Information verification practices

The most frequently cited reasons for not verifying information were forgetting to check or verify (36%), not having time (33%), not being interested (33%), and being sure that the information is true (31%) or false (25%) (Chart 3). Technical or connectivity difficulties were less frequently cited.

Most Brazilian Internet users said they blocked or muted users, profiles, or channels (76%) and indicated that they were not interested in content they had received (69%); both options were reported in greater proportion by those who identified as Black. These practices become even more important in a context of increased circulation of deepfakes, with which 41% of the survey population reported having daily contact.

Digital and critical skills

The ICT Panel - Information Integrity investigated the ability to understand key aspects of how social media and search engines work, such as the algorithmic dynamics of content classification and distribution, and monetization logics. One in two users (56%) agreed, for example, that what makes content circulate more on the Internet is that it is more interesting, and 45% agreed that everyone finds the same information when searching on the Internet.

The data also showed that 11% of Internet users feel very confident in their ability to identify false or misleading information they see on the Internet, 29% feel confident, 29% feel somewhat confident, and 19% feel not confident at all. The proportion of those who were very confident was higher among Internet users in classes AB (17%), those with tertiary education (15%), and men (15%).

Ability to classify information as false or true on the Internet

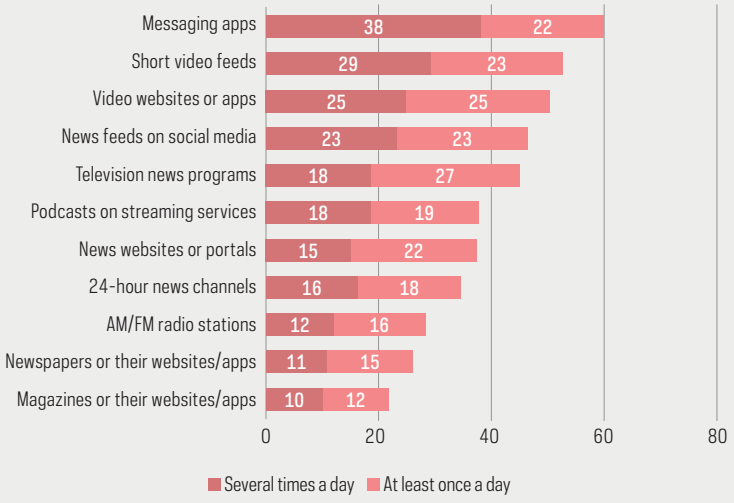
Based on an exercise to classify information as true or false (see more in the "Technical Note" section, available both in the printed publication and on the website), the ICT Panel - Information Integrity survey investigated the ability of

CHART 1

—

Frequency of access to information, by media outlets (2025)

Internet users 16 years old or older (%)



80%
of Internet users in classes AB accessed information daily through social media

18%
of Internet users in classes DE accessed information exclusively through digital platforms

28%
of Telegram users 60 years old or older have news groups on the app

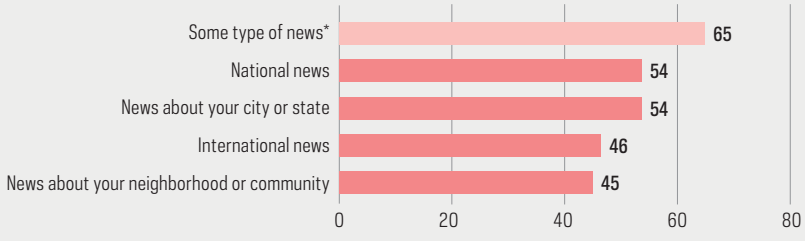
41%
of Internet users reported having daily contact with deepfakes

CHART 2

—

Scope of news consumption daily (2025)

Internet users 16 years old or older (%)



* At least one of the news categories at a frequency of "several times a day" or "at least once a day"

Brazilian Internet users to correctly classify information that circulated on the Internet between 2024 and 2025. Based on the results of the exercise—and using item response theory (IRT) parameters as a reference—respondents were allocated into four groups: (i) 2 to 4 points (the group with the lowest performance on the exercise); (ii) 4 to 5 points; (iii) 5 to 6 points; and (iv) 6 to 8 points (the group with the best performance, accounting for 17% of the survey population).

The results indicated a greater ability to correctly identify false or true information on the Internet among Brazilian users 45 to 59 years old (21% in the group with the highest scores) and 60 years old or older (25%), those from classes AB (25%), and those with tertiary education (22%). Aspects related to meaningful connectivity were also relevant: Results were better for those with fiber-optic or cable connections in their households (22%) and with Internet access via both mobile phones and computers (21%).

The survey also found correlations between the exercise results and other indicators collected. Internet users with a more engaged informational profile showed above-average ability to classify information on the Internet, with 33% in the group with the highest scores. The results were also positive among participants with "above basic" digital skills (22%) and those with greater understanding of the dynamics of social media and search engines (32% for the group that indicated the expected response in at least seven items of the indicator that assesses critical skills).

The use of settings and practices on social media was also associated with higher performance in the exercise: 21% of those who reported having "blocked or muted users, profiles, or channels" were in the group with the highest scores, same proportion for those who reported having "indicated a lack of interest in content they received." On the other hand, there was no correlation between performance on the exercise and confidence in one's own ability to identify false or misleading information (Chart 4), corroborating trends already observed in other reference studies in the field.

Survey methodology and access to data

The ICT Panel - Information Integrity survey presented unprecedented data collected by the Regional Center for Studies on the Development of the Information Society (Cetic.br), based on online questionnaire interviews with 5,250 Internet users 16 years old or older between August and September 2025. The results are available on the Cetic.br|NIC.br website (https://www.cetic.br). The "Methodological Report" and the "Data Collection Report" are available in the printed publication and on the website.

CHART 3

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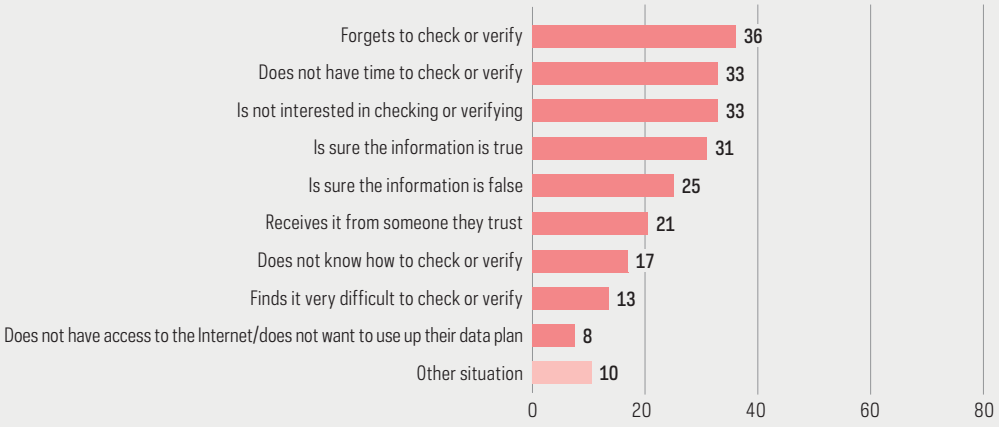
Situations where information is not verified (2025)

Total number of Internet users 16 years old or older who do not always check information(%)



34%
of Internet users reported agreeing completely or partially that it is not worth researching whether the information they receive is true or false

44%
of Internet users with primary education reported agreeing completely or partially that concern about false information is exaggerated

45%
of male Internet users reported always or mostly distrusting official information and public media

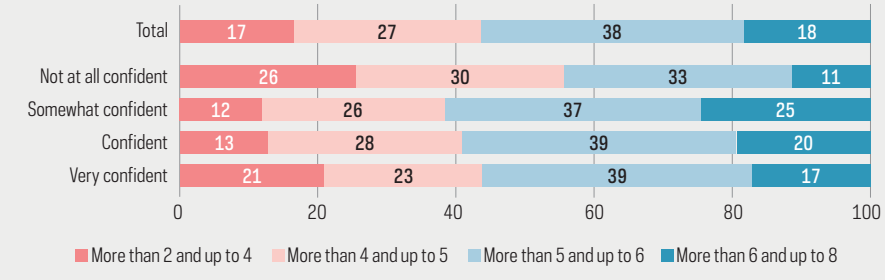
47%
of Internet users reported always or most of the time verifying information that comes from a newspaper/website/page/profile in traditional media

CHART 4

—

Score in the information classification exercise, by confidence in one's own ability to verify false and misleading information on the Internet (2025)

Internet users 16 years old or older (%)



Access the full survey data!

In addition to the results presented in this publication, tables of indicators, questionnaires, information on how to access the microdata, and the presentation of the results of the launch event are available on the Cetic.br|NIC.br website, as well as other publications on the subject of the survey. The tables of results (https://cetic.br/en/pesquisa/painel/), available for download in Portuguese, English, and Spanish, present the statistics produced, including information on the data collected and cross-referencing for the variables investigated in the study. The information available in the tables follows the example below:

Code and indicator name

Population to which the results refer

IN6B - INTERNET USERS WHO USED A GENERATIVE AI TOOL, BY TOOL USED

Total number of Internet users 16 years old or older

PERCENTAGE (%)		CHATGPT	COPILOT	GEMINI	WHATSAPP AI META	ANOTHER AI TOOL
TOTAL		47	14	30	42	18
SEX	Male	45	17	33	40	16
	Female	48	12	28	45	19
AGE GROUP	16 to 24 years old	63	15	34	56	25
	25 to 34 years old	54	15	40	45	19
	35 to 44 years old	50	19	33	42	18
	45 to 59 years old	37	12	24	37	14
	60 years old or older	25	9	18	31	11
REGION	North	51	14	34	47	23
	Northeast	45	11	33	46	19
	Southeast	44	15	29	40	17
	South	49	12	28	40	15
	Center-West	55	22	31	45	18
SOCIAL CLASS	AB	52	23	41	51	20
	C	47	13	29	39	17
	DE	42	8	24	42	16
AREA	Urban	47	15	31	43	18
	Rural	41	7	27	40	14

Indicator responses

Results tabulation cut-outs: total (population as a whole) and characteristics of analysis (region, age group, etc.), different in each survey

Results: can be in % or totals

Source: Brazilian Network Information Center. (2026). *ICT Panel 2025: Online survey with Brazilian Internet users: Information integrity* [Tables].

How to reference the tables of indicators

This publication is also available in Portuguese on the Cetic.br|NIC.br website.

Methodological Report

—

ICT PANEL 2025
INFORMATION INTEGRITY

Methodological Report
ICT Panel - Information Integrity

The Brazilian Internet Steering Committee (CGI.br), through the Regional Center for Studies on the Development of the Information Society (Cetic.br), a department of the Brazilian Network Information Center (NIC.br), presents the methodology of the ICT Panel - Information Integrity survey.

As a result of the COVID-19 pandemic, which has substantially affected the work of national statistical offices and other data producers across the world, particularly in Latin American countries, Cetic.br|NIC.br has innovated in the production of indicators based on research using online panels. Starting in 2021, the methodology developed for the production of the ICT Panel began to be used regularly by Cetic.br|NIC.br to produce statistics on information and communication technologies (ICT) for Internet users. This tool enables the production of indicators more regularly, as well as the evaluation and collection of information on new topics and emerging aspects of Internet use in Brazil.

Survey objective

The ICT Panel aims to collect information on topics related to the use of technologies by Internet users throughout Brazil. In this edition of the ICT Panel - Information Integrity, the survey examines practices related to accessing and verifying information, as well as perceptions and digital skills regarding the identification of false and true information on the Internet.

Target population

The target population for the survey consists of Internet users 16 years old or older in Brazil. Internet users are defined as individuals who used the Internet in the three months prior to the interview, according to the methodological recommendation of the International Telecommunication Union (ITU, 2014).

Reference and analysis unit

Internet users 16 years old or older.

Domains of interest for analysis and dissemination

For the reference and analysis units, the results are reported for domains defined based on the variables and levels described below:

- **sex:** corresponds to the division into male or female.
- **level of education:** corresponds to the division of primary education (1st grade to 5th grade), lower secondary education (6th grade to 9th grade), upper secondary education, or tertiary education.
- **age group:** corresponds to the division of 16 to 24 years old, 25 to 34 years old, 35 to 44 years old, 45 to 59 years old, and 60 years old or older.
- **region:** corresponds to the regional division of Brazil, according to the Brazilian Institute of Geography and Statistics (IBGE) criteria, into the macro-regions North, Northeast, Southeast, South, and Center-West.
- **social class:** corresponds to the division into classes AB, C, or DE, according to the Brazilian Economic Classification Criteria (CCEB), as defined by the Brazilian Association of Research Companies (Abep).
- **area:** corresponds to the definition of census enumeration areas, according to IBGE criteria, considered rural or urban.
- **color or race:** corresponds to the division of White, Black, Brown, Asian, or Indigenous.
- **Internet access devices (computers and mobile phones):** corresponds to the division into only via computers, only via mobile phones, via both devices, or neither device.

Data collection instrument

INFORMATION ON THE DATA COLLECTION INSTRUMENT

The data were collected using a structured online questionnaire with closed questions and predefined answer options (single or multiple) and, in some cases, open-ended questions, which were analyzed using text analysis methodologies. The questionnaire was self-administered, without the mediation of an interviewer.

TOPICS COVERED

The ICT Panel investigates topics related to activities carried out online and devices used to access the Internet, using as a reference the indicators validated by the ICT Households survey conducted by CGI.br, as well as usage indicators relevant at the time of the survey.

Sampling plan

SURVEY FRAME AND SOURCES OF INFORMATION

For the sampling design of the ICT Panel, a panel of respondents gathered by a market research enterprise is used as the primary source, with panelists 16 years old or older. Panel participants are recruited through a variety of channels and methods, including probabilistic surveys, careful selection of recruitment partners and partnerships with media outlets, continuous evaluation of panelist response rates, a focus on recruitment actions for specific audiences according to client needs, and a recruitment process in line with the highest market standards. Panel participants receive incentives to respond to surveys.

SAMPLE SIZE DETERMINATION

The sample size is determined according to information needs, available resources, and the deadline for obtaining the information for analysis. The total number of interviews for each round of the ICT Panel is presented in the "Data Collection Report".

METHODS FOR OBTAINING THE SAMPLE

The sampling plan used to obtain the sample of respondents is quota sampling. Quotas are established considering sex, age group, level of education, macro-region, social class, and propensity scores for Internet use based on the latest available edition of the ICT Households survey, and are used to indicate the individuals to be approached for online collection. The allocation of the sample according to the established criteria is disproportionate to the information contained in the survey frame, given the need to meet the demand for information for all areas of interest. The sample resulting from this collection effort is hereafter referred to as the ICT Panel.

Data collection procedures

DATA COLLECTION METHOD

The computer-assisted web interviewing (CAWI) method is used, through a programmed, self-administered online questionnaire.

Data processing

WEIGHTING PROCEDURES

Sample surveys that use quotas to select respondents are classified as non-probabilistic. Typically, such strategies do not allow for the calculation of sampling errors and may carry selection biases, as the probabilities of selection for each unit are unknown. Non-probabilistic approaches are common in opinion polls, voting intention polls, product evaluation polls, and customer satisfaction polls. Such surveys generally have shorter collection periods and smaller budgets, and do not follow the usual rigor of probabilistic sampling methods for obtaining samples.

Recently, the growing demand for more frequent and disaggregated information, in addition to the emergence of new sources of information (Big Data), has driven numerous studies that attempt to assign weighting structures that mitigate biases in databases collected by non-traditional methods. In general, such studies use sample surveys or traditional censuses as a reference for calculating weights for non-probabilistic sample observations, which then serve as a basis for obtaining estimates of precision, confidence intervals, etc. Examples of studies in this line include Elliott and Valliant (2017) and Valliant (2019).

For the ICT Panel, the latest ICT Households survey (a probabilistic survey) with publicly available data is used as the primary reference. In addition, the results of the ICT Households survey are updated for the population of the IBGE's Continuous National Household Sample Survey (Continuous Pnad) for the last quarter reported. The process of weighting the respondents of the ICT Panel is divided into two stages:

1. Estimate of the total number of Internet users 16 years old or older in Brazil on the survey reference date who are represented by the ICT Panel respondents.
2. Estimate of pseudo-probabilities of selection of these respondents for ICT Panel weighting.

STAGE 1 — ESTIMATION OF THE CONTINGENT OF INTERNET USERS REPRESENTED IN THE ICT PANEL

The ICT Households survey (latest results available), which is based on a traditional probabilistic approach, estimates the total number of Brazilians 10 years old or older who are Internet users.[1] The ICT Panel, on the other hand, includes respondents 16 years old or older who are Internet users, according to internationally adopted parameters (ITU, 2014). In order for the two samples to be comparable, the results of the ICT Households survey for the same age group are filtered.

[1] More details on the Cetic.br|NIC.br website. http://cetic.br/media/microdados/256/ticdom_2019_relatorio_metodologico_v1.0.pdf

Since the construction of the ICT Panel respondent group is not probabilistic, it cannot be considered a priori as representative of the entire population of Internet users 16 years old or older. To estimate the contingent of the population represented by the panel respondents, an estimation procedure based on propensity scores was adopted. In this methodology, the propensity scores for being an Internet user are initially calculated according to socioeconomic variables based on the latest available ICT Households survey. This same model is then used to estimate the propensity scores for the ICT Panel respondents.

By comparing the distribution of the ICT Panel propensity scores with the distribution of those found in the latest ICT Households survey, it is possible to determine which part of the population of Internet users 16 years old or older from the latest ICT Households survey (or if all of it) could be considered represented by the ICT Panel respondents. This is equivalent to estimating the panel's coverage error in relation to the target population initially considered for the survey.

Based on this comparison, a cutoff point is established that determines, in the ICT Households database, the set of units investigated whose propensity scores appear to be well represented by the ICT Panel respondents.

This procedure aims to determine the population represented by the ICT Panel and to consider, for the purpose of comparing results, this same population among Internet users in the latest ICT Households survey.

The process of determining this population follows four steps:

1. Updating of population totals from the latest ICT Households survey to totals for the last quarter released by the Continuous Pnad conducted by IBGE.
2. Adjustment of the logistic regression model using "Internet user" as the response variable and a set of socioeconomic factors common to this survey and the ICT Panel as explanatory variables. This model is then used to estimate the propensity scores for being an Internet user for respondents to the latest ICT Households survey.
3. Estimation of propensity scores for respondents to the ICT Panel based on the model adjusted with data from the latest ICT Households survey.
4. Determination of the cutoff point that separates, both in the sample of the latest ICT Households survey and in the ICT Panel, the portion of the population that would be represented.

Step I. Updating of population totals from the latest ICT Households survey to totals for the last quarter released by the Continuous Pnad

The purpose of this step is to update the population estimates for individuals 10 years old and older from the latest ICT Households survey, based on data released by IBGE in the latest available Continuous Pnad survey. The calculations update the total population 10 years old and older based on estimates reported in the Continuous Pnad survey microdata. Next, following the same percentage distribution of the calibrators used in the latest ICT Households survey, the survey weights are updated according to the new totals of the marginal distributions of the variables considered in the calibration.

Step II. Adjustment of the logistic regression model for the "Internet user" variable among respondents 16 years old or older in the ICT Households survey

This stage seeks to accurately estimate the probability of an individual being an Internet user based on socioeconomic variables observed in the latest ICT Households survey and which are also available in the ICT Panel. In order to obtain a parsimonious model that provides good results in estimating Internet users, several models are tested, according to Formula 1.

FORMULA 1

$$log\left(\frac{P(Y_i=1)}{1-P(Y_i=1)}\right)=\alpha+\beta X_i$$

Y_i is an indicator variable, taking the value 1 if individual i is an Internet user, and the value 0 otherwise

X_i is a vector with the values of explanatory variables (sex, age group, level of education, etc.) of individual i

$P(Y_i=1)$ represents the probability of the individual being an Internet user

α e β and are model parameters to be estimated

The estimates for $P(Y_i=1)$ provided by the expression

$$\hat{P}(Y_i=1)=\frac{exp\,(\hat{\alpha}+\hat{\beta}X_i)}{1+exp\,(\hat{\alpha}+\hat{\beta}X_i)}$$

are the so-called propensity scores considered in the methodology, where $\hat{\alpha}$ and $\hat{\beta}$ are the parameter estimates obtained based on the adjusted model.

The adjusted model uses only information that is present in both sources (ICT Households and ICT Panel) as independent variable options ($\boldsymbol{X}$). The final model is presented in the "Data Collection Report".

Step III. Estimation of propensity scores for respondents to the ICT Panel

Based on the model adjusted with data from the latest ICT Households survey, propensity scores were estimated for the set of ICT Panel respondents. Next, the distribution of propensity scores from the ICT Households sample were compared with that of the scores from the ICT Panel sample for Internet users. The results are presented in the "Data Collection Report".

Step IV. Determination of the common support population for ICT Households and the ICT Panel

If the distributions of the scores obtained in both surveys are different, the aim is to identify a cut-off of the sample of Internet users from the ICT Households survey that is more similar to the set of respondents from the ICT Panel. The decision to use this cut-off takes into account the distribution of scores and the variability in the weights

assigned to panel respondents for a set of possible samples of scores indicating propensity to be an Internet user. This assessment is made by estimating the weights of ICT Panel respondents according to alternative situations:

1. Selection of all respondents from both surveys, without any filtering; and
2. Selection of respondents from both surveys who have propensity scores greater than or equal to a specific fraction.

The fraction is chosen in order to consider comparable parts of the respondent pool from both surveys, which determines a common support population for them. For each fraction option (determining the common support population), pseudo-weights are estimated for the ICT Panel respondents,[2] and the cut-offs considered are evaluated according to the variability in the weights. The cut-off is chosen where the resulting weights have the smallest range in the distribution of absolute values and where the calibration factors (ratio between calibrated weights and basic weights) have a mean closest to 1. This is desirable because in this situation the calibrated weights are closer to the weights initially established by the pseudo-weight estimation methodology. The results of this step are presented in the "Data Collection Report".

STAGE 2 – ESTIMATION OF PSEUDO-PROBABILITIES OF INCLUSION TO DETERMINE THE WEIGHTS OF RESPONDENTS TO THE ICT PANEL

The pseudo-weight estimation process consists of estimating pseudo-probabilities of inclusion of ICT Panel respondents (non-probabilistic sample) in the latest ICT Households survey (probabilistic sample), as well as using their reciprocals as weights, as in a traditional probabilistic sample survey. This estimates the probability of an individual being selected and responding to the ICT Households survey based on independent variables ($\boldsymbol{X}$) related to the profile of the respondents, considering that, given these variables ($\boldsymbol{X}$), the probabilities of inclusion are independent of the variables of interest to the survey.

To estimate the pseudo-probabilities, the data from both samples (probabilistic and non-probabilistic) is stacked into a single database, and the inclusion probabilities are estimated using a logistic regression model that considers the sampling plan of the reference probabilistic survey.

For this study, different possibilities are considered according to the population segments established in the previous section. These segments aim to identify the common support population of the two surveys by evaluating the weights obtained, as suggested by Valliant (2019).

The process of estimating pseudo-probabilities involves the following steps:

1. Combining cases in a single database (stacking), ensuring the presence of common independent variables ($\boldsymbol{X}$), collected according to the same criteria and concepts. On this basis, an indicator variable $\boldsymbol{Z}$ was created, which takes the value 1 for respondents from the ICT Panel (non-probabilistic sample) and the value 0 for respondents from ICT Households (probabilistic sample).

[2] The methodology for estimating pseudo-weights is presented in the next section.

2. Creating a column of weights in this file, which considers the weights from the probabilistic sample (for its cases) and a weight equal to 1 for cases from the non-probabilistic sample.

3. Adjusting a logistic regression model with variable $\boldsymbol{Z}$ as the response, considering the sample design of the ICT Households survey, to estimate the probabilities of inclusion of ICT Panel respondents in the probabilistic sample.

In the model adjustment, the ICT Panel sample is considered as a separate stratum, and each respondent in this sample is considered as a distinct primary sampling unit (PSU). This procedure is necessary in the declaration of the sampling plan structure variables for the stacked data file of the two surveys.

The most parsimonious model considering the independent variables ($\boldsymbol{X}$) available and common to both databases is presented in the "Data Collection Report." Based on this model, the pseudo-probabilities of inclusion of ICT Panel respondents in the latest ICT Households survey are estimated. The reciprocals of these pseudo-probabilities are the initial weights allocated to each ICT Panel respondent.

These initial weights are calibrated to estimated marginal totals of the variables in the ICT Households survey. The weights calibrated in this way are used to estimate all the outcome indicators of interest and the associated precision measures.

VARIANCE ESTIMATION

The estimation process assigns each ICT Panel respondent a weight that treats them as a survey participant with a sampling plan equal to that of the last ICT Households survey, but with a smaller total sample size. This makes it possible to estimate variances and margins of error. According to Valliant (2019), there are two possibilities for variance estimation: estimation considering the sample as simple random with replacement or estimation based on the replication method.

The second method (estimation based on the replication method) has the advantage of considering the estimation of the model and the pseudo-probabilities of inclusion of subsamples taken from the main sample. This allows the variability associated with the estimation of this model to be included in the variance estimation and, for this reason, this was the method used for variance estimation. The procedure followed the steps below:

1. From the common (stacked) base used to estimate the pseudo-probability model, 200 bootstrap samples are selected using the *as.svrepdesign* function from the survey package of the R program, considering the sampling plan.

2. For each of these 200 replicates, the model is adjusted to estimate the inclusion pseudo-probabilities and corresponding pseudo-weights.

3. The pseudo-weights of each replicate are calibrated and saved for variance estimation.

The variance of estimates of indicators of interest is estimated using Formula 2.

FORMULA 2

$$\hat{V}(\hat{y}) = \frac{1}{R}\sum_{r=1}^{R}(\hat{y}_r - \hat{y})^2$$

$\hat{y}$ is the estimate of indicator y obtained using the ICT Panel sample (with 5,250 respondents)

$\hat{y}_r$ is the estimate of indicator y in replica r

$R = 200$ is the total number of bootstrap replicas formed

Data dissemination

The results of the ICT Panel are presented according to the variables described in the item "Domains of interest for analysis and dissemination." In some results, rounding caused the sum of partial categories to be different from 100% for single-answer questions. The sum of frequencies in multiple-answer questions usually exceeds 100%. It is worth mentioning that, in the tables of results, hyphens (-) are used to represent nonresponse. Furthermore, since the results are presented without decimal places, cells with zero value mean that there was an answer to the item, but its proportion was explicitly greater than zero and lower than one.

The results of this survey are published online and made available on the website of Cetic.br|NIC.br (http://www.cetic.br). The tables of proportions, totals, and margins of error for each indicator are available for download. For comparison purposes with previous editions of the ICT Households survey, the survey tables are provided using the same breakdown as in the ICT Panel, separating the common support population in the ICT Households survey when necessary.

References

Elliott, M. R., & Valliant, R. (2017). Inference for nonprobability samples. *Statistical Science, 32*(2), 249–64.

International Telecommunication Union. (2014). *Manual for measuring ICT access and use by households and individuals 2014*. http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-ITCMEAS-2014-PDF-E.pdf

Valliant, R. (2019). Comparing alternatives for estimation from nonprobability samples. *Journal of Survey Statistics and Methodology*, *8*(2), 231–263.

Data Collection Report

ICT PANEL 2025
INFORMATION INTEGRITY

Data Collection Report
ICT Panel - Information Integrity

The Brazilian Internet Steering Committee (CGI.br), through the Regional Center for Studies on the Development of the Information Society (Cetic.br), a department of the Brazilian Network Information Center (NIC.br), presents the evaluation of data collection and processes associated with the results of the ICT Panel - Information Integrity survey.

Data collection instruments

INFORMATION ABOUT THE DATA COLLECTION INSTRUMENTS

The data was collected using a structured online questionnaire with closed questions and predefined answer options (single or multiple) and one open-ended question. It was self-administered, without the mediation of an interviewer.

TOPICS COVERED

The ICT Panel - Information Integrity survey investigated activities carried out online and devices used to access the Internet, using indicators validated by the ICT Households survey and related to the following topics:

- Activities carried out on the Internet
- Skills for Internet use
- Practices for accessing information on the Internet
- Practices for verifying information on the Internet
- Perceptions and trust in relation to the information ecosystem
- Digital skills and the ability to identify true and false information on the Internet

Data collection procedures

DATA COLLECTION METHOD

Computer-assisted web interviewing (CAWI) was used as the data collection method, through a programmed, self-administered online questionnaire.

DATA COLLECTION PERIOD

The data was collected between August 12 and September 30, 2025, by Quaest.

COLLECTED SAMPLE

In total, 5,250 panelists 16 years old or older responded to the survey, out of a total of approximately 16,000 panelists contacted.

Data processing

WEIGHTING PROCEDURES

The ICT Households 2024 survey served as the primary reference for ICT Panel - Information Integrity, with no need for additional updates to new totals from the Continuous National Household Sample Survey (Continuous Pnad).

STAGE 1 — ESTIMATION OF THE CONTINGENT OF INTERNET USERS REPRESENTED IN THE ICT PANEL - INFORMATION INTEGRITY SURVEY

Step I. Adjustment of the model of propensity scores to be an Internet user for the ICT Households 2024 survey

The first step consisted of adjusting the logistic regression model, with "Internet user" as the response variable and a set of socioeconomic factors common to both the ICT Panel and the ICT Households survey as explanatory variables. This model was used to estimate the propensity scores for being an Internet user for respondents to the latest ICT Households survey.

TABLE 1

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Model adjustment statistics

Independent variables in the model	ICT Households 2024	
	R^2	Correct classification rate (1)
Sex, age, level of education, social class, and computer user indicator	0.48	90%

Note: (1) = Percentage of individuals correctly classified based on the adjusted model.

Step II. Estimation of propensity scores for respondents to the ICT Panel - Information Integrity survey

Based on the model adjusted with data from the ICT Households 2024 survey, propensity scores were estimated for the set of respondents to the ICT Panel - Information Integrity survey. Next, a comparison was made between the distributions of propensity scores in the ICT Households 2024 sample and the scores of the ICT Panel - Information Integrity survey sample for Internet users. The results are presented in Table 2. It can be seen that the distribution of scores for respondents to the ICT Panel - Information Integrity survey has a profile similar to that observed for the population of Internet users 16 years old or older according to the ICT Households 2024 survey.

TABLE 2

—

Comparison of the distribution of scores for propensity to be an Internet user

Survey	Minimum	Q1	Median	Mean	Q3	Maximum
ICT Households 2024	0.0751	0.8069	0.9137	0.8711	0.9904	0.9980
ICT Panel - Information Integrity	0.0953	0.8442	0.8919	0.8727	0.9289	0.9980

STAGE 2 — ESTIMATION OF PSEUDO-PROBABILITIES OF INCLUSION TO DETERMINE THE WEIGHTS OF RESPONDENTS TO THE ICT PANEL - INFORMATION INTEGRITY SURVEY

The process of calculating pseudo-weights consists of estimating pseudo-probabilities of inclusion of respondents from the ICT Panel (non-probabilistic sample) in the ICT Households survey (probabilistic sample), based on a model, and using their reciprocals as weights, as in a traditional probabilistic sample survey.[1]

[1] For more details, see the "Methodological Report".

The most parsimonious model considering the independent variables ($\boldsymbol{X}$) available and common to both databases contains the following variables: social class, Internet use on computers, education, age group, and possession of at least one digital skill.[2] Using this model, the pseudo-probabilities of inclusion of respondents to the ICT Panel - Information Integrity survey in the ICT Households 2024 survey were estimated. The reciprocals of these pseudo-probabilities are the initial weights allocated to each respondent in this edition of the ICT Panel survey.

These initial weights were calibrated for estimated marginal totals of the variables macro-region, sex, age group, education level, social class, and activities carried out on the Internet. The weights calibrated in this way were used to estimate all outcome indicators of interest and their associated precision measures.

ERROR ESTIMATION

The method used for error estimation was replication.[3]

[2] The skills considered include: using copy and paste tools to duplicate or move content; attaching documents, images, or videos to instant messages, emails, or text messages; using formulas in a spreadsheet; connecting or installing new wired or wireless devices, such as modems, printers, cameras, or microphones; installing computer programs or mobile phone apps; creating slide presentations; transferring files or applications between devices, including via the cloud; creating computer programs or mobile phone apps using a programming language; adopting security measures, such as strong passwords or two-step verification, to protect devices and online accounts; changing privacy settings on devices, accounts, or apps to limit the sharing of personal data, such as names, contact information, or photos; verifying that information found on the Internet was true.

[3] For more details, see the "Methodological Report".

Technical Note

ICT PANEL 2025
INFORMATION INTEGRITY

Technical note: Regarding the methodology of the information classification exercise adopted in the survey

The consolidation of the information integrity agenda represents a milestone in the debate surrounding the efforts against information manipulation. Therefore, it becomes important to reflect on how to build resilience among individuals to deal with false and/or misleading information circulating in the media, especially on the Internet (see more in "Analysis of Results").

Although this dimension is associated with several factors—such as fostering diverse, reliable, and evidence-based information ecosystems; the effect of business models adopted by digital platforms; and the implementation of media education curricula—the individual's ability to critically evaluate information accessed online remains one of the fundamental aspects for building healthy relationships with information in the contemporary world.

In June 2024, the Organisation for Economic Co-operation and Development (OECD) published the *OECD Truth Quest Survey* (2024), an online panel study in which individuals from 21 countries were asked to identify false and true content in a simulated social media environment. The results allowed for comparisons regarding the influence of various aspects on the ability to identify online content, such as nationality, content type,[1] authorship (produced by a human or by Artificial Intelligence [AI]), and theme (the environment, health or international affairs). At the time, the Brazilian Internet Steering Committee (CGI.br) and the Brazilian Network Information Center (NIC.br) supported Brazil's inclusion in the study, which allowed for international comparison of the data collected in the country.

In this context, and taking into account international references on the subject (Maertens et al., 2023; OECD, 2024), the ICT Panel - Information Integrity developed its own exercise, aimed at identifying the ability of Brazilian Internet users 16 years old or older to classify information circulating on the Internet as true or false, building personalized scores for the respondents. The various stages of producing the exercise and its methodology are detailed in the following sections. The results, in turn, are described in the "Analysis of Results" chapter.

[1] Satire, propaganda, contextual deception, disinformation, and misinformation.

Selection of information and formatting of claims

The first stage of the exercise's production, carried out in partnership with Agência Lupa,[2] involved selecting information that circulated in Brazil throughout 2024 and 2025. Three themes were considered: technology, the environment, and health. The selection aimed to mitigate the presence of claims that could be affected by political bias, such as those that mentioned political parties, public figures, or elections. It is worth noting that all the selected information had been previously verified by Agência Lupa and classified according to its veracity.

An initial database of claims was compiled, containing six true claims and six false claims for each of the three selected themes (36 in total). They were drawn from various sources, such as social media posts, messages on messaging apps, and newspaper headlines. Furthermore, they often included visual resources that complicated their application to the context of the exercise (audios, videos, images, different fonts and text colors, hashtags, etc.). They also contained textual variations that could hinder their presentation (excessively long texts, very specific terms, grammatical errors). Therefore, a second stage in planning the exercise consisted of formatting the texts. Short and objective claims were chosen, emulating a journalistic "lead", aiming to reduce the reading load for respondents and interfere as little as possible with the original content of the information.

After selecting and formatting the claims, the next step was to produce new claims using generative AI tools—aiming to test the hypothesis, already investigated in the literature (OECD, 2024), that the type of "authorship" of information (produced by humans or AI) would affect the ability to identify them.

ChatGPT-5 was used as the tool in this step. Based on the human-made claims, a prompt[3] was given to the tool requesting that it produced 24 more claims (true and false, for the three topics), which were subsequently verified by Agência Lupa.

Thus, a first version of the claim bank was established, divided into 36 claims authored by humans (six false and six true for each topic) and 24 claims authored by generative AI (four false and four true for each topic). In a fourth stage, these 60 claims were pretested with 252 respondents from the Panel to assess their feasibility within the statistical model used in the exercise—which will be explored in more detail in the following sections.

[2] Agência Lupa is a hub for information production focused on safety and responsible Internet use, operating through various fronts such as journalism and fact-checking, media literacy, and report production. It became known primarily for its role as a fact-checking agency. Founded in 2015, it has been a member of the International Fact-Checking Network (IFCN) since 2017.

[3] "Chat, below you will find a list with 36 news headlines/claims. The first 18 are false, and the next 18 are true. Both groups (true and false) are equally divided into three themes (the environment, health, and technology). Based on the headlines/claims in this list, could you generate a list of similar news headlines/claims, including 4 false environmental headlines, 4 false health headlines, 4 false technology headlines, 4 true environmental headlines, 4 true health headlines, and 4 true technology headlines? Please avoid headlines/claims that directly reference ministries, governments, secretariats, or municipalities, and provide a source for each true headline/claim."

Methodology for the classification exercise

Item Response Theory (IRT) methodology was used to assess the respondents' abilities. This approach makes it possible to estimate a latent proficiency for each individual based on the pattern of responses to a set of claims. In contrast with methods based on the sum of correct answers, IRT simultaneously considers the following parameters: the power of discrimination, the degree of difficulty, and the probability of guessing correctly.

In this survey, IRT played a dual role. Initially, it was applied in the pretesting phase of the questionnaire with the aim of selecting, from the 60 claims initially proposed, those most suitable for constructing a consistent and informative scoring scale for the target population of the survey. In a second phase, the methodology allowed for the estimation of latent proficiency, quantified through a score, for each respondent based on the selected items (Chalmers, 2012).

The following sections present, in general terms, the fundamentals of IRT, as well as the main results obtained in the pretest. The descriptions of the selected claims, the metrics associated with their calibration, and finally, the construction of the scale used to present the respondents' scores will be detailed.

About Item Response Theory (IRT)

The IRT constitutes a widely used theoretical and statistical framework for measuring latent (unobservable) abilities, such as cognitive skills, through responses to items in assessment instruments, such as tests and questionnaires (Andrade et al., 2020). Unlike Classical Test Theory (CTT), which assumes an individual's total score is a direct measure of their ability, IRT models the probability of a correct answer on an item as a function of characteristics of both the item and the respondent.

Within the framework of IRT, it is assumed that each individual has a latent level of proficiency (denoted by θ, a measure of their ability) and that each item of the instrument has characteristics (parameters) that describe its psychometric behavior. The predominant models in this approach incorporate three main parameters: (a) discrimination; (b) difficulty; and (c) guessing (Hambleton et al., 1991).

IRT-based modeling offers advantages over classical measurement approaches. This methodology enables the estimation of an individual's latent proficiency from a set of items whose parameters—discrimination, difficulty and guessing—are previously calibrated on a same metric. Thus, the respondent ability's estimate considers the specific traits of each item, resulting in more precise and comparable measures among individuals. In this methodology, these parameters are estimated globally and are valid for application to any individual in the target population of interest. Additionally, the method enables the development of adaptive instruments, in which the selection of items dynamically adjusts to the respondent's latent proficiency measurement needs.

Another advantage lies in greater precision in measuring ability, since IRT considers the pattern of responses and not just the sum of correct answers. In this context, two individuals with an identical number of correct answers may receive different estimates of proficiency. This results from the weighting of specific items answered correctly, with greater proficiency being assigned to those who succeeded in items with a higher degree of difficulty.

Due to these characteristics, IRT is widely adopted in large-scale educational assessments, such as the Brazilian National High School Exam (Enem),[4] the Programme for International Student Assessment (Pisa),[5] and the National Basic Education Assessment System (Saeb).[6]

About the Three-Parameter Logistics Model (3PL)

The Three-Parameter Logistics Model (3PL) is one of the most common models in the field of IRT, and is predominantly used in educational assessment contexts when there are multiple-choice items. This modeling describes the probability of an individual who possesses a certain level of latent proficiency θ correctly answering an item, considering three parameters intrinsic to each item: discrimination, difficulty, and guessing.

The 3PL model proves particularly effective in modeling scenarios where there is still a possibility of guessing correctly. In this context, the probability of success does not start from zero, but rather from c_i, reflecting a chance of getting it right without any knowledge of the subject. Conversely, its application demands greater computational effort and more robust samples, given the inherent complexity of simultaneously estimating the three parameters.

This model is widely used in large-scale educational assessments, such as the Enem, as it allows for refinement in estimating respondents' proficiency and mitigation of biases resulting from guess-based answers. Its adoption supports a more robust measurement of the proficiencies of the individuals being evaluated.

[4] More information is available at https://download.inep.gov.br/publicacoes/institucionais/avaliacoes_e_exames_da_educacao_basica/entenda_a_sua_nota_no_enem_guia_do_participante.pdf and https://download.inep.gov.br/educacao_basica/enem/nota_tecnica/2011/nota_tecnica_tri_enem_18012012.pdf

[5] More information is available at https://www.oecd.org/content/dam/oecd/en/publications/reports/2022/12/theoretical-considerations-on-scaling-methodology-in-pisa_47fb85ae/c224dbeb-en.pdf

[6] More information is available at https://download.inep.gov.br/saeb/outros_documentos/nota_tecnica_detalhamento_populacao_resultados_saeb_2023.pdf

Mathematically, the 3PL model is expressed as shown in the equation

$$P(X_{ij}=1|\theta_j) = c_i + (1-c_i)\cdot \frac{1}{1+e^{-a_i(\theta_j-b_i)}}$$

in which $P(X_{ij}=1|\theta_j)$ is the probability that individual j will get item i correct; θ is the level of proficiency of individual j; a_i is the discrimination parameter of item i; b_i is the difficulty parameter of item i; c_i is the guessing parameter for item i; and e is the base of the natural logarithm.

The interpretation of the 3PL model parameters is presented in the following sections.

THE LATENT PROFICIENCY PARAMETER (θ)

In IRT, the latent proficiency parameter (θ_j) represents the skill level of respondent j (its quantitative measure). It is characterized as a continuous and not directly observable variable, whose magnitude is inferred based on the pattern of responses presented by the individual to the items of an assessment instrument.

Parameter θ is usually modeled in the domain of real numbers, conventionally assuming its origin in a standard normal distribution ($\theta \sim N(0.1)$). Such standardization optimizes the interpretation and comparability between populations and evaluation cycles, where: $\theta = 0$ indicates mean proficiency on the reference scale; values of $\theta < 0$ indicate levels below the mean; and $\theta > 0$ indicates levels above the mean.

The estimation of θ_j originates from the observed response pattern and the item parameters, and is estimated using methods such as Maximum Likelihood, Maximum *a Posteriori*, or Expected *a Posteriori* measures.

THE DISCRIMINATION PARAMETER (a_i)

In the 3PL model, the discrimination parameter (a_i) translates how much the item i can distinguish respondents with different levels of proficiency.[7]

The interpretation of discrimination levels is based on the following specifications:

(a) $a_i = 0$ signals the item's discriminative nullity, meaning it no longer contributes to the estimation of θ;

(b) high values of a_i (e.g., $a_i > 1.0$) indicate that the item effectively discriminates between individuals, and are classified as informative; and

(c) reduced values of a_i (e.g., $a_i < 0.5$) indicate low discrimination.

Items that feature negative a_i are usually discarded due to inconsistency with the assumptions of IRT. An item with negative discrimination implies that individuals with higher self-estimated proficiency score lower than those with lower self-estimated proficiency.

[7] From a geometric perspective, is associated with the slope of the item's characteristic curve at its inflection point.

THE DIFFICULTY PARAMETER (b_i)

In the 3PL model, the difficulty parameter (b_i) marks the proficiency level at which an individual has a 50% probability of answering the item correctly. In mathematical terms,

$$P(X_{ij}=1|\theta_j=b_i)=c_i+\frac{1-c_i}{2}$$

The interpretation of the difficulty levels follows this gradation:

(a) $b_i = 0$ places the item as the "average" on the proficiency scale;

(b) reduced values of (e.g., $b_i = -2.0$) characterize relatively easy items; and

(c) high values of (e.g., $b_i = 2.0$) denote relatively difficult items.

The distribution of b_i values regulates the degree of difficulty of a set of items applied to assess a group of individuals, making it essential that a well-constructed battery includes items with heterogeneous levels of difficulty (easy and difficult).

THE GUESSING PARAMETER (c_i)

In the 3PL model, the guessing parameter (c_i) establishes the minimum theoretical probability of correctly answering an item, for which the respondent can succeed despite lacking content knowledge by resorting to guessing. By incorporating this parameter, the 3PL model considers that the correct answer to an item without prior knowledge of the subject is not initially null—that is, it does not start at zero—but rather begins from c_i, reflecting the probability of guessing correctly. This mechanism prevents the overestimation of the ability of respondents who solve simple items by mere chance.

Pretest results

From a descriptive standpoint, respondents demonstrated greater accuracy in identifying false claims, while facing greater challenges in recognizing true ones, which occurred mainly for claims made by humans.

Regarding IRT modeling, the decision was made to specify a model with an estimation of latent proficiency for each of the three thematic areas: the environment, health, and technology. This model was adopted considering that the instrument used to collect responses involved a random distribution of claims from the thematic blocks to all respondents. In this way, it was possible to estimate the proficiency parameter θ of the individuals for the three dimensions.

CHART 1

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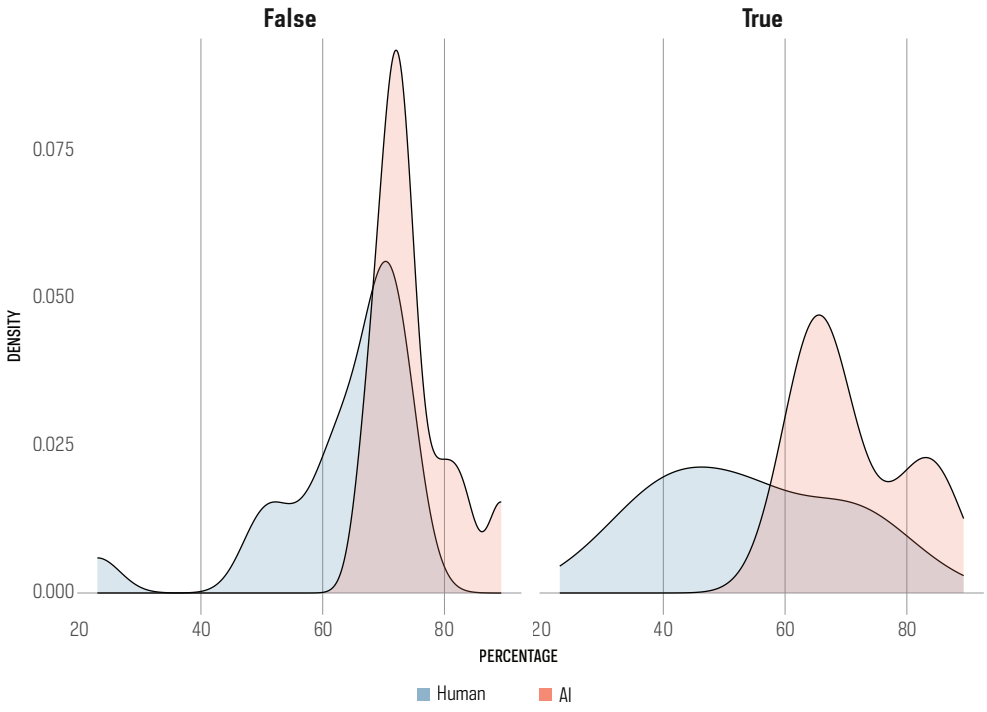
Descriptive statistics: distribution of correct answers for true/false vs. AI/human claims



Selection of claims

THREE-PARAMETER IRT MODEL

The modeling revealed the occurrence of claims whose estimates of the discrimination parameter proved to be negative or null ($a \leq 0$). The following table consolidates the results of the 3PL model coefficients for each selected claim.

TABLE 1

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Environmental claims with discrimination greater than or equal to zero

Claim	a_1	b_1	c_1	Authorship	Verification	Selected
Claim 8	8.2	-0.9	0.0	AI	False	Yes
Claim 1	5.2	-0.3	0.0	Human	False	Yes
Claim 10	5.0	-0.4	0.0	AI	False	Yes
Claim 2	4.7	2.2	0.2	Human	False	Yes
Claim 7	2.4	-0.7	0.0	AI	False	No
Claim 4	2.0	0.6	0.5	Human	False	No
Claim 5	1.5	-0.8	0.0	Human	False	No
Claim 37	1.1	-1.0	0.0	AI	True	Yes
Claim 6	1.0	-1.1	0.0	Human	False	Yes
Claim 9	0.9	-1.0	0.0	AI	False	Yes
Claim 32	0.3	-0.5	0.0	Human	True	Yes

TABLE 2

—

Health claims with discrimination greater than or equal to zero

Claim	a_1	b_1	c_1	Authorship	Verification	Selected
Claim 18	11.8	-0.9	0.0	AI	False	Yes
Claim 43	10.8	0.6	0.6	Human	True	Yes
Claim 13	9.8	-0.1	0.2	Human	False	Yes
Claim 15	3.3	-0.8	0.0	Human	False	No
Claim 47	2.7	1.2	0.8	AI	True	Yes
Claim 20	2.0	-1.5	0.0	AI	False	No
Claim 11	2.0	-0.2	0.2	Human	False	No
Claim 16	1.8	-1.0	0.0	Human	False	No
Claim 19	1.4	-0.8	0.0	AI	False	Yes
Claim 17	1.3	-1.0	0.0	AI	False	Yes
Claim 12	1.3	-0.8	0.0	Human	False	Yes
Claim 14	0.8	-0.5	0.0	Human	False	Yes

TABLE 3

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Technology claims with discrimination greater than or equal to zero

Claim	a_1	b_1	c_1	Authorship	Verification	Selected
Claim 54	18.0	1.3	0.3	Human	True	Yes
Claim 24	16.2	0.4	0.4	Human	False	Yes
Claim 60	16.1	1.2	0.6	AI	True	Yes
Claim 22	15.3	1.3	0.7	Human	False	No
Claim 51	12.0	0.7	0.4	Human	True	Yes
Claim 59	10.8	0.8	0.5	AI	True	Yes
Claim 29	2.6	-0.6	0.0	AI	False	Yes
Claim 30	1.4	-1.0	0.0	AI	False	No
Claim 21	1.2	-0.7	0.0	Human	False	No
Claim 27	1.0	-1.5	0.0	AI	False	No
Claim 23	0.8	-0.7	0.0	Human	False	No
Claim 25	0.6	-0.9	0.0	Human	False	Yes
Claim 28	0.5	-2.2	0.0	AI	False	Yes

CRITERIA FOR SELECTING CLAIMS

Given the limitations imposed by the scarcity of true claims validated by the model, as well as the prevalence of negative difficulty coefficients and reduced discrimination coefficients, the selection was based on the following criteria:

(a) selection of items with the highest discrimination coefficients, including one true and one false claim formulated for each authorship (AI and human), totaling four claims;

(b) selection of items with the lowest discrimination coefficients, respecting the same parity of truthfulness and authorship, totaling four claims; and

(c) to fill the quota of eight claims required per thematic area, gaps were identified regarding items with high or low discrimination value, thus, in the environmental domain, two true claims (one made by AI and one by humans) with low coefficients were selected, compensated by two false claims with high coefficients; in health, an analogous strategy was adopted, favoring true claims with higher coefficients and false claims with low coefficients; finally, in technology, all true claims were preserved, given their high discriminatory capacity, complementing the set with false claims of low discrimination, as needed for adjustment.

EVALUATION OF THE SELECTED CLAIMS

As an additional step to obtaining the presented results, a validation metric was used to review the claims. Cronbach's alpha coefficient is a widely used statistical measure to assess the internal consistency of a set of items, indicating the degree of correlation between them (Cronbach, 1951). Higher values for this statistic indicate greater homogeneity among the items and, consequently, greater reliability of the instrument in measuring a single latent dimension, such as the ability to identify the veracity of the items presented.

The coefficient for the set of 60 claims (0.27) indicates very low internal consistency, showing that the items have weak correlations with each other. This result may be associated with multiple factors, such as inadequate wording, claims associated with more than one skill (latent trait), and/or inconsistencies in coding (such as the absence of reversal in reversed items)[8]. An alpha of this magnitude necessitates a review of the instrument and, possibly, the reformulation or exclusion of items that are not contributing consistently. This metric also sheds light on the negative statistics a_i (discrimination parameter) found for some items in the IRT analysis.

In contrast, the coefficient for the 24 claims selected after applying the IRT (0.74) points to acceptable internal consistency, especially in exploratory research contexts or in the initial stages of instrument development. This result corroborates that the items are more adequately correlated with each other and that the instrument presents a more coherent internal structure.

Construction of scores for respondents

Using the model calibrated in the pretest phase, latent proficiency was estimated, reflected in a score for each survey respondent. As a result of applying IRT, each individual was assigned a specific score for each topic addressed, expressed on a standardized scale with a mean of zero and a theoretical range within the interval $[-\infty, +\infty]$.

To facilitate the interpretation and presentation of the results, the latent scores for each theme were subjected to a linear transformation, converting them to a scale defined by applying the following formula:

$$Score_{theme} = 2 \times \theta_{theme} + 5$$

[8] Items that were formulated negatively, were not understood correctly, and would need to have their wording or coding changed. In these cases, high responses came to indicate a low level of proficiency, while direct items indicated a high level, creating an inconsistency.

This transformation establishes the adoption of a scale in which the scores for the themes have an average of 5 with a standard deviation of 2. To determine the overall score, the arithmetic mean of the scores obtained in the three evaluated dimensions was calculated for each respondent.

For data analysis, the scores were categorized into four ranges: (i) greater than 2 and up to 4 points; (ii) greater than 4 and up to 5 points; (iii) greater than 5 and up to 6 points; and (iv) greater than 6 and up to 8 points (see more in "Analysis of Results"). It is worth noting that none of the claims presented was correctly answered among all respondents, nor did any respondent get all the claims right.

TABLE 4

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Appendix: Claims selected for the exercise

Theme	Verification	Authorship	Claim
The environment	F	H	The World Economic Forum demanded that governments prevent the population from growing food to reduce gas emissions.
	F	H	14% of demarcated indigenous lands have been handed over to private enterprise in recent years.
	F	H	Contrary to predictions in the 1980s, burning coal and oil has not increased the Earth's temperature.
	F	AI	UN authorizes a mandatory chip to track each individual's carbon emissions.
	F	AI	Scientists discover bacteria that eat plastic but release gas that is 100 times more polluting.
	F	AI	New theory proposes that bee extinction could reverse global warming.
	V	H	Eight countries signed the Belém Declaration and set a common agenda to defend the future of the Amazon.
	V	AI	Brazil had more than 280,000 hectares of degraded forest in January 2023 alone.

CONTINUES ►

▸ CONCLUSION

Theme	Verification	Authorship	Claim
Health	F	H	Waiting lists for cataract surgery through Brazil's Unified Health System (SUS)have been eliminated at polyclinics since the beginning of the year.
	F	H	Zinc, dandelion, and white pine needle tea increase the effectiveness of flu vaccines.
	F	H	University of São Paulo (USP) study confirms: Face masks were useless and possibly dangerous during the pandemic.
	F	AI	Eating crushed banana peel with honey cures 90% of cases of depression.
	F	AI	Castor oil applied to the feet eliminates any type of virus in 24 hours.
	F	AI	Experts reveal: Listening to classical music eliminates cancer cells.
	V	H	During the pandemic, the Northeast Consortium spent around BRL 4.9 million on 30 ventilators that never arrived.
	V	AI	Cases of severe acute respiratory syndrome in children increase in Brazil in the first quarter of 2025.
Technology	F	H	Warning: Keeping WhatsApp groups open on election days constitutes electoral crime.
	F	H	Facebook is giving cash prizes to users who review advertisements.
	F	AI	Secret plan to install microchips in all existing smartphones is revealed by businessman.
	F	AI	Google's Artificial Intelligence has started dreaming and producing its own memories.
	V	H	Tim, Claro, and Vivo opened their networks to customers during floods in Rio Grande do Sul.
	V	H	Physicists managed to turn lead into gold for a fraction of a second using a particle accelerator.
	V	AI	Autonomous robots and drones were used for logistical support and mapping in flooded areas in Rio Grande do Sul.
	V	AI	Brazil launches its first 100% national satellite dedicated to environmental observation.

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Analysis of Results

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ICT PANEL 2025
INFORMATION INTEGRITY

Analysis of Results
ICT Panel - Information Integrity

The increasing spread of digital platforms and Artificial Intelligence (AI) applications has brought significant implications for the practices of production and dissemination of, and access to, information in society. In recent years, with the popularization of generative AI tools and the increasingly intensive use of social media and messaging applications, debates about the risks associated with the amplification of hate speech and the manipulation of information have gained greater prominence.[1]

In this context, international organizations and governments have been striving to expand governance on this issue and mitigate its negative effects. Initially, these efforts focused on establishing recommendations and action plans to address disinformation and hate speech, always with concern for the potential implications for freedom of expression (United Nations [UN], 2019; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2021; United Nations General Assembly [UNGA], 2022). These initiatives also emphasized the social and communicational factors associated with the dissemination of this type of content (UNESCO, 2023).

More recently, the concept of "information integrity" has gained traction and is increasingly being adopted as a cornerstone for public policy approaches in the field. The concept can be understood as the result of an informational ecosystem[2] guided by the promotion of diverse, reliable, consistent, accurate, and evidence-based sources of information, as well as by strengthening society's resilience to manipulated information and hate speech (Organisation for Economic Co-operation and Development [OECD], 2024a; UN, 2023a, 2023b).

[1] This includes various practices of producing and disseminating potentially harmful information, whether or not content is fabricated, with or without intent to cause harm, such as disinformation, misinformation, contextual deception, or propaganda (Organisation for Economic Co-operation and Development [OECD], 2024b).

[2] Here understood as the set of actors, content, and practices that interact in the production, dissemination, and access to information in a given society.

The consolidation of a policy agenda centered around the concept of information integrity has demanded a more holistic approach, in which the scope of strategies goes beyond confronting information manipulation and hate speech. Two of the main objectives established in this regard are the promotion of healthy information ecosystems and the building of resilience and skills in relation to manipulated information, both in national contexts and on digital platforms.

Therefore, the debate shifts toward a closer examination of the dynamics involved in the production, sharing, and access to information. This includes developing the necessary tools to give people control over their experience with accessing information on the Internet, strengthening independent and public media, and supporting journalists and media workers. Furthermore, the agenda encompasses the promotion of high-quality and accessible connectivity for broad access to information and actions aimed at mitigating the implications of platform business models on informational dynamics (OECD, 2025; UN, 2023b, 2024; UNESCO, 2023).

The agenda's expansion has also created demands for the production of evidence and the monitoring of the strategies implemented. These demands are heightened by the often-opaque functioning of digital platform environments, which impose additional challenges related to the consistent measurement and evaluation of the state of information integrity in specific contexts.

In this context, the ICT Panel - Information Integrity survey, conducted by the Regional Center for Studies on the Development of the Information Society (Cetic.br), a department of the Brazilian Network Information Center (NIC.br), seeks to contribute to the development of the agenda in the country through the production of evidence on various aspects of the Brazilian information ecosystem. The survey provides insights for developing strategies to promote opportunities and mitigate risks regarding practices of production and dissemination of, and access to, information in Brazil.

This report is divided into four modules:

- **Internet information access practices:** Media outlets used, frequency and practices of social media and messaging applications usage, frequency of news consumption, and use of generative AI tools.
- **Perceptions of and trust in the information ecosystem:** Distrust of accessed information by source, reasons for trusting information, engagement with the information ecosystem, and perception of contact with deepfakes.
- **Information verification practices:** Situations involving verification, interactions with friends, colleagues, and family about false, exaggerated, or misleading information, and use of tools and settings related to information access on social media.
- **Digital and information identification skills:** Critical skills for understanding the logic behind social media and search engines functioning, confidence in one's ability to identify false and misleading information, and information classification exercise.

Internet information access practices

The ICT Panel - Information Integrity survey gathers indicators on information access practices among Brazilian Internet users 16 years old and older. Among the topics included are the frequency and contexts of access to information, the intensity and characteristics of platform use, and the use of generative AI tools.

Building a healthy information ecosystem is related not only to promoting accurate, consistent, and reliable information and strengthening pluralistic, transparent, and evidence-based media, but also to how individuals interact with these media and information. Thus, the survey seeks to provide insights into the informational dynamics of Brazilian citizens in the current context and, correspondingly, the challenges and opportunities that arise in strengthening information integrity in the country.

The survey investigates how frequently Internet users 16 years old and older received, searched for, or viewed information about events occurring in the world, in their country, or in their cities by specific media outlets (Chart 1). There was a predominance of access to information through digital platforms, such as messaging apps and social media. For messaging apps, daily access to information (adding up occurrences of the frequencies "several times a day" and "at least once a day") was reported by 60% of the survey population. High percentages of daily access were also found through items most directly linked to the use of social media, such as short video feeds (52%), video sites /apps (50%), and news feeds on social media (46%). Although the indicator does not allow us to identify the source of the information—whether professional journalists, influencers, or others—the results point to a high degree of digitization in access to information among Brazilians.

CHART 1

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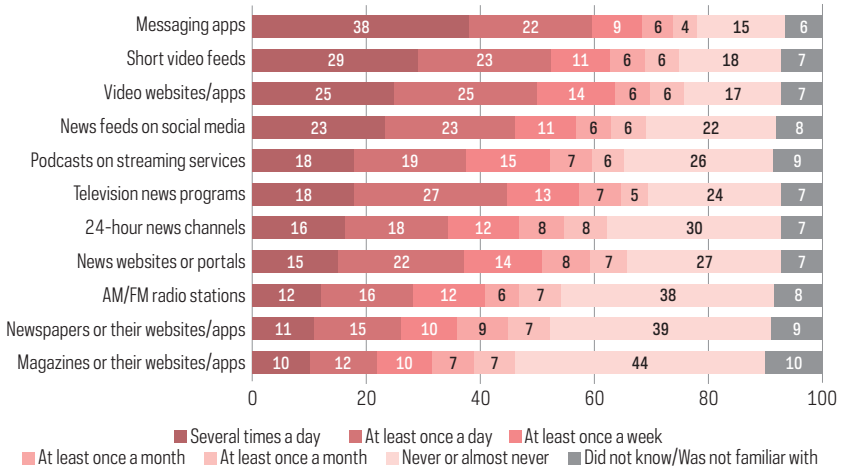
Frequency of access to information about events occurring in the world, in the country or in the city, by media outlets (2025)

Internet users 16 years old or older (%)



Television news programs were the fifth most frequently accessed source of information daily (45%)—although with a greater concentration at the "several times a day" frequency—followed by podcasts on streaming services (38%) and news websites or portals (37%). 24-hour news channels (35%), AM/FM radio stations (28%), newspapers or their websites/apps (26%), and magazines or their websites/apps (22%) were the media where Internet users least reported accessing information daily—for the last item, almost half (44%) stated that the frequency was "never or almost never".

The results varied significantly according to the socioeconomic and sociodemographic strata considered by the survey, with particular emphasis on social class, area (urban/rural), level of education, and devices for accessing the Internet. In general, the frequency of access to information through the investigated outlets was higher among users from social classes AB, in urban areas, with a tertiary education, and among those who use the Internet both via computer and mobile phone—compared to those who access the Internet exclusively via mobile phones. The data, therefore, suggest significant disparities in the frequency and diversity of media outlets, indicating obstacles to promoting more diverse informational diets.

Some outlets were more sensitive to these variations. Daily access to news websites or portals, for example, was reported by 58% of Internet users 16 years old or older from social classes AB, a percentage that was 33% for class C and 27% for classes DE. Among users in urban areas, this proportion was 40%, compared to 21% for those in rural areas. Daily access via 24-hour news channels was also substantially higher among those in social classes AB (45%, compared to 29% for classes DE) and those with Internet access via both mobile phones and computers (40%, compared to 27% for those who use the Internet only via mobile phones).

This indicator can also be analyzed by grouping certain media outlets into broader categories, namely, "social networks," "radio and TV," and "newspapers and magazines" (Chart 2). When compiling the three items most directly linked to social media ("short video feeds", "video websites/apps" and "feeds on social media"), for example, it is noted that more users reported accessing information daily through these media outlets (72%) than through messaging apps (60%) or those linked to radio and TV (58%)—news programs, 24-hour news channels and AM/FM radio. Daily access to information via newspapers and magazines, including their print versions and websites/apps, was mentioned in a smaller proportion (34%). Although the indicator does not specify the source of the information, the results reinforce the perception of a lower relevance for access to information today through means historically associated with print media (notably newspapers and magazines).

CHART 2

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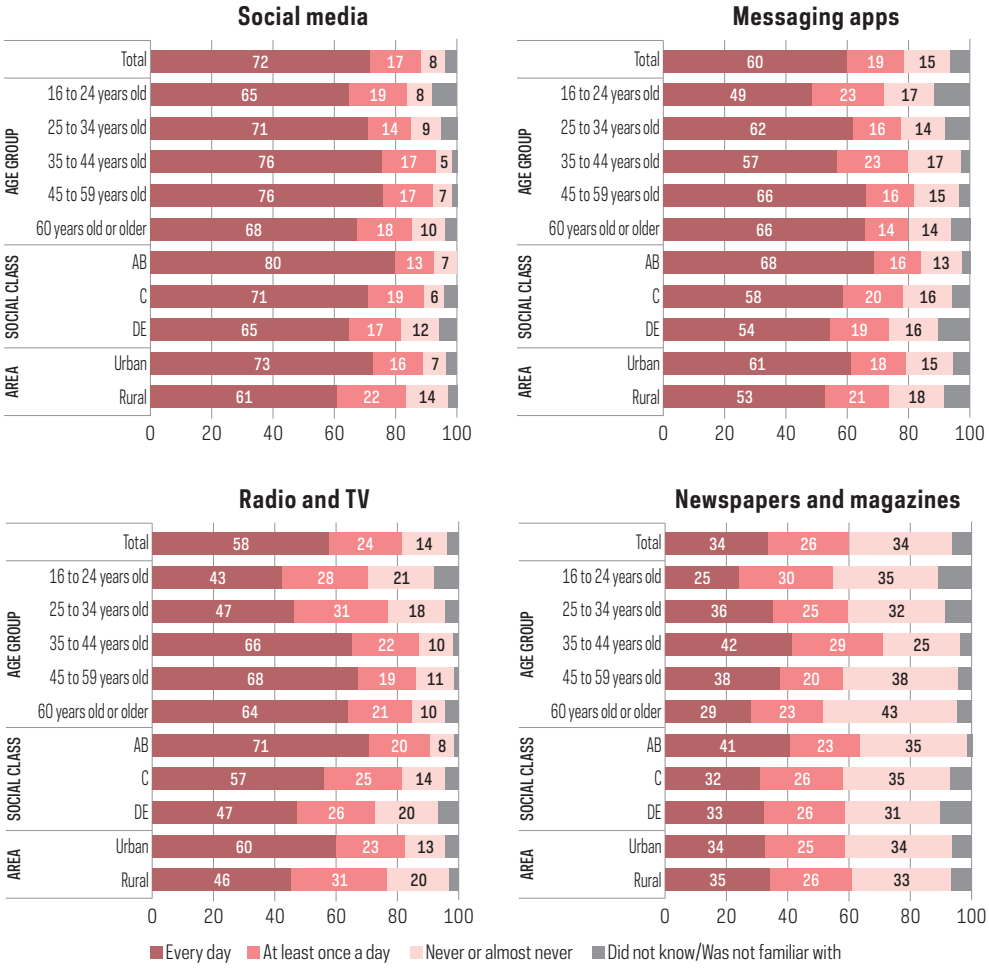
Frequency of access to information about events ocurring in the world, in the country or in the city, by categories of media outlets (2025)

Internet users 16 years old or older (%)



The grouping of media outlets into categories also revealed contrasts based on age group, social class, and area (urban/rural). Among Internet users 16 to 24 years old, for instance, social media stood out in relation to other categories regarding daily access to information (65%, compared to 49% for messaging apps, 43% for radio and TV, and 25% for newspapers and magazines). The distribution among those 60 years old or older was distinct, with daily access to information via social media (68%), messaging apps (66%), and radio and TV (64%) reported in similar proportions. Furthermore, there was greater access to all categories for users in social classes AB compared to those in social classes DE. The same was true for those residing in urban areas, compared to those living in rural areas, with the exception of the category "newspapers and magazines".

It is still possible to analyze the profile of Brazilian Internet users 16 years old or older whose daily access to information was done exclusively through social media or messaging applications (Chart 3). The survey indicated that 13% accessed information about what is happening in the world, in the country, or in their cities exclusively through these media, a practice more common among women (15%) than men (11%), those in social classes DE (18%) than AB (7%), and especially among younger people—17% of those 16 to 24 years old and 16% of those 25 to 34 years old.

This situation may be associated, among other factors, with the spread of zero-rating mobile Internet plans, in which, after the data package runs out, the use of the mobile network is restricted to sponsored social media and messaging applications. According to recent data from the ICT Households 2025 survey (NIC.br, 2025), four out of ten Internet users who accessed the Internet via mobile phones experienced their data plans running out at some point in the three months prior to the survey, which was more common for those in classes DE. Among those who experienced this situation, 40% were unable to use any of the applications they used to; on the other hand, 19% were able to use all applications, and 42% were able to use some applications, suggesting a possible continuation of access to social media and messaging applications.

CHART 3

—

Daily access to information about events ocurring in the world, in the country or in the city exclusively through social networks or messaging applications (2025)

Internet users 16 years old or older (%)

The ICT Panel - Information Integrity survey also provides specific indicators on the use of social media and messaging applications, such as the frequency of use of specific platforms (Chart 4). It is important to note that the indicator's core question did not address the purpose of use for these networks or applications, which could be access to journalistic content or any other uses of these platforms.

The data indicated a predominance of WhatsApp usage among Brazilian Internet users 16 years old and over compared to other applications, with 54% reporting using the app almost all the time, 31% several times a day, and 6% at least once a day—totaling 91% with daily access. A second level of access included YouTube (used daily by 73% of the surveyed population), Instagram (72%), Facebook (57%), and TikTok (49%). The other networks and applications investigated showed daily usage ranging from 27% (Kwai) to 8% (Bluesky), with X, formerly Twitter (16%), ranking tenth among the platforms analyzed.

CHART 4

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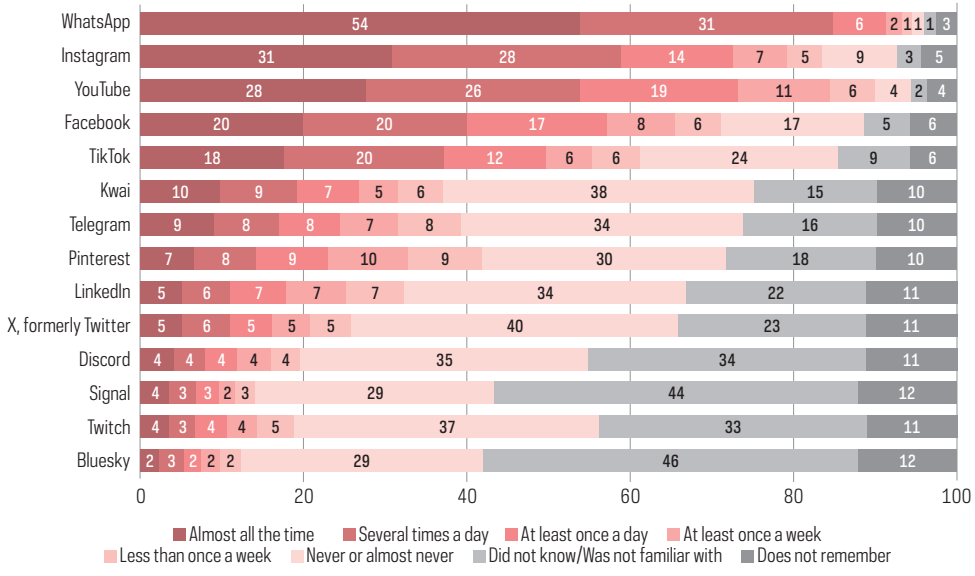
Frequency of use of social media and messaging applications (2025)

Internet users 16 years old or older (%)



The analysis also allows us to observe different patterns of usage frequency among the social media and messaging applications observed. Among those who reported using WhatsApp with some frequency, for example, 96% reported accessing the app daily. This figure was at least 80% for the other four most used networks as well—Instagram, YouTube, Facebook, and TikTok—revealing an association between greater platform usage and a more intense usage pattern, with daily access. Pinterest (54%), LinkedIn (56%), and Twitch (56%) had the lowest daily access among their users.

More specifically regarding messaging applications, the survey investigates the types of groups and channels that individuals reported having on these services (Chart 5). The results pointed to different patterns of groups and channels among users[3] of WhatsApp and Telegram, reinforcing trends found in other research on the use of messaging apps in the Brazilian context (InternetLab, 2025). WhatsApp showed greater concentration for family, friends, and work groups—highlighting a focus on contact with known people—while Telegram exhibited wider distribution among the different types of groups —revealing a use more oriented toward affinities created based on shared interests.

CHART 5

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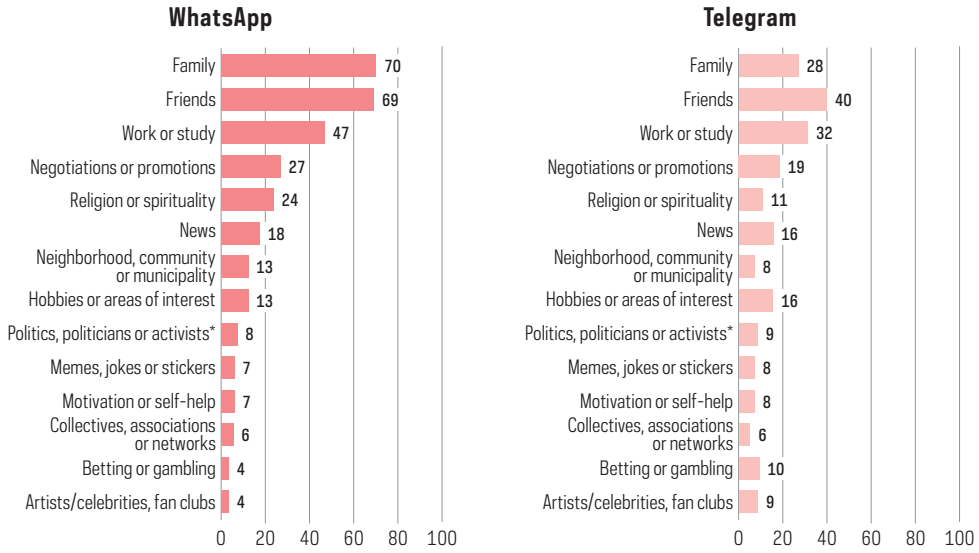
Group and channel types in messaging applications (2025)

Internet users 16 years or older who reported using WhatsApp or Telegram "at least once a week" or more frequently (%)



* Sum of the categories "political debates" and "politicians or activists"

[3] This includes those who used the applications "at least once a week" or more frequently, as shown in the questionnaire and Chart 5 filters.

Presence in news groups was reported by 18% of WhatsApp users and 16% of Telegram users, and was more common for individuals in urban areas than rural areas (20% vs. 11% on WhatsApp) and among older people than younger people (28% for those 60 years old or older, compared to 7% among those 16 to 24 years old on Telegram). Political, politicians, or activists groups were reported by just under one in ten respondents on both apps. It is worth noting that studies indicate that groups with acquaintances are more important for the circulation of political information than those specifically focused on political topics (InternetLab, 2025), and also that participation in groups with strangers (a pattern most observed in the context of Telegram) to discuss politics may be positively correlated with variables of belief in and sharing of misinformation (Kalogeropoulos & Rossini, 2023).

The ICT Panel - Information Integrity survey also addressed the scope of news consumption (local, municipal/state, national, or international) produced by journalistic outlets. Chart 6 presents the data for this indicator with the sum of the two categories of daily use ("several times a day" and "at least once a day"). The category "some type of news" refers to the highest frequency with which each user views one of the four items asked.

CHART 6

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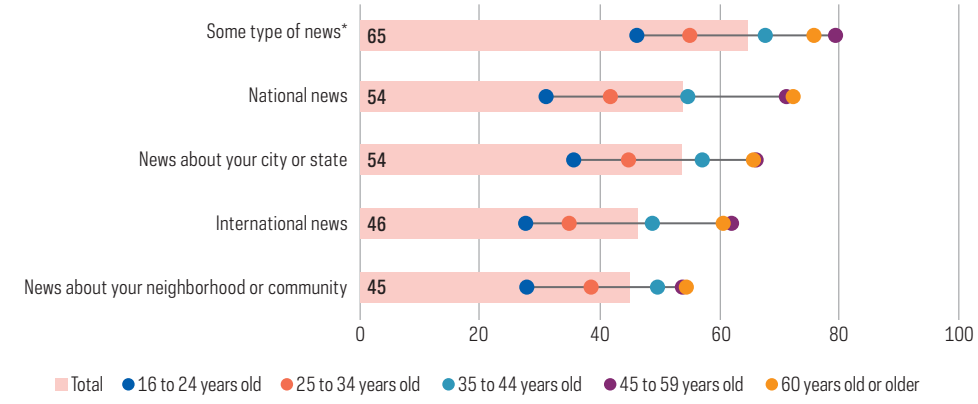
Scope of news consumption daily, by age group (2025)

Internet users 16 years old or older (%)



* At least one of the news categories

The results indicate that 65% of Internet users 16 years old or older consumed some type of news daily. News about the city or state and national news were the most reported (54% for both), ahead of international news (46%) and news about the neighborhood or community (45%). The proportions of news consumption daily of some type were higher for older individuals—79% among those 45 to 59 years old and 76% for those 60 years old or older—and lower for those 25 to 34 years old (55%) and those 16 to 24 years old (46%).

Assessing news consumption is highly relevant as surveys indicate a growing decline in audience engagement with traditional media, a pattern also observed in the Brazilian context (Newman et al., 2025). Furthermore, experts are drawing attention to the growth of the phenomenon of conscious refusal to consume news (news avoidance). Although the indicator does not specifically address this practice, the significantly lower consumption of news by younger populations is a point of concern, especially since studies associate it with higher rates of belief in misinformation and lower levels of trust in elections (Kalogeropoulos et al., 2025). Experts also draw attention to the spread of a feeling, among younger people, of not belonging/alienation in relation to news (Tabor et al., 2025).

Finally, this first module of the survey indicates an already widespread use of generative AI tools (Chart 7). The platform that Internet users most reported having used was ChatGPT (47%), followed by WhatsApp AI (42%), Gemini (30%), and Copilot (14%). ChatGPT was also the most mentioned by those who accessed the Internet via both computers and mobile phones, while among those who did so only via mobile phones, WhatsApp AI was cited in a higher percentage. In addition, 18% reported having already used another tool, reflecting the proliferation of specific generative AI platforms in various domains.

CHART 7

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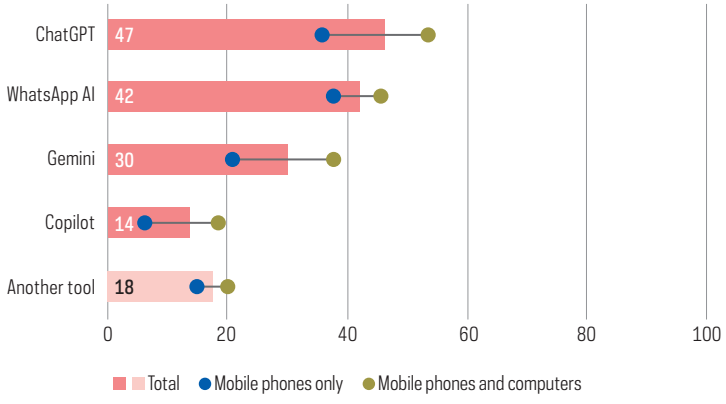
Use of generative AI tools, by Internet access devices (mobile phones and computers) (2025)

Internet users 16 years old or older (%)



This first set of indicators pointed to a predominance of access to information about what is happening in the country, in the city, or in the state through messaging apps and social media, with particular emphasis on access via short video feeds. It also highlighted inequalities in access to information in general, which is more frequent in classes AB, those residing in urban areas, and those with better connectivity conditions. This data indicates that structural inequalities in the Brazilian context are barriers to more pluralistic information diets.

The results also indicated that 65% of the surveyed population consumed news daily, with lower proportions for younger people, raising points of concern regarding lower engagement with traditional media (Newman et al., 2025) and content originating from professional journalism. At the same time, the survey indicated already significant access to generative AI tools, suggesting the rapid incorporation of these applications into the Brazilian informational context.

However, the configuration of healthy information ecosystems does not depend solely on the implementation of broad and diverse practices of information access by individuals, which have been explored throughout this module. It also involves building lasting, trust-based relationships between those who produce and/or distribute information, on the one hand, and those who consume it, on the other. Therefore, the next module addresses aspects related to Brazilian users' perceptions of the country's informational ecossystem, suggesting paths and highlighting existing obstacles to establishing this type of connection.

Perceptions of and trust in the information ecosystem

The ICT Panel - Information Integrity survey presents indicators related to how Brazilian Internet users 16 years old and older perceive the country's information ecosystem, in particular regarding the establishment of trust in information sources. The results provide insights into potential obstacles to building healthy relationships between audiences and producers/disseminators of information and news, which are fundamental for broad, evidence-based checking practices.

A significant portion of the survey population reported always or mostly distrusting information shared by all the information sources presented (Chart 8). The percentage was higher for traditional news outlets (48%).

CHART 8

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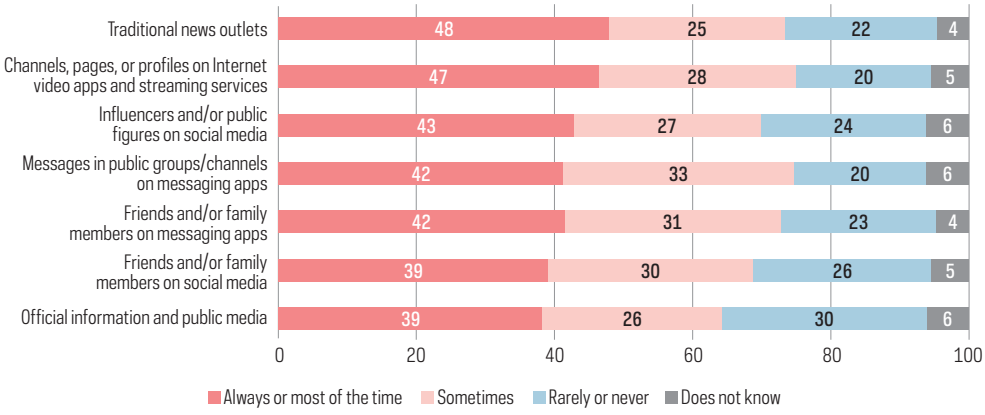
Distrust regarding information published or shared by sources (2025)

Internet users 16 years old or older (%)



The profile of those who always or most of the time distrusted all items presented varied substantially. Distrust of information published by traditional news outlets, for example, was higher among those with primary education (59%) and among men (52%). Regarding information shared by influencers and/or public figures on social media, the proportion was higher among those 60 years old or older (51%). In relation to information from official sources, the proportion among male individuals was even higher (45%). As for this last source, it is relevant that distrust was always or almost always significantly lower among female individuals (32%) and among those in rural areas (28%).

It is worth highlighting that the degree of distrust reported in this indicator does not necessarily translate into a more discerning attitude towards the content circulating on the Internet. As will be discussed later, no significant correlations were observed between this data and the digital/media skills metrics investigated in the survey.

BOX 1

—

REASONS FOR TRUSTING INFORMATION

The ICT Panel - Information Integrity survey also included an open-ended question in which respondents were asked to describe, in a few words, what makes them trust information they see on the Internet. The responses were categorized and weighted, generating results representative of the population of Internet users 16 years old and older.

The most frequently reported reasons for trusting information were those related to the source, outlet, or sender of the information, present in the responses of 38% of the survey population. This section included responses from those who mentioned the importance of the source, outlet, or sender ("the source is the main validation of the information" and "what makes me trust it depends a lot on who posted it") as well as those who referred to a specific source, outlet, or sender ("through newspaper articles" and "when I see it on the Internet and it is also shown on TV news")—the latter being less common. It is worth highlighting that responses classified in this category were more frequent among those in classes AB (51%) than DE (28%), in urban areas (40%) compared to rural areas (27%), and among those with a tertiary education (49%) compared to those with a primary education (7%).

The second most common reason links trust to external validation, highlighting the importance of verifying information. Among the 23% whose responses fell into this category, there were both more general claims, simply mentioning the need or relevance of verification, and more specific ones, referring, for example, to searching for information on trusted websites or search engines ("I only trust information on the Internet after thoroughly checking it on Google, Bing, etc. search websites" and "I always search on ChatGPT because it provides reliable information"). The responses also mentioned checking the "comments" and verifying the number of likes or interactions, in the context of social media posts or content in messaging apps. Among the sociodemographic and socioeconomic variables observed, significant variations were only seen for the respondent's area, with external verification being more frequently cited as a reason for trusting information on the Internet among individuals in urban areas (24%) than among those in rural areas (18%).

In a third tier, 10% of the survey population provided responses that associated trust with the content or format of the information. Again, both more general answers ("the veracity of the information") and more specific ones appeared—the latter referring to aspects such as the presence of evidence ("whether there are videos and proof that it happened"), language ("whether it is written correctly" and "I check the quality of the typed text in terms of spelling and grammar") and tone ("it does not contain sensationalism or partisan and polarized ideological bias").

Finally, the least related categories were those concerning circulation and personal repertoire, both valid for 3% of Internet users 16 years old or older. In the first group, there are responses in which the attribution of trust came from having seen the information in several places ("seeing that several people are talking about it" and "when I see that several people I know comment on the subject"), and in the second, from the use of one's own knowledge ("knowledge of the content" and "I go more by my own intuition to see the truth or not").

It is also worth noting that 11% of the surveyed population gave responses expressing a feeling of distrust towards information circulating on the Internet ("I hardly trust it", "today there is a lot of fake news even from the best websites" and "it is difficult for me to trust anything on the Internet"), being more common among males (12%), social classes D and E (13%), those in rural areas (14%), those with the lower years of secondary education (13%), and those accessing the Internet only via mobile phones (14%).

Furthermore, 20% of Internet users gave responses that were classified as "no answer".

Trust in the information ecosystem, especially when associated with the circulation of false information, is also expressed in another indicator, in which respondents are presented with six claims that, in different ways, express a feeling of disengagement or disinterest in the act of seeking or verifying information. The selection of claims was made by the authors of the indicator (Mont'Alverne et al., 2025) and the results are presented in Chart 9.

CHART 9

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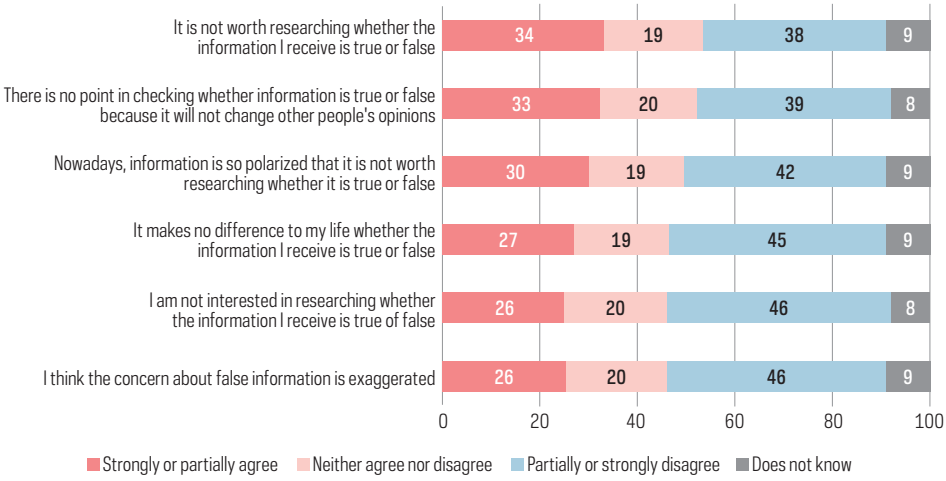
Perceptions of information disengagement (2025)

Internet users 16 years old or older (%)



The data showed a variation of 26% to 34% among those who fully or partially agreed with the items—a stance more associated with informational disengagement. On the other hand, only about one in five Internet users 16 years old or older (20%) disagreed entirely or partially with all the claims, which would symbolize a more engaged stance. This trend of greater engagement was more common among older individuals (30% among those 60 years old or older and 10% among those 16 to 24 years old), females (23%), those in classes AB (30%, compared to 13% in classes DE), and those with a tertiary education (26%, compared to 7% of those with a primary education). The results reinforced the need to pay attention to a possible behavior, especially among younger people, of alienation from the news (Tabor et al., 2025).

Finally, this module also includes an indicator of Internet users' perceptions regarding the frequency of contact with deepfakes[4], described in the questionnaire as "images, videos, or audios in messaging apps or social networks that appear completely fabricated or manipulated by generative AI [...] to appear real" (Chart 10).

[4] It is worth highlighting that the indicator is limited to reporting the recognition of deepfakes by individuals. Given their very nature, individuals' perceptions are strongly conditioned by factors such as possessing auxiliary skills to enable this recognition. Therefore, the data should not be interpreted as direct indicators of the circulation of this type of message or the spread of the deepfake phenomenon.

CHART 10

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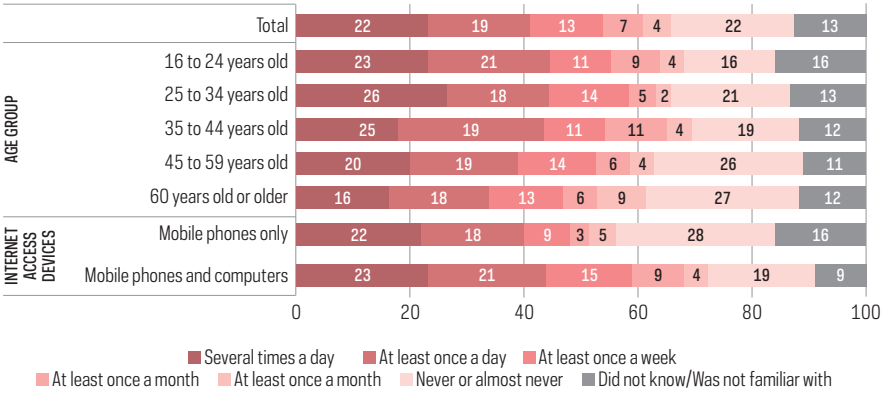
Perceptions of contact with deepfakes, by age group and Internet access device (2025)

Internet users 16 years old or older (%)



In total, 41% of Internet users 16 years old or older reported having daily contact with deepfakes, and 13% indicated that they did not know what it was or the frequency of contact with this type of content—a figure that was 9% for social classes AB and 20% for classes DE, and 8% for those with a tertiary education, compared to 24% for those with a primary education. Furthermore, among older users (60 years old or older), the proportion of those who reported having been exposed to deepfakes multiple times a day was significantly lower (16%). It is also worth highlighting that among those who use the Internet only via mobile phone, a higher proportion mentioned they never had contact with this type of content (28%).

This data takes on even greater importance for the debate insofar as several studies point to an expansion in the circulation of deepfakes over the last few years (Jacobson, 2024; Talati, 2025). At the same time, literature reviews highlight their disruptive potential for the information landscape (Helmus, 2022). However, there is a discussion about how much the increase in quantity, aesthetic quality, and personalization of disinformation pieces made with generative AI translates into greater persuasive power of these contents (Simon et al., 2023).

The survey presented indicators of how Brazilian Internet users 16 years old or older perceived the country's current informational ecosystem, particularly their trust in sources and information circulating online. The results indicated that the source of the information is a determining factor in the degree of trust that individuals place in such content. This evidence was confirmed in the open-ended question, in which the category of source/outlet/sender was the most relevant, cited by approximately one in three users as a reason for trusting information on the Internet.

The results also revealed the degree of engagement of individuals with the informational landscape. Among those with a more engaged profile were older individuals, females, those in classes AB, and those with a tertiary education—a result that indicates greater resilience in the face of false or misleading content. Finally, the perceptions of contact with deepfakes were investigated, a phenomenon that has been spreading and raising points of concern in the public debate regarding its potential to expand the circulation of false information and the manipulation of images and content. The data indicated that the perceptions of the phenomenon were greater among younger individuals, as well as among those who access the Internet via both computer and mobile phone. Contact with false information on the Internet and distrust of sources and content suggest the need for some type of validation of received information, a practice that is discussed in the following indicators.

Information verification practices

The ICT Panel - Information Integrity survey also presents indicators relating to practices and situations of verification or non-verification of information by the survey population. The first two indicators address verification more comprehensively, while the last two address practices specific to messaging apps and social media. The skills required and the effectiveness of these verifications were not the focus of these indicators, which concentrated on the practices of information validation by individuals, as these are fundamental for developing resilience to deal with manipulated information (OECD, 2025; UN, 2023b, 2024; UNESCO, 2023).

In the first indicator, Internet users 16 years old or older who reported checking or verifying information with some frequency (83%) are asked about the situations in which they did so and how often (Chart 11). The list addresses, at the top, checking situations related to the source of the information. Receiving information from someone they do not trust or do not know was reported as a reason for verification, always or most of the time, by 69% of users. The fact that the information comes from an influencer that they follow, in turn, was cited as a reason for verification or checking by 49% of them.

CHART 11

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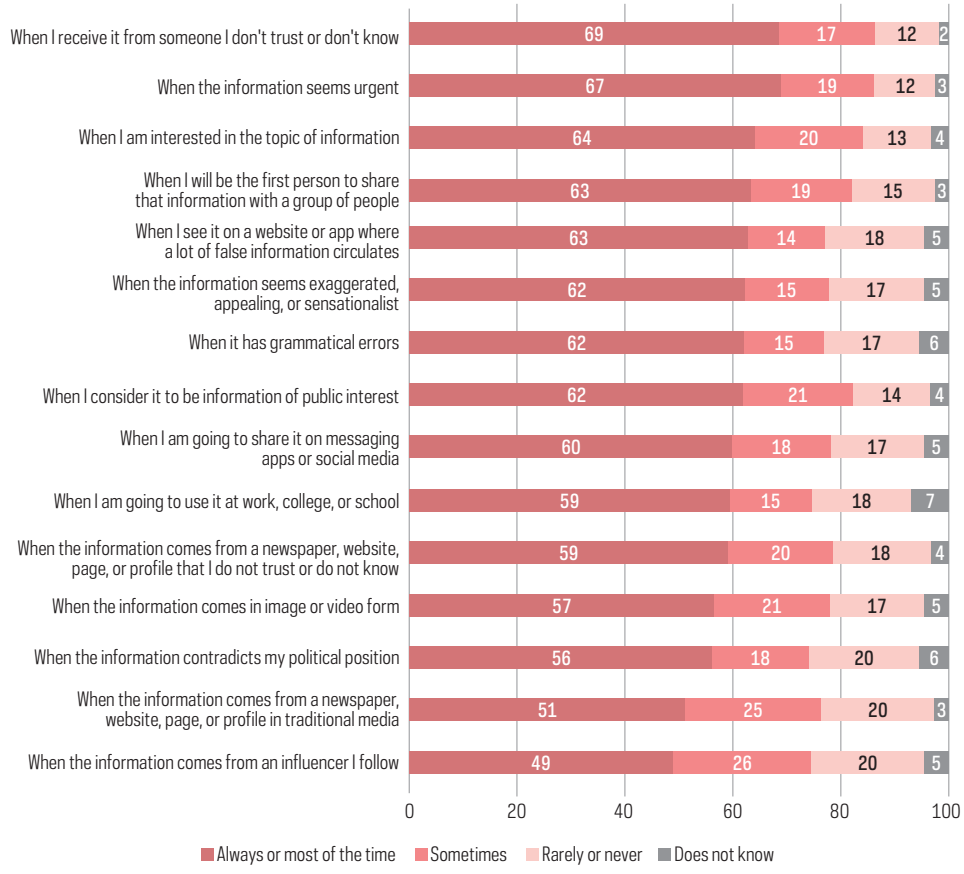
Information verification situations (2025)

Internet users 16 years old or older who check information at some frequency (%)



A second group includes situations where verification occurs because of the function that the information serves for the recipient. The proportions of checking varied little among the three circumstances most associated with this perspective: 64% reported always or most of the time checking when they are going to be the first person to share information with a group of people, 60% when they are going to share the information on messaging apps or social media, and 59% when they are going to use it at work, college, or school.

In a third group, there were also situations where checking was motivated by elements related to the content or form of the information, such as appearing exaggerated, appealing, or sensationalist (62%) or having grammatical errors (62%). In this case, verifications were reported as having been carried out less frequently when the information came in image or video form (57%).

Other relevant items were whether the information seemed urgent (67%) and whether there was interest in the topic of the information (64%). These results suggest the relevance, for Internet users, of verification motivated not necessarily by distrust of information, but primarily by perceived relevance and/or interest in it—an aspect that will be developed in the following indicator.

The survey also provides an indicator relating to situations in which individuals report not verifying information, as answered by those who said they do not always do so (Chart 12). Some of the situations investigated involved difficulties or inability to perform the verification: not knowing how to check or verify (17%), it being very difficult to check or verify (13%), and not having access to the Internet or not wanting to use up data (8%). However, these reasons were the least influential in the practice of verification.

The main reasons for not checking information included forgetting to check or verify (36%), not having time to check or verify (33%), not being interested in checking or verifying (33%), and being sure the information is true (31%) or false (25%). It is worth highlighting that not verifying due to lack of interest was more common among individuals in classes AB (40%) and those with a tertiary education (40%), who also mentioned in greater proportion not verifying because they were certain that a piece of information was true or false—suggesting relationships between engagement, trust, and verification. Furthermore, not having time to check or verify was reported on a significantly larger scale among those in class C (36%).

CHART 12

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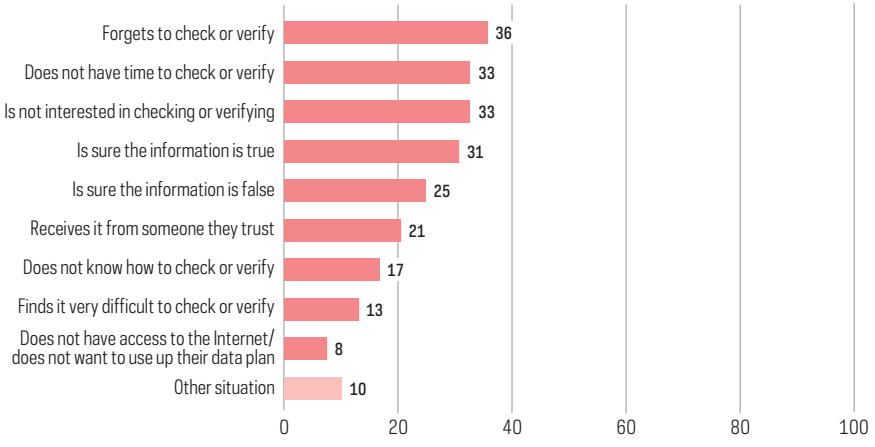
Situations where information is not verified (2025)

Internet users 16 years old or older who do not always check information (%)



The third indicator in this module relates to situations experienced on social media or messaging applications involving the sharing of false, exaggerated, or misleading information. Individuals in the survey population were presented with two sentences and asked if the situations depicted had ever happened to them (Chart 13).

CHART 13

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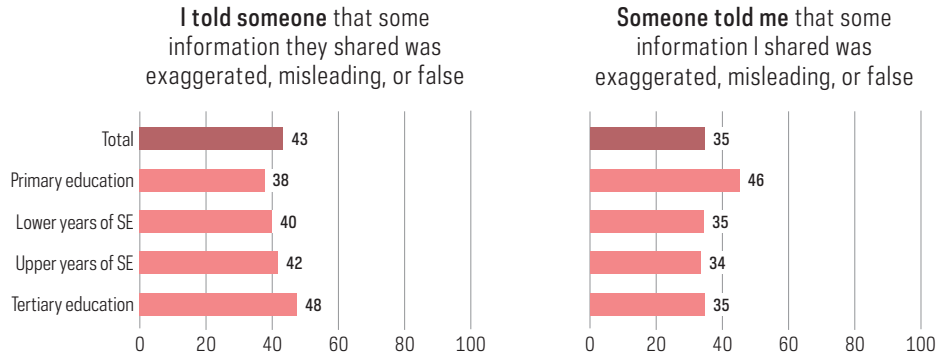
Situations of information sharing in messaging applications and social media (2025)

Internet users 16 years old or older (%)



The survey indicated that 43% of Internet users 16 years old or older reported already having told someone that information they shared on messaging apps or social media was exaggerated, misleading, or false, while 35% mentioned having heard this from someone regarding information they shared. The results showed significant variations by level of education: Among those with a tertiary education, it was more common to tell someone (48%) than to be told (35%) that shared information was exaggerated, misleading, or false; for those with a primary education, the values were reversed, with 38% telling someone and 46% being told.

Finally, more specifically regarding the experience of using social media, the survey provides an indicator related to the settings and practices that users have implemented on these platforms to interact with information and other players (Chart 14). Although they are not direct verification practices, they are tools used to mediate the type of information that people access or fail to access. These tools are therefore associated with control over the individual experience of accessing information and, consequently, are important for resilience in relation to false or misleading information.

CHART 14

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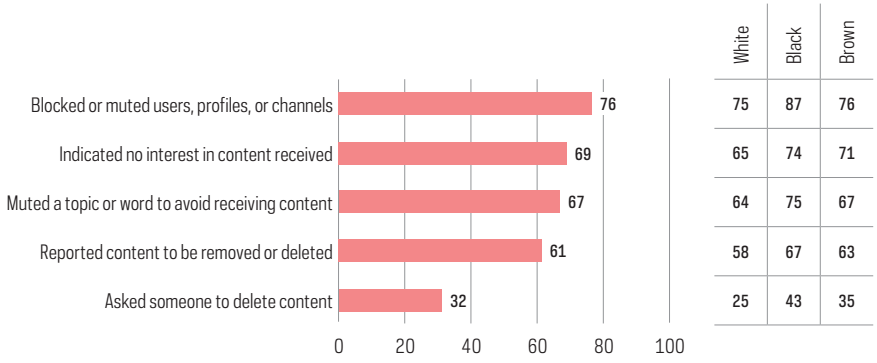
Settings and practices on social media (2025)

Internet users 16 years old or older who reported using social media (%)



	White	Black	Brown
Blocked or muted users, profiles, or channels	75	87	76
Indicated no interest in content received	65	74	71
Muted a topic or word to avoid receiving content	64	75	67
Reported content to be removed or deleted	58	67	63
Asked someone to delete content	25	43	35

Most users report having implemented the investigated settings and practices. With the exception of asking someone to delete content (a practice carried out by 32% of Internet users 16 years old or older who reported using social networks), all items were performed by more than half of the surveyed population, with blocking or muting users, profiles, or channels being the most prominent (76%).

The effect of the color or race variable was especially significant for this indicator: Individuals who self-identified as Black reported completing all items at a higher proportion compared to Brown and White individuals—which may be associated with collective dynamics of interaction with discriminatory content in these environments. Muting a word or topic to avoid receiving content, for example, was a practice reported by 75% of Black people, a proportion that was 67% among Brown people and 64% for White people. The level of education was also relevant for this indicator: Among those with a tertiary education or more, 48% reported engaging in the four practices most frequently mentioned by the survey population, a figure that was 33% for those with only a primary education.

In summary, the survey showed that performing information verification was less influenced by difficulties related to lack of knowledge (not knowing how to check or finding it too difficult to check) or connectivity issues (not having Internet access or not wanting to use up their data plan)—which does not mean that these factors do not affect the quality and effectiveness of these practices. On the other hand, the data revealed that verifications have often failed happening due to a lack of time or interest, because people are sure that the information is true or false, or because they forget to do the verification—which may also indicate a more disengaged and/or more self-confident user profile.

The survey also pointed to the presence of settings and practices that influence access to information on social networks, especially blocking or muting users, profiles, and channels—already done by about three out of four Internet users, with an even higher incidence among those who identify as Black. The results highlight the already significant existence of initiatives by individuals to control the information they see on social media, contributing to greater autonomy in relation to the content curation and moderation systems carried out by digital platforms. The effectiveness of these configurations and practices, and even the understanding of their impacts and necessity, are affected, among other aspects, by the skills of the individuals, the subject of the next module of the survey.

Digital skills and the ability to identify false or true information

The ICT Panel - Information Integrity survey also includes indicators related to digital skills and self-perceptions of the ability to identify false or misleading information, as well as the results of the information identification exercise[5]. Understanding and promoting the capacity to identify true and false information on the Internet is a fundamental point on the information integrity agenda, which has as one of its axes the building of resilience through the promotion of information and media literacy initiatives (Ministry of Education [MEC], 2025; OECD, 2025; UN, 2023b, 2024; UNESCO, 2023).

The survey investigates skills related to the ability to understand some key aspects of how social media and search engines work, which are both fundamental means for the circulation of information in the digital environment. Based on an adaptation of an indicator[6] applied since 2022 by the ICT Kids Online Brazil survey, respondents were presented with claims related to the functioning of algorithms for classifying and distributing content in social media feeds and search engines, the practices of players in these means, and monetization logics. For each item, respondents positioned themselves on a five-point scale between "strongly agree" and "strongly disagree". The results are presented in Charts 15 (claims with the expected response "strongly agree" or "partially agree") and 16 (claims with the expected response "strongly disagree" or "partially disagree").

[5] See chapter "Technical note: Regarding the methodology of the information classification exercise adopted in the survey".

[6] It is worth highlighting that the indicator is based on the conceptual framework of the Global Kids Online research network (Livingstone et al., 2015) and the propositions of the ySkills project (Helsper et al., 2020).

CHART 15

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Critical Internet skills (claims with expected response “strongly agree” or “partially agree”) (2025)

Internet users 16 years old or older (%)

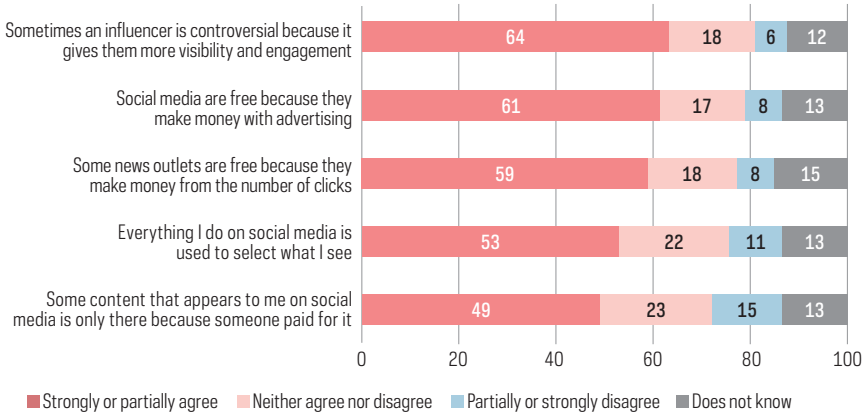

CHART 16

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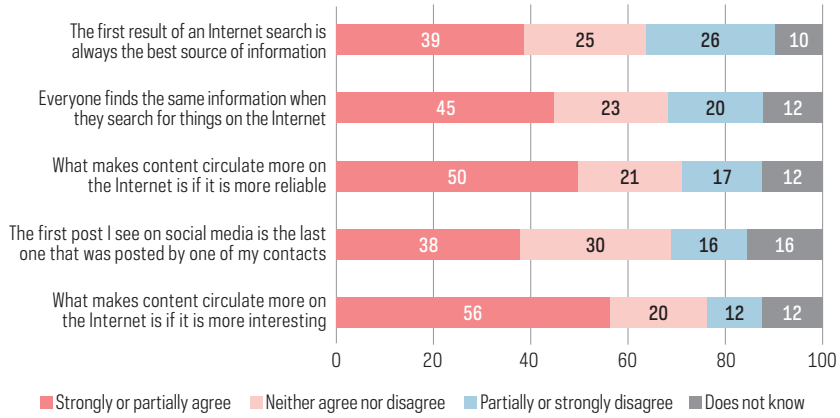
Critical Internet skills (claims with expected response “strongly disagree” or “partially disagree”) (2025)

Internet users 16 years old or older (%)



Half of Internet users 16 years old or older said they strongly or partially agreed that what makes content circulate more on the Internet is if it is more reliable, while 56% attributed this to it being more interesting. For both claims, the expected response would be to completely or partially disagree, which was reported by 17% of Internet users for the first claim and 12% for the second.

Adherence to the expected response was also lower than other options in the item "the first post I see on social media is the last one posted by one of my contacts" (16%), reflecting the perception of a chronological logic for curating social media feeds, which is now much less significant than that driven by algorithms (Wang et al., 2024). It is worth noting that the three claims mentioned relate to the logic of content circulation, indicating difficulties in understanding the functioning of algorithmic classification and distribution systems, as well as the dynamics of boosting content in search engines and, above all, in social media.

Claims related to the practices of players on social media and monetization strategies led to greater adherence to the expected response, with 64% fully or partially agreeing with the claim "sometimes an influencer is controversial because it gives them more visibility or engagement". The expected response was also predominant for the claims that "social media are free because they make money from advertising" (61%) and that "some news outlets are free because they make money from the number of clicks" (59%).

Items related to search engines are also presented. Regarding the claim that "the first result of an Internet search is always the best source of information," 26% agreed with the expected response. Support was even lower for the claim that "everyone finds the same information when searching for things on the Internet" (20%). These indicators suggest difficulties in understanding the presence of interaction logics with the ranking systems in search engines (search engine optimization [SEO]), which can be even more opaque in the context of generative AI applications.

The survey also assesses the confidence reported by Brazilian Internet users 16 years old and older in identifying false or misleading information they find on the Internet (Chart 17). The results indicated that 41% of Internet users 16 years old or older stated that they felt very confident or confident in identifying false information on the Internet, a proportion that was higher for those in classes AB (54%), those with a tertiary education (53%), and males (48%). Furthermore, 29% of the surveyed population stated they were "somewhat confident," and 19% were "not confident at all".

The intersection of this indicator with the frequency of information verification (analyzed previously) provides interesting insights. Individuals who were both "not confident at all" and "very confident" tended to respond more frequently that they "always" verify information. Those who are "confident" and "somewhat confident," in turn, reported more frequently checking information "most of the time" or "sometimes." This trend toward more moderate trust and greater discernment in checking situations (neither "always" nor "never") has been associated, as will be shown later, with better abilities to correctly identify false or misleading information on the Internet.

CHART 17

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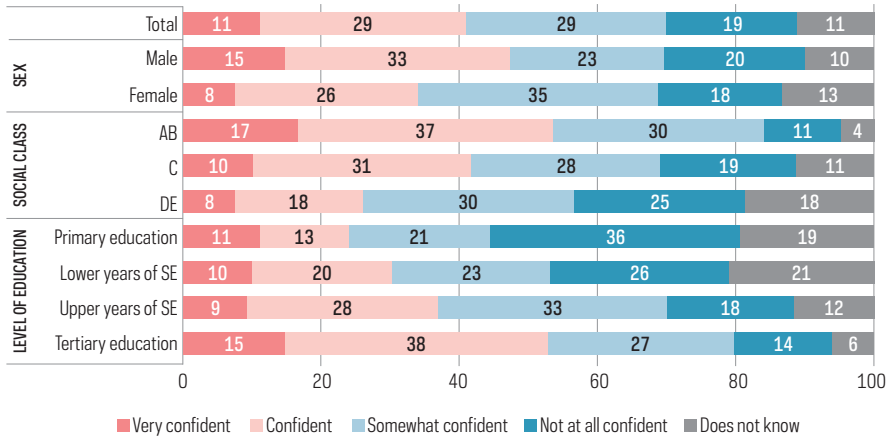
Confidence in one's ability to identify false or misleading information, by sex, social class, and level of education (2025)

Internet users 16 years old or older (%)



The results from this set of indicators highlight a contrast between two parameters of skills related to media and information investigated in the survey. On one hand, there are evident difficulties regarding the ability to understand the logic behind how social media and search engines work. On the other hand, there is evidence of a high level of self-confidence in identifying false or misleading information.

Although the two indicators address different competencies, the contrast highlights the limitations of self-report methodologies for measuring skills. This point becomes even more important when we observe their relationship with a third metric of media/digital literacy explored by the survey: the ability to correctly classify false and true information circulating on the Internet, which is discussed below.

SKILLS IN IDENTIFYING TRUE AND FALSE INFORMATION

As mentioned earlier, the ICT Panel - Information Integrity survey conducted an exercise for classifying information as true or false, which was presented to respondents in text form. The exercise was developed based on a selection of information that circulated in Brazil between 2023 and 2024, followed by a pretest with 252 respondents and a screening process using Item Response Theory (IRT)—a process detailed in the "Technical Note". In total, 24 claims (true and false, produced by humans and generative AI, on the themes of environment, technology, and health) were presented to each respondent, who was invited to classify them as true or false.

Based on the application of the IRT methodology, the respondent was assigned a score for each of the three themes,[7] as well as a final score, calculated as their average. These counts were made considering fundamental parameters of IRT, namely, *discrimination* (a_i),[8] *difficulty* (b_i),[9] and *guessing* (c_i).[10] Figure 1 represents the distribution of Internet users 16 years old or older across exercise score intervals. Through this distribution, the survey population was divided into four ranges: (i) 2 to 4 points (group with the worst performance in the exercise); (ii) 4 to 5 points; (iii) 5 to 6 points; and (iv) 6 to 8 points (group with the best performance). It is worth noting that none of the claims were correctly classified by all respondents, and none of them got all the claims right.

FIGURE 1
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Information classification exercise: distribution of respondents across score ranges
Internet users 16 years old or older (%)

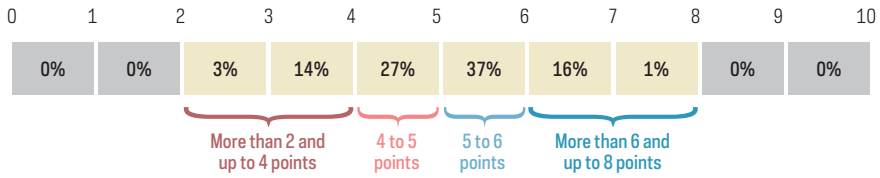

Chart 18 presents the distribution of individuals within these four ranges, by total and by sociodemographic variables, socioeconomic variables, and connectivity conditions. The segment with the lowest scores (2 to 4 points) includes 18% of Internet users 16 years old or older, a figure close to the 17% with the highest scores (6 to 8 points). The intermediate scores—4 to 5 points and 5 to 6 points—represent 27% and 38% of the survey population, respectively.

[7] The score for each theme was equal to the proficiency multiplied by two plus five ($2 \times \theta + 5$), thus producing a normal curve trend.

[8] Measures the item's sensitivity to variations in individuals' proficiency.

[9] Indicates the point on the proficiency scale where there is a probability of answering the item correctly.

[10] Represents the probability that an individual with very low proficiency will answer the item correctly.

CHART 18

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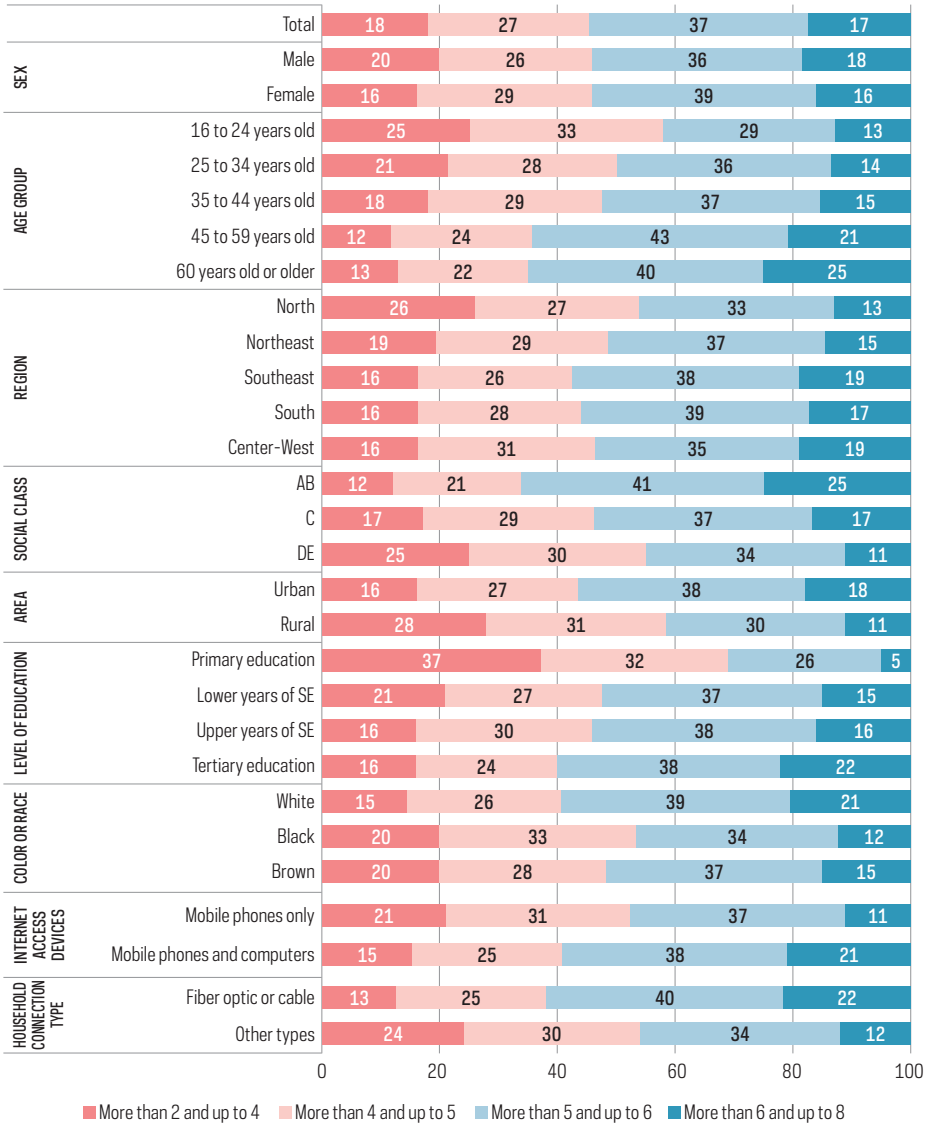
Score in the information classification exercise (2025)

Internet users 16 years old or older (%)



The scores obtained in the information classification exercise provide important indicators when cross-referenced with sociodemographic and socioeconomic variables collected in the survey. Individuals in classes AB (25%), those 60 years old or older (25%), and those who completed tertiary education (22%) showed the best results in the exercise (6 to 8 points).

The percentage of individuals with higher scores was lower in rural areas (11%), among those under 45 years old (16 to 24 years old, 13%; 25 to 34 years old, 14%; and 35 to 44 years old, 15%), and those living in the North (13%) and Northeast (15%). Furthermore, representation in this segment was lower for users of Black (12%) and Brown (15%) race/color. In turn, little variation was observed based on the individual's sex (18% for men and 16% for women).

Factors related to the connectivity conditions were also associated with the results of the exercise. Among those who access the Internet via mobile phones but not via computers, 11% were classified in the group with the highest scores (6 to 8 points), while for those who do so on both devices, this figure was 21%. A difference was also noted based on the type of household connection: among those who did not have fiber optics or cable connection, 12% were in the highest scoring range, while for those who had this resource at home, the percentage was 21%.

The survey also provides cross-references between the scores in the information classification exercise and the indicators presented previously. Chart 19 reveals the distribution of individuals in the exercise according to some of the information access practices investigated.

CHART 19

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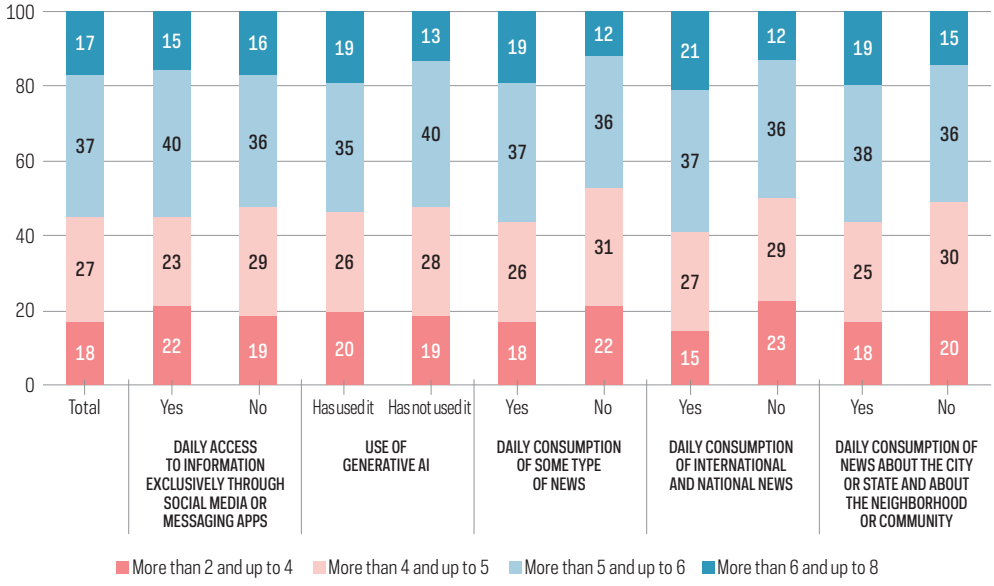
Score in the information classification exercise, by information access characteristics (2025)

Internet users 16 years old or older (%)



Daily access to information exclusively through social media or messaging applications did not show a significant association with the score obtained in the exercise. Those who had this type of access to information were only slightly more present—compared to the population average—in the 2-to-4-point range (22%), while at the same time they had results very close to the average for presence in the 6-to-8-point range (15%). Those who reported having used generative AI tools at some point were more present in the group with the best scores than the population average—19%, compared to 13% for those who had never used them.

The news consumption indicator, in turn, showed relevant associations with the score in the information classification exercise. Among those who reported consuming news daily, 19% were in the group with the highest scores. For those who did not consume news at that frequency, that proportion was 12%—the same as those who did not consume international and national news daily. For those who did not consume news about their city or state and about their neighborhood or community daily, the difference was more subtle, with 15% participating in the group with the best scores.

Chart 20, in turn, presents the distribution of scores in the exercise according to indicators from the modules on perceptions and trust in the information ecosystem and information verification practices.

CHART 20

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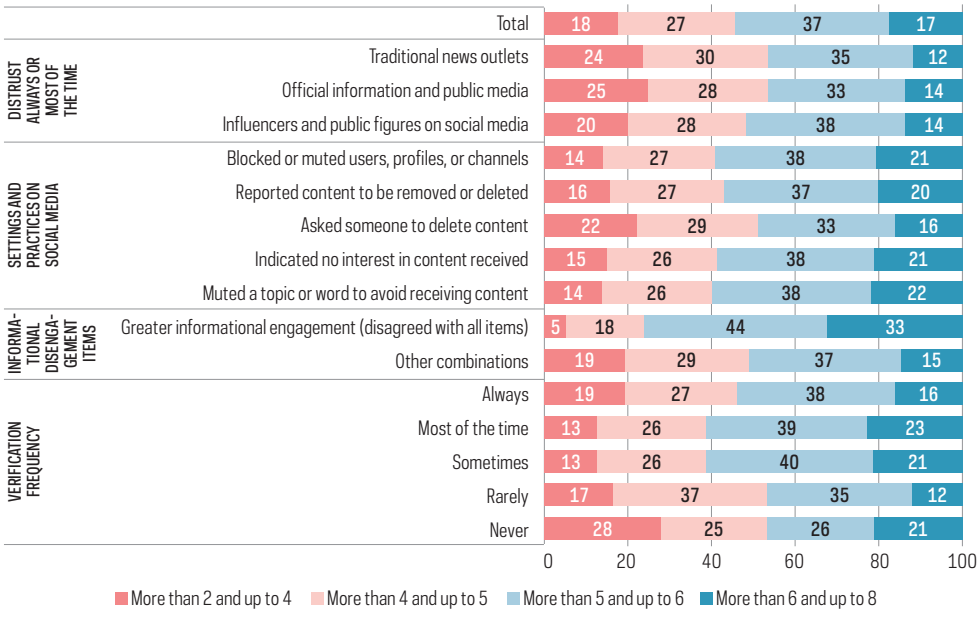
Score in the information classification exercise, by perceptions about the information ecosystem and frequency of verification (2025)

Internet users 16 years old or older (%)



First, worse performance was observed in the information classification exercise among those who reported greater distrust of information published by the sources mentioned. This was the case for those who reported always or mostly distrusting traditional news outlets (with 12% in the 6-to-8-point group), official information and public media (14%), and influencers and public figures on social media (14%).

On the other hand, scores were better among those who said they perform settings and practices on social networks—blocking or muting users, profiles or channels (21%), reporting content to be removed or deleted (20%), indicating no interest in content received (21%), and muting a topic/word to avoid receiving content (22%). The exception was the practice of asking a person to delete content (16%), which may be more related to privacy issues and the use of personal information than to algorithmic curation.

Higher scores were also observed among those with a more engaged profile regarding information consumption and verification practices.[11] In this group, 33% were among the highest scorers (6 to 8 points), a proportion 16 percentage points higher than the population average. The data therefore indicate that engagement with information verification is a determining factor in dealing with false or misleading information on the Internet, suggesting a point of attention for building resilience through the lens of information integrity.

The reported frequency of information verification was also associated with the score in the classification exercise. Among those who reported verifying information "rarely," 12% were in the group with the highest scores. Those who reported checking "always" were also below the population average (16%). Those who reported verifying the accuracy of the information "sometimes" (21%) and "most of the time" (23%) obtained the best results. The case of those who responded that they had never verified information presented more divergent results on the point scale, with above-average presence in the group with the best scores (21%) and well above average in the segment with the worst scores (28%). These percentages may be associated both with a confidence profile motivated by a broad and consistent information diet and with a disinterest in verifying information.

Confidence in one's ability to identify false or misleading information on the Internet, in turn, was not directly correlated with better performance in the information classification exercise (as indicated in Chart 21). This point is consistent with previous findings, such as the results obtained in The OECD Truth Quest Survey, a reference study for the present research (OECD, 2024b).

[11] That is, those who disagreed completely or partially with all items in the information disengagement indicator, which corresponds to 20% of Internet users 16 years or older.

CHART 21

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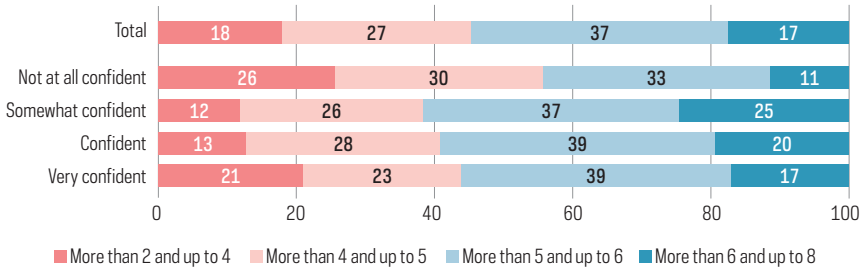
Score in the information classification exercise, by confidence in one's own ability to verify false and misleading information on the Internet

Internet users 16 years old or older (%)



The data indicated that those individuals who stated they were "not at all confident" in identifying false or misleading information had the lowest scores, with 11% falling into the range with the best scores (6 to 8 points). At the opposite extreme, the "very confident" group presented results that, although higher (17%), were also below the population average. The best performances were among those who reported being "confident" (20%) and, especially, "somewhat confident" (25%)—which reinforces the observation about the limitations of self-confidence scales in indicating greater resilience in the informational environment.

Finally, the scores on the exercise were cross-referenced with the individuals' digital skills. Based on the calculation methodology of the International Telecommunication Union (ITU), whose variables are regularly collected by the ICT Households surveys and by different editions of the ICT Panel, Internet users 16 years old or older were classified into three levels (below basic, basic and above basic), according to the activities they performed in the digital environment in the three months prior to the survey. Chart 22 shows the distribution of users across these three levels according to their performance in the information classification exercise.

CHART 22

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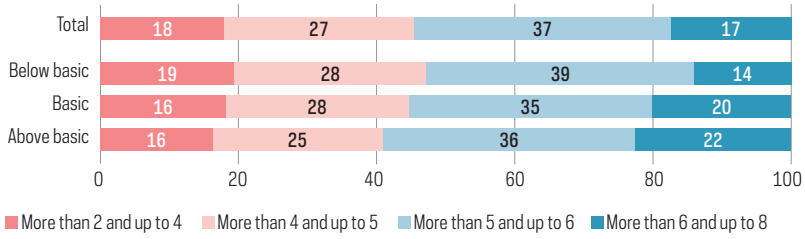
Score in the information classification exercise, by digital skills (2025)

Internet users 16 years old or older (%)



The results showed a correlation between higher scores on digital skills scales and better performance on the exercise. Among individuals with a "below basic" level, for example, 14% were in the range with the best scores (6 to 8 points). The results for those with "basic" and "above basic" levels were, in turn, closer—at 20% and 22% (respectively).

More intensive associations were found based on critical Internet usage skills, that measure knowledge about algorithmic dynamics and the practices of players in social media and search engines. Among those who demonstrated less knowledge about the investigated items—that is, those who did not adhere to the expected answer in any of the alternatives presented in the indicator (16% of the survey population)—9% were in the group with the best scores, while for those who adhered to the expected answer in at least seven items (the portion of the survey population with greater knowledge about these topics), this proportion was 32%. The results suggest an association between, on the one hand, media and digital literacy skills—especially those related to the environment of social media and search engines—and, on the other hand, resilience in dealing with false and misleading information on the Internet.

BOX 2

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MODEL FOR COUNTING CORRECT ANSWERS

As mentioned in the chapter "Technical note: Regarding the methodology of the information classification exercise adopted in the survey," the use of Item Response Theory (IRT) for calculating the scores on the information classification exercise offers numerous advantages, especially with regard to controlling the variables of discrimination, difficulty, and random guessing. However, this method of calculation makes it difficult to achieve certain specific goals, such as the production of time series and the comparison of results based on different parameters of the exercise (true and false claims, produced by humans or by generative AI and for each topic). Thus, the analysis can be complemented by a model based on the simple counting of correct answers.

Using this model, therefore, it was noted that the average accuracy of Brazilian Internet users 16 years old or older in the information classification exercise was 66%[12]—with significant variations, as seen in previous charts, by socioeconomic and sociodemographic variables, connectivity, and the indicators collected. Performance also varied depending on the topic of the questions: For technology items, the success rate was 60%; for environmental items, 67%; and for health items, 74%.

The results also differed for true and false claims, and for those made by humans and generative AI. According to the accuracy counting model, the accuracy rates were 59% for true claims and 72% for false claims, as well as 60% for those made by humans and 70% for those created by generative AI. The results are consistent with the findings of the OECD research (2024b) that served as a reference for the classification exercise.

Finally, it is also interesting to cross-reference the success rates with the digital skills discussed in Chart 22. The results indicated better performance in the information classification exercise among individuals with an "above basic" level (69% correct answers), closely followed by those with a "basic" level (68%). Performance was slightly lower for those at the "below basic" level, who had a success rate of 64%. However, the level of digital skills did not influence the accuracy in identifying the false claims (with a rate of 70% for those with below-basic, basic, and above-basic levels). Conversely, the accuracy rates regarding true claims were significantly affected by digital skills, being 56%, 64%, and 68% for the below-basic, basic, and above-basic levels, respectively. It is therefore suggested that digital skills are particularly important for the correct recognition of true information, the most difficult aspect of the classification exercise.

[12] In *The OECD Truth Quest Survey* (OECD, 2024b), the success rate of Brazilians was 54%.

Final considerations: Agenda for public policies

The consolidation of the information integrity agenda marks a new stage in the discussion surrounding the practices of information production, sharing, and access in the contemporary world, as well as the risks associated with them. This debate serves as a foundation for the development, application, and monitoring of public policies in the field, calling for multi-sectoral, evidence-based approaches that are consistent with the complexity arising from the expansion of the scope of action.

This edition of the ICT Panel - Information Integrity survey aims to contribute to these efforts by offering data and information that support reflections and practical formulations related to the development of diverse and evidence-based information ecosystems, as well as to strengthening resilience and skills to interact with them.

In its initial module, the survey drew attention to the predominance, in virtually all contexts, of access to information through messaging applications and social media—with particular emphasis on access via short video feeds—as well as inequalities in the frequency of contact with information based on sociodemographic, socioeconomic, and connectivity characteristics. For a small portion of the surveyed population, daily access to information was exclusively through digital platforms, which may be associated with the recent spread of zero-rating mobile Internet plans and their restriction on Internet use to specific applications after the data package expires. The indicators also pointed to a lower incidence of news consumption among younger people, which, especially in a context of increased use of generative AI tools, suggests greater vulnerability to misleading information, demanding the strengthening of independent and public media and the valuation of professional journalism.

The second module, related to individuals' perceptions of the informational ecosystem and the establishment of trust, indicated a higher degree of distrust surrounding various investigated sources—from traditional news outlets to public media, including influencers and public figures on social media and friends/family—although specific sociodemographic and socioeconomic profiles affected this distrust in relation to each source. In the open-ended question, the survey analyzed how individuals place trust in information found on the Internet, highlighting the significant importance given to the source of the information.

The results also highlighted the presence of an informational disengagement attitude among a significant portion of Brazilian Internet users 16 years old and older, related to a lack of interest or confidence in the effectiveness of verification practices due to various aspects of the contemporary context—more common among younger males, those in classes DE, and those with a primary education. The scenario of disengagement and distrust is even more critical given the substantial perception of daily contact with deepfakes, with greater vulnerability among older age groups and those who access the Internet only through mobile phones.

Indicators related to information verification suggested that the frequency of this type of practice was less associated with technical difficulties (not knowing how to check) or connectivity issues (not having Internet access or not wanting to use up data allowance). Forgetting to check, lack of interest, or lack of time to check and be sure whether the information is true or false, for example, were significantly more frequently reported reasons for whether or not information is verified, drawing attention to important associations between trust, informational engagement, and verification practices. The survey also indicated that a large portion of Internet users 16 years old and older adopted various settings and practices on social media to manage their access to information, with greater adoption among those who identified as Black.

The survey results also contribute to the discussion about the capabilities involved in the process of identifying and verifying false or misleading information on the Internet. The critical skills indicator highlighted areas of concern regarding the difficulty of understanding key aspects of how social media and search engines work, particularly the understanding of the existence and operation of algorithmic systems for classifying and distributing content and the logic behind boosting posts/results.

Based on an exercise classifying false and true information that had circulated in the country over the past two years, the survey suggested the presence of inequalities regarding the ability of Internet users 16 years old and older to correctly perform this type of identification. Beyond the sociodemographic and socioeconomic variables investigated (of which age group, social class, and level of education stood out), among the many possible highlights, better scores were noted for those who access the Internet both via mobile phones and computers and among those who reported consuming news daily (especially national and international news). Results were also better for those who reported verifying the accuracy of information "most of the time" or "sometimes," among those "somewhat confident" in their ability to identify what is false or misleading, and for those who reported having more of the digital skills investigated in the basic module of the survey. Lower scores, in turn, were seen among those who reported always or mostly distrusting traditional news outlets and official information and public media, as well as those who were less engaged in consuming and verifying information—suggesting the existence of profiles more vulnerable to the circulation of false information on the Internet.

Understanding the complexity and relevance of the information integrity agenda—as well as its potential to inspire discussions and public policies aimed at promoting healthy information ecosystems and empowering individuals to deal with the circulation of false or misleading information—the ICT Panel - Information Integrity survey sought to make a nationally significant contribution to the production of evidence that can support public debate and the implementation and monitoring of policies surrounding the production and dissemination of, and access to, information in the Brazilian context. The indicators presented reflect the efforts that have been promoted over the last few years to provide up-to-date statistics on the subject, while also serving as starting points for new reflections and investigations.

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List of Abbreviations

3PL — Three-Parameter Logistic model

Abep — Brazilian Association of Research Companies

AI — Artificial Intelligence

AS — Autonomous System

CAWI — computer-assisted web interviewing

CCEB — Brazilian Economic Classification Criteria

Cetic.br — Regional Center for Studies on the Development of the Information Society

CERT.br — Brazilian National Computer Emergency Response Team

Ceweb.br — Web Technologies Study Center

Ceptro.br — Center of Study and Research in Network Technology and Operations

CGI.br — Brazilian Internet Steering Committee

Continuous Pnad — Continuous National Household Sample Survey

CTT — classical test theory

ECA Digital — Brazilian Digital Statute of the Child and Adolescent

Enem — Brazilian National High School Exam

FIB — Brazilian Internet Forum

IX.br — Brasil Internet Exchange

IBGE — Brazilian Institute of Geography and Statistics

ICT — information and communication technologies

IFCN — Internacional Fact-Checking Network

IRT — Item Response Theory

ITU — International Telecommunication Union

IXP — Internet exchange point

MCTI — Ministry of Science, Technology, and Innovation

MDIC — Ministry of Development, Industry, Trade, and Services

MEC — Ministry of Education

Mercosul — Southern Common Market

MF — Ministry of Finance

NIC.br — Brazilian Network Information Center

OBIA — Brazilian Artificial Intelligence Observatory

OECD — Organisation for Economic Co-operation and Development

Pisa — Programme for International Student Assessment

PSU — primary sampling unit

Saeb — Basic Education Assessment System

SEO — Search Engine Optimization

UN — United Nations

UNESCO — United Nations Educational, Scientific and Cultural Organization

UNGA — General Assembly of the United Nations

unesco

Centre
under the auspices
of UNESCO

cetic.br

Regional Center for
Studies on the
Development of the
Information Society

nic.br

Brazilian Network
Information Center

cgi.br

Brazilian Internet
Steering Committee