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**TOWARDS INTEGRATING THEORY AND PRACTICE
IN UNSTABLE AND TURBULENT TIMES**

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19 COVID-19 Communication in Portugal

Exploring the Relationships between Sources of Information and Citizens' Trust in Governmental Risk and Crisis Communication

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International empirical research on risk and crisis communication has increased considerably in recent years (Diers-Lawson, 2020), although this was not the case for public health research (Kuipers & Welsh, 2017) until the COVID-19 outbreak in 2020. The pandemic has presented a unique scenario for the study of risk and crisis communication on health emergencies practiced by governments around the world. Portugal was not a different case, as it is a country that went from being a “good student”, tackling the first wave, to the worst country worldwide, in number of deaths and infections per thousand inhabitants, in January 2021 (*Financial Times*, 2021).

Trust in the government has traditionally been found to influence the level of compliance with health regulations during emergencies (Blair et al., 2017). Recent studies on COVID-19 have reflected this point (Bargain & Aminjonov, 2020; Moreno et al., 2020). Therefore, trust is an essential coping mechanism people use when they lack sufficient information or expertise to decide about health recommendations (Valentini et al., 2022). In emergency communication, public institutions and authorities need to disseminate information to alert and protect citizens, but it is also important to use rhetorically effective arguments to persuade people to trust and comply with their guidelines. Governments therefore have a vital role in defining response strategies that elicit an appropriate attitude from the population.

Based on the assumption that (non)compliance with the authorities' recommendations, disseminated by politicians or experts is directly linked to trust in sources of information, in this chapter we analyze the Portuguese case during second wave of the disease. We begin with a brief discussion on the relationships between information sources and citizen trust in government risk and crisis communication, we then reflect upon the theoretical-practical implications of the data within the broader context of the EUPRERA Com-COVID research project.

Information Sources and Spokespersons in Times of Mistrust

The COVID-19 information landscape has been characterized as a massive infodemic, an overabundance of information and disinformation which makes it hard for people to find trustworthy information sources on prevention behaviors. The population's choices regarding sources of information and their corresponding perception information reliability are therefore relevant predictors for the degree of compliance to preventive behaviors in a health crisis (Park et al., 2019). There are several factors that encourage people to seek informational content from different sources (Austin et al., 2012; Lu & Jin, 2020). For example, social media is seen as providing access to unfiltered information (Lu & Jin, 2020; Tai & Sun, 2007) and emotional support (Fraustino et al., 2017). Traditional media are perceived to be more credible than social media (Austin et al., 2012; Moreno et al., 2020). Online news did not replace but instead complemented the consumption of traditional news (Dutta-Bergman, 2004), in the so-called legacy media.

Information Sources and Spokespersons during Health Emergencies

According to the WHO (2011), the capacity to relay information quickly and clearly on different platforms such as TV, radio, print, or the web is an essential strategy to effectively manage a public health emergency. Using a multi-channel strategy is noted as the most suitable to reach different demographics across a given population and also to generate a greater sense of urgency (Sellnow et al., 2019). Risk communication experts likewise emphasize the importance of monitoring the needs and expectations of different segments of the population, providing timely, accurate, specific, sufficient, consistent, and intelligible information (Laajalahti et al., 2016).

At first glance, the news media might be the appropriate channel to educate the public about individual risks. However, studies have revealed that during public health crises, many journalistic messages have not followed best practices in both traditional and digital media (Li Ho et al., 2020). The "COVID-19 Infodemic" showed that citizens access information from both reliable and questionable sources in the digital environment. Moreover, they do not show different patterns of dissemination of this information in digital media (Cinelli et al., 2020). Therefore, public institutions should also rely on direct communication (e.g. social media) to disseminate official information (Liu et al., 2016; Olsson, 2014; Reich et al., 2011).

Citizens' selection of information sources and the perceived reliability of those sources are important factors in predicting preventative behaviors being adopted (Park et al., 2019). Experts in risk and crisis communication establish that any of the institutions involved in public health management can be informative sources, always in accordance with their attributions in crisis management process (Sellnow & Seeger, 2013). Thus, public authorities (e.g., public health agencies)

should be responsible for issuing messages related to prevention and treatment, while political sources (e.g., government, ministries, prime minister) should be associated with messages on broader public policies, such as the purchase of vaccines, and the evaluation of the results of the measures implemented (Wukich, 2016).

While the sources of information are important, it is also important to strategically choose the spokesperson(s) communicating directly to the media, as their words will be widely quoted. Moreover, the voices used to endorse informational campaigns can have an impact on citizens' trust. Previous research suggests that scientists are recommended as spokespersons when it comes to preventing and warning about the disease, and health experts are advised as spokespersons on issues related to what to do in case of contagion. Political and government authorities, on the other hand, should be spokespersons for messages that promote confidence in the capacity of public institutions to respond to the crisis (McLean & Ewart, 2015; Seeger et al., 2003; Sellnow & Seeger, 2013).

Trust in the Context of Health Emergencies

As important as it is complex, the concept of trust has received various definitions and approaches in the risk management and communication literature (Earle et al., 2010). Some studies have revealed that the degree of trust in the national health care system has a significant impact on the public's willingness to receive health care instructions (Devos et al., 2002). Research also stressed that low levels of trust can lead the public to distance itself from the health care system which can cause neglect and non-compliance with guidelines, with severe consequences for public health (Meyer et al., 2014).

When making decisions during health crises, individuals need to trust data and guidelines received from institutions and trust the spokespersons communicating that information (Abu-Akel et al., 2021). If a communicator is not deemed trustworthy, the communication strategy will likely fail (Lundgren & McMakin, 2013). That is particularly true when the risk is poorly known or too complex, as it involves relying on expert assessments rather than on one's own judgment (Siegrist & Cvetkovich, 2000).

Credibility, expertise, and transparency are also factors that influence the level of trust in government and public health authorities. While credibility can be defined as the degree of technical expertise attributed to the source and its message (Llewellyn, 2020; Renn & Levine, 1991), expertise is usually established by the speaker's credentials, experience, and institutional affiliation (Lundgren & McMakin, 2013; Seeger et al., 2018). Transparency can stem from one's history, the source's previous behavior in analogous situations (Earle & Siegrist, 2008). If there are reports of data omission or manipulation, subsequent messages are more unlikely to be trusted. The Brazilian case was paradigmatic in this regard, with President Bolsonaro's different narratives of denial of the new virus and its alleged low lethality, when in fact millions of persons were infected and dying (Athaydes et al., 2022).

Governments and public institutions always play a meaningful role in situations of public health emergencies, such as the COVID-19 pandemic. As responsible for managing risk and crisis, they promote a “top-down” communication (Frandsen & Johansen, 2020) that is often mediated by the news media. This was also the case for the daily briefings and press conferences held by public institutions and politicians during the COVID-19 pandemic in Portugal. However, crises are complex processes over which it is impossible to have absolute control. As Frandsen and Johansen note, “when a crisis breaks out, an arena opens up” (p. 240) and then a wide range of actors and voices start determining the crisis agenda.

Although the Portuguese preferred traditional media as a source of information during the second wave of COVID-19 (Gonçalves et al., 2021), citizens’ use of information sources such as influencers, friends, public health professionals, associations, may also have an impact on the population’s level of trust in the authorities’ recommendations and management practices. Aiming to understand the relation between sources of information and citizens trust in government risk and crisis communication in Portugal during the second wave of the pandemic, three research questions (RQ) and five hypotheses derived from previous research guided our study:

- RQ1: What sources of information did people trust most in Portugal?
- RQ2: What information channels did the Portuguese consult most for information about COVID-19, particularly in the online ecosystem?
- RQ3: How did the population assess the management of crisis and risk communication by the government of Portugal?
- H1a: The more people use traditional media the more they trust in government sources.
- H1b: People who seek more information through scientific and institutional sources have more confidence in health personnel.
- H2: The more people use social media for information about COVID-19 the more they trust digital influencers.
- H3a: The more positive people perceive the government’s management of crisis communication the more they trust in official government sources.
- H3b: People who get more information from traditional media have a more favorable opinion of government communication management.

Methodology: Sample and Questionnaire

In the context of an international investigation of the “EUPRERA Com-COVID” network – a project which aimed to monitor the communication management of the COVID-19 crisis in several countries – a survey was applied to $n = 460$ Portuguese citizens between 7 October and 11 November 2020. The sample, which implies a confidence level of 95% and a margin of error of 4.6% over the country’s population ($N = 10,295,909$ inhabitants), was composed of 65.7% women and 34.3% men, with a mean age of $M = 41.01$ years ($SD = 12.09$).

This sample was reached using the snowball sampling technique. Invitations with a link to the online survey were sent through email and social networks, in particular WhatsApp and Facebook. The invitation encouraged people to complete and disseminate the questionnaire to their contacts. No compensation for participating in the research was offered. The online questionnaire included questions on information-seeking behavior, trust in different information sources, perception of government communication management, message retention, and demographic questions.

For this chapter, we analyze the three main sections of the survey with questions related to the sources of information that inspire more confidence among the Portuguese population, the frequency of use of different media and information channels, and the opinion of the Portuguese on the management of Government communication, using three scales composed of 13, 14 and 6 items respectively. The response options for each item were operationalized by 7-point Likert-type scales, with 1 being the lowest point and 7 the highest.

To reduce scale dimensions, items were included in three exploratory factor analyses (EFA) to detect associations between them and to create aggregate factors afterwards. As shown in Table 19.1, each of the 13 items relating to trust in information sources (Gonçalves et al., 2021) had a significant factor loading

Table 19.1 Sources of information dimensions through EFA (varimax rotation and reliability test)

<i>Sources of information</i>	<i>Influencers and social media (factor 1)</i>	<i>Authorities and media (factor 2)</i>	<i>Healthcare workers (factor 3)</i>
1 Influencers of other fields	.877		
2 Alternative medicines influencers	.871		
3 Healthcare influencers	.763		
4 Friends on social media	.695		
5 Healthcare workers disseminating information on social media	.654		
6 Other	.612		
7 Government and Directorate-General of Health		.858	
8 Local authorities		.773	
9 World Health Organization		.730	
10 Media		.602	
11 Professional associations in the healthcare field			.759
12 Personal acquaintances from the healthcare field			.755
13 Prestigious figures in the healthcare field			.657
Eigenvalue	4.345	2.623	1.084
Explained variance	33.42%	20.17%	8.43%
Cronbach's alpha	.84	.77	.71

on some of the 3 factors suggesting the EFA as a latent structure (variance explained = 61.94%, KMO = .83, Bartlett's Test: $p < .001$).

Similarly, an EFA with the 14 items regarding the frequency of use of different media and information channels (Gonçalves et al., 2021) revealed 3 factors suggesting the EFA as a latent structure (explained variance = 58.96%, KMO = .84, Bartlett's Test: $p < .001$) (Table 19.2).

Finally, Table 19.3 shows the variables relating to the opinion of the Portuguese on the management of government communication (Gonçalves et al.,

Table 19.2 Dimensions of the use of different media and information channels through EFA (varimax rotation and reliability test)

<i>Media and channels</i>	<i>Scientific and institutional sources (factor 1)</i>	<i>Media (factor 2)</i>	<i>Social media (factor 3)</i>
1 Scientific websites	.842		
2 Scientific magazines	.789		
3 Healthcare websites	.724		
4 Institutional websites	.658		
5 Alternative treatments websites	.645		
6 Television		.860	
7 Radio		.760	
8 Online news		.670	
9 Print press		.596	
10 Instagram			.835
11 YouTube			.764
12 Twitter			.661
13 WhatsApp			.543
14 Facebook			.436
Eigenvalue	4.924	1.983	1.348
Explained variance	35.17%	14.16%	9.63%
Cronbach's alpha	.85	.75	.71

Table 19.3 Dimensions of the Portuguese opinion on the management of the Government's communication through EFA with varimax rotation and reliability test

<i>Opinion on government's communication management</i>	<i>Positive (factor 1)</i>	<i>Negative (factor 2)</i>
1 It has always been clear and sufficient	.831	
2 It has been the most reliable	.828	
3 It was disseminated at the appropriate moments	.826	
4 It has been confusing for the population		.827
5 It did not reveal the whole truth		.805
6 It raised social alarm		.767
Eigenvalue	2.469	1.711
Explained variance	41.14%	28.51%
Cronbach's alpha	.78	.73

2021). Each of the six items shows a significant factor loading on some of the two factors suggesting the EFA as a latent structure (explained variance = 69.65%; KMO = .70; Bartlett's test: $p < .001$).

The internal consistency of each factor, measured with the statistical parameter Cronbach's alpha, revealed adequate reliability in all cases (Hair et al., 1999; Robinson et al., 1991).

Analysis and Results

Research Question 1

In response to RQ1 – “In which sources of information has the population shown the greatest confidence in Portugal?” -, it was possible to determine three main types of information sources, presented in Table 19.4 next to the specific items that composed them, ranked according to respondents' average confidence in these sources:

By analyzing each item separately, that is, by source of information, the WHO ($M = 5.15$, $SD = 1.71$) is the one that inspired most trust in citizens, followed by personalities with prestige in the health area ($M = 5.07$, $SD = 1.70$) and the Government and Directorate General of Health ($M = 5.02$, $SD = 1.71$).

After performing a repeated measures analysis of variance, we observed that the differences between the information sources were statistically significant [$\lambda_w = .205$, $F(2, 458) = 888.5$, $p < .001$, $\eta^2 = .795$], with “health personnel” generating the most trust in the Portuguese population (PI1) above “authorities and media” [$t(459) = 3.037$, $p < .01$, $d = .144$] and “influencers and social media” [$t(459) = 40.227$, $p < .001$, $d = 2.115$]. If we compare “authorities and

Table 19.4 Sources of information and the items analysis

Sources of information	<i>n</i>	<i>M</i>	<i>SD</i>	% high confidence*
Influencers and social media (factor 1)	460	2.19	1.07	
Healthcare workers disseminating information on social media	460	2.65	1.68	15.7
Friends on social media	460	2.43	1.35	7.5
Healthcare influencers	460	2.37	1.51	11.8
Other	460	2.20	1.58	9.1
Alternative medicines influencers	460	1.82	1.28	5.2
Influencers from other fields	460	1.67	1.13	3.5
Authorities and media (factor 2)	460	4.60	1.26	
World Health Organization	460	5.15	1.71	68.9
Government and Directorate-General for Health	460	5.02	1.69	69.1
Local authorities	460	4.31	1.65	51.2
Media	460	3.94	1.56	38.3
Healthcare workers (factor 3)	460	4.79	1.37	
Prestigious figures in the healthcare field	460	5.07	1.70	69.5
Professional associations in the healthcare field	460	4.71	1.67	61
Personal acquaintances from the healthcare field	460	4.60	1.80	56.8

* Joint percentage of respondents who expressed a lot (5), a lot (6) or complete (7) confidence in information sources.

media” with “influencers and social media”, there are also significant differences between them [$t(459) = 33.509, p < .001, d = 2.061$].

Research Question 2

To answer RQ2 – “What information channels have the Portuguese consulted most for information about COVID-19, particularly in the online ecosystem?” -, it was also possible to ascertain the average frequency of use of different media and information channels, presented in Table 19.5 together with the specific items that composed them.

After implementing a repeated measures analysis of variance, we observed that the differences between media and channels were statistically significant [$\lambda_w = .294, F(2, 458) = 549.39, p < .001, \eta^2 = .706$], with “media” being the most used by the Portuguese population (PI1) above “scientific and institutional sources” [$t(459) = 29.053, p < .001, d = 1.456$] and “social media” [$t(459) = 31.057, p < .001, d = 1.721$]. If we compare “scientific and institutional sources” with “social media”, there are also significant differences between them [$t(459) = 2.73, p < .01, d = 0.127$], only of smaller effect sizes (Cohen, 1988; Johnson et al., 2008). In isolation, television ($M = 5.83, SD = 1.74$) was the medium most used by citizens, followed by online news ($M = 5.36, SD = 2.01$) and radio ($M = 4.70, SD = 2.11$).

Data also showed that the online medium that the Portuguese consulted more often to obtain information about COVID-19 was the online news ($M = 5.36, SD = 2.01$), Facebook ($M = 4.26, SD = 2.25$), and websites of official institutions ($M = 3.46, SD = 2.16$).

Table 19.5 Frequency of use of means and information channels and constituent items

Frequency of use of media and information channels	n	M	SD	% high frequency*
Scientific and institutional sources (factor 1)	460	2.73	1.54	
Public institutions websites	460	3.46	2.16	35.2
Healthcare-specialized websites/blogs	460	3.07	2.11	27
Scientific publications	460	2.92	2.07	26.5
Science websites/blogs	460	2.29	1.77	14.7
Alternative therapies websites/blogs	460	1.90	1.58	10.3
Media (factor 2)	460	4.98	1.55	
Television	460	5.83	1.74	80.5
Online news	460	5.36	2.01	73.3
Radio	460	4.70	2.11	59.4
Print press	460	4.03	2.31	46
Social media (factor 3)	460	2.55	1.26	
Facebook	460	4.26	2.25	49.9
WhatsApp	460	2.23	1.80	14.6
Instagram	460	2.20	1.79	13.6
YouTube	460	2.08	1.67	12.2
Twitter	460	1.96	1.75	12.6

* Joint percentage of respondents who expressed a lot (5), a lot (6) or total (7) frequency in the use of media or information channels.

Research Question 3

Regarding the opinion of the Portuguese on the management of government communication (RQ3), it was also possible to establish two clearly distinct opinions, which are shown in Table 19.6 next to the specific items that integrate them.

We can state that there are significant differences between the opinions [$t(459) = 2.594, p < .01, d = .183$], although the effect size is small (Cohen, 1988; Johnson et al., 2008). However, the positive opinion is the most widespread among the Portuguese with regard to government communication (RQ3).

Table 19.6 Descriptive statistical data of citizens' opinions regarding the government's communication and constituent items

Opinion on the government's communication management	<i>n</i>	<i>M</i>	<i>SD</i>	% high concordance*
Positive (factor 1)	460	4.13	1.39	
It was disseminated in the appropriate moments	460	4.33	1.61	45.9
It has been the most reliable	460	4.21	1.69	45.5
It has always been clear and sufficient	460	3.87	1.69	39.3
Negative (factor 2)	460	3.86	1.55	
It has been confusing for the population	460	4.07	1.86	44.6
It did not reveal the whole truth	460	3.93	1.95	40.9
It raised social alarm	460	3.58	1.95	32

* Joint percentage of respondents who expressed strong (5), strong (6) or strong (7) agreement with the statements.

Hypotheses Findings

Finally, the results of testing our five hypotheses are presented in Table 19.7 together with the data supporting them. In this sense, they are verified with statistically significant and positive correlations. According to Cohen (1988), H_{3b} presents a large effect (.500 or higher), H_2 intermediate (.300 to .500), and the rest of them small (.100 to .300).

Table 19.7 Tests of hypotheses (Pearson correlation)

Hypothesis	Description	Result
H_{1a}	+ use of traditional media (factor 2, table 2) \Rightarrow + trust on government sources (factor 2, table 1)	$r(458) = .263, p < .001$
H_{1b}	+ use of scientific and institutional sources (factor 1, table 2) \Rightarrow + trust on health authorities (factor 3, table 1)	$r(458) = .279, p < .001$
H_2	+ use of social media (factor 3, table 2) \Rightarrow + trust on digital influencers (factor 1, table 1)	$r(458) = .356, p < .001$
H_{3a}	+ positive opinion on government crisis communication management (factor 1, table 3) \Rightarrow + trust on government sources (factor 2, table 1)	$r(458) = .559, p < .001$
H_{3b}	+ use of traditional media (factor 2, table 2) \Rightarrow + positive opinion on government crisis communication management (factor 1, table 3)	$r(458) = .238, p < .001$

Discussion and Conclusions

With this study, we analyzed the relationships between information seeking options, trust in information sources and the perception of government communication crisis management in Portugal during the second wave of the pandemic. Overall, we discuss the implications of three main findings that may help improve government and health authorities risk communication in critical times.

First, findings show that three in four of the most used channels to seek information are among the so-called mainstream media: television (80.5%) is the most used medium by citizens, followed by online news (73.3%) and radio (59.4%). This is aligned with previous studies that stress that traditional media are primarily used for information needs, as people perceive them—especially broadcast news and newspapers—to be more credible than social media (Austin et al., 2012; Gonçalves et al., 2021). The leading role of online sources on seeking information was also verified: online news, Facebook (49.9%) and websites of official institutions (35.2%) were the most accessed channels to search COVID information by the participants. However, despite the frequency of information-seeking on news media, it was not considered the most trustful source of information (only 38.3%). Experts and health care personnel were the more reliable sources by the Portuguese: for instance, 68.9% trust WHO and 69.5% health professionals but only 51.2% trust local authorities.

Second, when comparing results about information-seeking behavior with trust in government and health professionals as sources of information, data show that people who often search information on traditional media (particularly, television) trust more in the government. On the other hand, people that often use scientific and institutional sources (particularly, official websites), trust more in health professionals. This result seems in line with previous research. As experts in risk and communication highlight, using different sources to disseminate consistent information are at the core of any successful strategy (Seeger et al., 2003; Sellnow & Seeger, 2013; McLean & Ewart, 2015): scientists and specialists explain preventive measures on how to act in case of disease; government and politicians assure public institutions quality to respond to the crisis. The quantitative nature of our study and the structure of the survey did not allow learning the opinion of the Portuguese on these two levels of messages. It is however an important path for future research regarding the role and importance of intermediaries, as health professionals and experts, in building trust during risk communication processes.

The Portuguese trust healthcare personnel, particularly prestigious personalities, such as doctors, epidemiologists, or the director of the WHO. These sources of information are considered more trustworthy than the media or government authorities, at both the national (government and Directorate-General for Health) and local levels. A similar trend was also identified in the neighboring Spain (Moreno et al., 2020), which underlines the importance of giving more prominence to expert/technical sources than political sources in managing COVID-19 crisis communication.

Third, findings show that the people in Portugal had a primarily positive perception of the government's communication. Many had the impression that the government's information was timely and reliable. Even the most critical people, that is, those who consider that the government's communication has confused the population or has not revealed the whole truth, tend to trust the government and the Directorate-General for Health (69.12%). And clearly, people with positive opinion about government's communication management in Portugal get their information mainly from traditional news media. On the other hand, people that often use social media as sources of information are keener to trust digital influencers: 27% trust influencers from the health sector and health workers that share information on their social media accounts, and almost 20% trust influencers from very different fields, including alternative medicines. These findings pinpoint the importance of digital spokespersons, like YouTubers or Instagramers in contemporary societies. The problem is that online messages about COVID-19 may be instrumentalized for good but also for malicious purposes. Conspiracy theories, for example, have been debated in this context (Evanega, 2020; Fuchs, 2020; Pummerer et al., 2021).

As in many countries, Portugal also tried to fight against fake news and misinformation. The Directorate General of Health published the report "Recommendation for the press", advising on the importance of seeking official institutions as sources of information. Health authorities also designed campaigns with celebrities, both for TV prime time and social media, that alerted the population to the significance of referring to information from reliable sources (Gonçalves, 2013). Different channels and sources of information are of paramount importance to impact different groups of publics. If Instagram and Facebook are the favorite platforms (Data Report, 2022)¹ in Portugal, it is important that health authorities and government plan communication strategies on this digital forum.

All in all, this chapter introduces new empirical knowledge on the relation between sources of information and citizens trust in government crisis communication. As the choice of medium does not only influence the public's sense making of the crisis but also moderates their acceptance of crises messages and trust in the authorities and government, it is important to have a deep understanding of this variable in risk communication processes. Previous studies in the Portuguese context addressed media consumption but not in relation to citizens trust in government communication (Cardoso et al., 2020). We also can find research on health journalism during the pandemic period in Portugal (Lopes et al., 2021) however, it does not analyze news media relationship with citizens' trust in government and authorities. Our findings highlight that a greater use of news media usually correlates with trust in government sources, which, in turn, is also related to a positive opinion about the crisis management process.

In fact, in Portugal, contrary to the case of other countries, as the Netherlands, Belgium, or Austria, there were no major protests anti-lockdown but rather a high degree of respect for government-imposed rules in Portugal. As discussed

by De Giorgi and Santana Pereira (2020), government approval ratings in Portugal increased between 2019 and 2020 – possibly aided by more consensus among political parties than in the other countries. Later, the national vaccination process also went smoothly, probably due to the relatively minor presence of anti-vaxxers in Portugal. The forceful leadership of the head of the national vaccination task force, a navy official, may be another fact to explain trust in government risk communication strategies, in a country that only emerged from dictatorship in 1974.

Note

1 Datareport Portugal 2022: <https://datareportal.com/reports/digital-2022-portugal?rq=portugal> (accessed on 09/06/2022).

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