

## European public attitudes and perceptions on digitalization and artificial intelligence

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### **Abstract**

*This empirical study examines European public attitudes and perceptions, focusing on Romania, regarding digitalization and artificial intelligence (AI). Using data from the Eurobarometer 95.2, the study reveals that Romanian attitudes, while generally aligned with the EU28 average, exhibit slightly more pessimism in several areas. Romanians display a balanced view of AI's potential benefits and risks, similar to the broader European attitudes, but are more apprehensive about the impact of AI on job creation and the relationship between science, technology, and human rights. Perceptions of digital technology and ICT in Romania are positive but tempered with more caution compared to the EU28 average. These findings underscore the importance of developing cohesive EU policies that address shared concerns and promote public trust in technological advancements, while also considering the specific apprehensions and perspectives of Romanian citizens.*

### **Keywords**

*Public opinion; Artificial Intelligence; Digitalization; Science and Technology; European Union; Eurobarometer;*

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## Introduction

In this empirical study I will explore the attitudes and perceptions of the European and, especially, the Romanian public regarding digitization and artificial intelligence. Interaction with technology is an important factor influencing motivation, job satisfaction and job performance for all occupational groups. What is specific to Romania in the era of digitization and the advancement of artificial intelligence (AI), regarding the general attitude towards these technologies?

The public perception of artificial intelligence (AI) has a social dynamic that is closely linked to the development of this type of technology. In recent years, there has been considerable progress in the field of AI, and this has been accompanied by debates about the ethical aspects of the technology and the impact it has on the labor market (Future Labs, 2019). Through such debates, in which perceptions are voiced and predictions are made about the future of AI, a social discourse on technology is constructed, which in turn structures attitudes and perceptions among the general public.

The study of public perceptions of AI aims to identify the collective beliefs, attitudes and opinions that exist among the general public about AI and its effects on society and people's way of life. Public perceptions are shaped by factors such as social values, media representations, participation in educational processes, and wider social interactions (Fatas-Villafranca et al., 2011).

Public perceptions of AI are multi-faceted and reflect the diversity of opinions on the subject, ranging from optimism and confidence in the technology and its developers to concern and confusion about the future of society in general and the labor market in particular (Pew Research Center, 2022).

Numerous studies have addressed the topic of AI and how it is perceived by the public in different countries. Budeanu et al. (2023) analyzed the public perception of the impact that AI will have on people's lives in the next 20 years and the impact of this technology in terms of job creation. The analysis was based on Eurobarometer 95.2 (516) data from 2021. According to this analysis, the public perception of the impact that AI will have on society in the future is determined by cultural specificities and existing national social structures. In addition, socio-demographic categories influence people's perceptions of the societal impact of AI only to a small extent. Age and gender do not significantly influence public perception of AI. On the other hand, education and social class are significantly associated with the public perception of AI, which indicates the tendency of social stratification in the context of AI. Higher educated individuals are more optimistic about the social impact of AI. Similarly, individuals belonging to a higher social class are more likely to have a positive perception of the societal impact of AI.

Fast and Horvitz (2017) analyzed the dynamics of social representations of AI in the New York Times magazine over a 30-year period. Their results showed that, since 2009, the topic of AI has been much more frequently addressed in New York Times articles compared to previous years. Also, articles published after 2009 had a much more optimistic tone than in the past. However, the articles from this period also raised concerns, particularly about

the loss of control over AI, the ethical issues of this technology and the negative effects it could have on the labor market and employees.

Neri and Cozman (2020) studied content posted on Twitter between 2007 and 2018. Their study revealed that Twitter users most often express themselves on the existential risks they perceive regarding AI. This type of content became very popular on the platform in late 2014.

Survey-based research covering countries around the world showed that large segments of the population are aware of the existence and capabilities of AI (Zhang, 2021). The study also highlighted a difference between individuals in the general public and specialists working in the field of AI - the general public tends to anthropomorphize AI to a greater extent than AI specialists. Correlations between socio-demographic categories and confidence in AI were also identified. Respondents from countries located in East Asia show higher levels of trust compared to those from other regions, while female respondents and those of lower socioeconomic status have lower levels of trust in AI. Both trust in AI and intention to use technology in everyday life are positively correlated with optimistic perceptions of AI (Liehner et al., 2023).

Kelley et al. (2021) categorized respondents to a survey conducted in eight countries on six continents. The survey aimed to identify the perceived impact of AI. The authors categorized respondents into four groups based on the type of perception identified. The *Exciting Group* consisted of approximately 19% of respondents who reported enthusiasm and a positive perception of the social impact of AI. The *Pragmatic (Useful) Group* comprised 12% of the respondents, who perceive AI as useful as an assistant that will help people accomplish different tasks. The *Worrying Group* represents almost 23% of the total sample and consists of individuals who have negative perceptions of AI, marked by worry and fear for the future. The *Futuristic Group* is made up of 24% of respondents who perceive AI as a highly advanced technology that will bring new types of technologies and tools to the social landscape, such as robots. In developed countries with a high Human Development Index (HDI) score, the predominant group is the *Worried Group*, followed by the *Futurist Group*. In less developed countries with a lower HDI score, the predominant group was the *Exciting Group*.

In Germany, perceptions of AI were measured in a survey in which participants were presented with 38 statements about AI in personal, economic, industrial, social, cultural and health contexts. Participants reported a low level of concern about their professional future and the labor market. The study also showed that individuals with lower levels of confidence in AI rated its possible impact as rather positive, but less likely to materialize in a positive way in the future. On the other hand, individuals who have a high level of trust in AI perceive the impact of AI as desirable and as having a high likelihood of materializing (Brauner et al., 2023).

A survey conducted in Australia revealed a diversity of perceptions of AI, depending on the context of use. Respondents have a negative perception of AI and privacy. However, the public are open to the use of AI in everyday life, but show distrust of the use of AI by business and government. Respondents have a low level of concern about AI becoming smarter than humans. These perceptions vary across categories of gender (women have

rather negative perceptions), age (older people have rather negative perceptions), level of knowledge about AI (more knowledge is associated with more negative perceptions and less confidence in AI), and experience of using AI (higher experience is associated with rather positive perceptions) (Yigitcanlar et al., 2024).

## Methodology

We statistically analyzed data from Eurobarometer 95.2 “European citizens’ knowledge and attitudes towards science and technology” (European Commission, 2021). Field data collection took place between April 13, 2021 and May 11, 2021. The survey includes both questions on the digital technologies we studied and socio-demographic indicators needed to understand social variations in attitudes towards digitization (Table 1).

## Variables used

Table 1. Variables, questions and indicators used in the secondary analysis of Eurobarometer 95.2

Variable	Questions	Indicators modified by me and used in the analysis
<b>Perceptions on AI and the future of work</b>	QA10. Here are some statements people have made about science and technology. For each statement, please indicate the extent to which you agree or disagree with it: (Strongly agree / Tend to agree / Neither agree nor disagree / Tend to disagree / Strongly disagree / Don't know)  QA10.6. Artificial intelligence and automation will create more jobs than they eliminate	We recoded the indicator in QA10.6REC, so that high values indicate optimism and low values indicate pessimism
<b>Perception of technology in relation to human rights</b>	QA10.8. Applications of science and technology can threaten human rights	We used the unchanged indicator because high values indicate optimism and low values indicate pessimism
<b>Attitudes towards digital technologies</b>	QA8a. Do you think the following areas will have a positive, negative or no effect on the way we live in the next 20 years? (Very good effect / Rather good effect / Rather bad effect / Very bad effect / No effect / Don't know)  QA8a.3. Information and communication technology	We re-coded the indicator in QA8a.3REC so that high values indicate optimism and low values indicate pessimism; the value 'No effect' became the middle value
<b>Attitudes towards AI</b>	QA8a.10. Artificial intelligence	We re-coded the indicator in QA8a.10REC so that high values indicate optimism and low values indicate pessimism; the value 'No effect' became the middle value

We used for weighting the w23 variable to obtain a representative sample at EU28 level (including the UK and Croatia) and the w1 variable for country level analysis (Table 2).

**Table 2. Distribution of respondents by country within the total sample, after weighting. Source: author's analysis on EB 95.2 data**

Country	Data weighted by w1		Data weighted with w23	
	Frequency (number respondents)	Percentage (%)	Frequency (number respondents)	Percentage (%)
1.00 EN - France	1015	2.74	3424	12.32
2.00 BE - Belgium	1014	2.73	597	2.15
3.00 NL - The Netherlands	1075	2.90	919	3.31
4.00 DE - Germany	1525	4.11	4658	16.75
5.00 EN - Italy	1016	2.74	3399	12.23
6.00 LU - Luxembourg	520	1.40	33	0.12
7.00 DK - Denmark	1070	2.89	315	1.13
8.00 IE - Ireland	1011	2.73	253	0.91
9.00 GB-UKM - United Kingdom	998	2.69	3431	12.34
11.00 GR - Greece	1055	2.85	596	2.14
12.00 EN -Spain	1004	2.71	2595	9.33
13.00 PT - Portugal	1031	2.78	576	2.07
16.00 FI - Finland	1030	2.78	291	1.05
17.00 SE - Sweden	1051	2.83	529	1.90
18.00 AT - Austria	1007	2.72	492	1.77
19.00 CY - Cyprus (Republic)	506	1.36	48	0.17
20.00 CZ - Czech Republic	1038	2.80	582	2.09
21.00 EE - Estonia	1018	2.75	69	0.25
22.00 HU - Hungary	1043	2.81	542	1.95
23.00 LV - Latvia	1008	2.72	102	0.37
24.00 LT - Lithuania	1028	2.77	149	0.54
25.00 MT - Malta	525	1.42	28	0.10
26.00 PL - Poland	1007	2.72	2085	7.50
27.00 SK - Slovakia	1078	2.91	298	1.07
28.00 SI - Slovenia	1023	2.76	115	0.41
29.00 BG - Bulgaria	1049	2.83	389	1.40
30.00 EN - Romania	1050	2.83	1062	3.82
32.00 HR - Croatia	1016	2.74	227	0.81
<b>Total</b>	<b>27811</b>	<b>100.00</b>	<b>27802</b>	<b>100.00</b>

## **Comparative analysis of the Romanian public in the European context**

This study examines the public perceptions of digital technology, artificial intelligence (AI), and the relationship between science, technology, and human rights within the European Union (EU28), with a particular focus on Romania. By analyzing data from four empirical sections, the study reveals that Romania's attitudes towards these topics are largely in line with the EU average, with some notable deviations.

In the first section, we focus on the relationship between science, technology, and human rights, where the EU28 shows a tendency towards apprehension, fearing that technological advancements could threaten human rights. Romania aligns with this sentiment, displaying even higher levels of concern about the potential negative impacts of science and technology on human rights.

The second section addresses the impact of information and communication technologies (ICT) on the current way of life. The EU28 exhibits a predominantly positive outlook, which is reflected in the Romanian respondents' views. Romanians, like their European counterparts, generally recognize the positive effects of ICT, although there is still a significant portion expressing neutrality or uncertainty, and a slightly higher proportion expressing pessimism in comparison to the EU average.

In the third section, we explore the impact of AI on the current way of life. The general sentiment across the EU28 is a mixture of cautious optimism and skepticism. Romania mirrors this overall trend, showing an ambivalent view between the potential benefits and risks of AI. Again, the level of pessimism is somehow higher than in the EU.

The fourth section examines public perceptions regarding the ability of AI and automation to create more jobs than they eliminate. The responses indicate that Romanians are skeptical about the net job-creating potential of AI and automation, mirroring the average EU perceptions.

Overall, the study highlights that Romania's public perceptions are aligned with the EU average across all four areas. The similarities suggest that Romania shares common concerns, though with somehow more pessimistic views compared with the broader EU28, likely influenced by comparable socio-economic conditions, technological adoption rates, and levels of public trust in digital technologies and AI. These insights underline the importance of addressing both the positive and negative aspects of technological advancements to foster a balanced and informed public discourse in Romania and the EU as a whole.

### ***Perceptions on science, technology, and human rights***

The EU28 countries' public perceptions of the relationship between science, technology, and human rights are depicted in Table 3. The sentiment is generally cautious, with a significant number of respondents expressing apprehension regarding the potential threat to human rights posed by scientific and technological applications.

**Table 3. Perception of the relationship between science and technology and human rights in the EU28 countries. Source: author's analysis on EB 95.2 data**

QA10.8. Applications of science and technology can threaten human rights	Totally agree	I tend to agree	Neither agree nor disagree	I tend to disagree	Strongly disagree	I don't know	Total
1.00 EN - France	17%	44%	18%	12%	5%	4%	100%
2.00 BE - Belgium	13%	37%	33%	15%	3%		100%
3.00 NL - The Netherlands	15%	36%	26%	18%	4%	2%	100%
4.00 DE - Germany	12%	31%	23%	21%	11%	3%	100%
5.00 EN - Italy	10%	40%	27%	15%	5%	3%	100%
6.00 LU - Luxembourg	12%	36%	30%	18%	3%		100%
7.00 DK - Denmark	9%	26%	27%	22%	14%	2%	100%
8.00 IE - Ireland	9%	33%	28%	25%	6%		100%
9.00 GB-UKM - United Kingdom	6%	30%	38%	22%	4%		100%
11.00 GR - Greece	21%	44%	23%	7%	2%	3%	100%
12.00 EN - Spain	25%	38%	14%	14%	5%	5%	100%
13.00 PT - Portugal	9%	39%	21%	25%	6%		100%
16.00 FI - Finland	12%	39%	27%	16%	7%		100%
17.00 SE - Sweden	11%	41%	28%	15%	5%		100%
18.00 AT - Austria	11%	35%	24%	19%	9%	3%	100%
19.00 CY - Cyprus (Republic)	39%	37%	12%	6%	4%	2%	100%
20.00 CZ - Czech Republic	9%	29%	26%	30%	7%		100%
21.00 EE - Estonia	7%	26%	25%	30%	12%		100%
22.00 HU - Hungary	16%	35%	24%	15%	5%	5%	100%
23.00 LV - Latvia	10%	27%	34%	23%	6%		100%
24.00 LT - Lithuania	11%	28%	35%	19%	6%		100%
25.00 MT - Malta	15%	38%	23%	12%	4%	8%	100%
26.00 PL - Poland	11%	36%	25%	18%	6%	3%	100%
27.00 SK - Slovakia	16%	36%	29%	12%	4%	3%	100%
28.00 SI - Slovenia	22%	39%	22%	11%	5%	1%	100%
29.00 BG - Bulgaria	16%	32%	23%	13%	4%	13%	100%
30.00 EN - Romania	21%	31%	28%	12%	2%	6%	100%
32.00 HR - Croatia	16%	39%	30%	12%	2%	1%	100%
Total EU28	13%	36%	25%	17%	6%	3%	100%

In the EU28, the most prevalent response is that 36% of respondents tend to concur that science and technology applications can be detrimental to human rights. Furthermore, this assertion is entirely supported by 13% of respondents, which indicates a substantial degree of apprehension. Conversely, 25% of respondents are uncertain or neutral regarding the issue, as they do not concur or disagree. A smaller group is less concerned about the potential hazards, as approximately 17% tend to disagree and 6% completely disagree. Only 3% of respondents are uncertain.

The perceptions of various countries exhibit a substantial degree of variability, with a few outliers. For instance, Cyprus has a significantly higher percentage of respondents in total agreement than other countries, with 39%. Additionally, Greece and Spain exhibit slightly higher levels of comprehensive agreement, with 21% and 25%, respectively. In contrast, the Netherlands and Germany demonstrate a greater degree of disagreement, which indicates a lack of public concern regarding the threat to human rights. A more ambivalent stance is suggested by the large percentages of neutral responses in the UK and Latvia.

Significant concern is reflected in the fact that 17% of respondents in France completely agree and 44% incline to agree that science and technology can threaten human rights. Belgium also exhibits concern, with 37% of respondents indicating that they incline to agree and 33% indicating that they are neutral. Greece, Spain, and Portugal, among other southern European nations, demonstrate an even greater degree of apprehension. Spain has 25% total agreement and 38% tending to concur, while Greece has 21% total agreement and 44% tending to agree.

Mixed sentiments are evident in Northern European nations, including Finland and Denmark. Denmark exhibits a moderate level of concern, with 26% tending to concur and 9% total agreement. Finland has a higher level of agreement, with 12% of respondents in total agreement and 39% tending to concur.

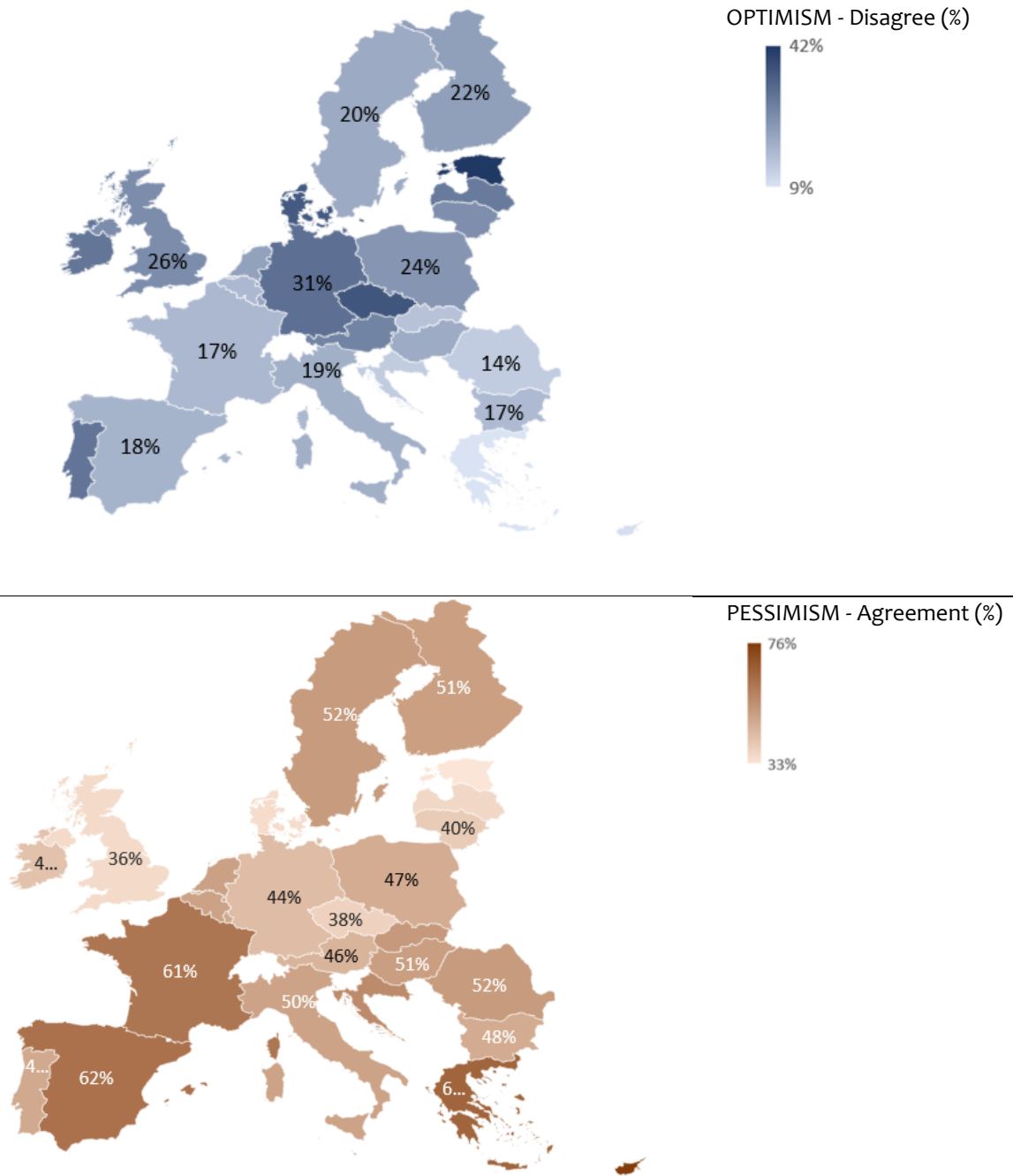
Romania's level of concern is particularly high, as evidenced by its 21% total agreement and 31% tendency to concur. Significant concern is also demonstrated in Hungary and Bulgaria, with each country indicating a 16% total agreement. The prevalence of concern in Romania is further underscored by the relatively low total disagreement of 2%, while a substantial portion of the population is either unsure or ambivalent about the issue.

Romania's perceptions are more consistent with the cautious posture observed in Southern Europe than the more diverse responses observed in other Eastern European countries. This could indicate a general apprehension regarding the effects of technological advancements on human rights and societal values, or it could be indicative of specific national concerns.

Figure 1 illustrates regional specificities of pessimism and optimism regarding the relationship of science and technology with human rights.



Figure 1. Map of optimism about the relationship between technology and human rights in the EU28 countries. Disagree (optimism) and agree (pessimism) with the statement: 'QA10.8. Applications of science and technology can threaten human rights'. Source: author's analysis on EB 95.2 data



The regional specificities of pessimism and optimism regarding the perception that science and technology imperil human rights in the EU28 are revealed through an examination of distinct patterns in various regions of Europe.

In France, for example, there is substantial apprehension regarding the potential threat to human rights posed by science and technology, with 17% of respondents expressing complete agreement and 44% tending to concur. This trend is mirrored in Belgium, with 13% of respondents expressing total agreement and 37% indicating a tendency to concur. Germany's perspective is more nuanced, but it remains predisposed to apprehension, with 12% of respondents expressing complete agreement and 31% indicating a tendency to concur. Although the Netherlands exhibits some skepticism, a substantial proportion of the population tends to disagree.

Southern European nations demonstrate, too, a significant degree of pessimism. Spain is distinguished by its 25% total agreement and 38% tendency to concur. Similarly, Greece exhibits elevated levels of concern, with 21% of respondents expressing complete agreement and 44% indicating a tendency to concur. Portugal, despite being slightly less extreme, still exhibits a high level of concern, with 39% of respondents tending to concur. Possibly as a result of their historical experiences with rapid technological changes and socio-economic factors, these nations tend to view technological advancements with greater suspicion.

The picture of Northern Europe is ambiguous. Denmark and Finland exhibit moderate concern, with Denmark indicating 9% total agreement and 26% tending to concur, and Finland indicating 12% total agreement and 39% tending to agree. Sweden also demonstrates caution, with 11% of respondents expressing absolute agreement and 41% tending to agree. Nevertheless, these nations exhibit relatively higher levels of disagreement, which suggests a more nuanced perspective. This may be attributable to the increased public confidence in technological governance and regulatory frameworks.

Romania exhibits elevated levels of pessimism, with 21% of respondents expressing complete agreement and 31% indicating a tendency to concur. Hungary and Bulgaria also exhibit substantial concern, with each country reporting 16% total agreement. Conversely, countries such as Estonia and the Czech Republic exhibit elevated levels of disagreement, which suggests a greater degree of optimism. For example, 30% of respondents in the Czech Republic and 30% in Estonia are inclined to disagree. This variability may be explained by variations in economic conditions, technological adoption, and public trust in institutions.

Moderate levels of concern are observed in Central European countries, including Slovakia and Austria. Slovakia has 16% total agreement and 36% tending to concur, while Austria has 11% total agreement and 35% tending to agree. These countries exhibit a cautious optimism, which is achieved by balancing concerns with a substantial portion of the population who tend to disagree.

These regional disparities are indicative of the factors that influence perceptions, including historical experiences, public trust in institutions, levels of technological adoption, and local socio-economic conditions. The high levels of pessimism in Southern Europe may be attributed to historical skepticism regarding rapid technological changes

and economic challenges. The equitable perspectives of Northern Europe may be attributed to the region's robust regulatory frameworks and the increased public confidence in its governance. The region's diverse experiences and phases of technological integration are underscored by the variability of Eastern Europe.

### **Perceptions on the influence of ICT on our way of life**

Table 4 delineates the public's perceptions of the influence of information and communication technologies (ICT) on daily life in the EU28 countries over the next two decades. The general sentiment toward ICT in the EU28 is primarily positive.

**Table 4. Attitudes towards digital technologies (impact on lifestyle), EU28 countries. Source: author's analysis on EB 95.2 data**

QA8a.3. Do you think the following areas will have a positive, negative or no effect on the way we live in the next 20 years?... INFORMATION AND COMMUNICATION TECHNOLOGY		A very good effect	A rather good effect	No effect	A rather bad effect	A very bad effect	I don't know	Total
1.00 EN - France	En	14%	53%	5%	17%	5%	6%	100%
2.00 BE - Belgium	Be	27%	57%	2%	12%	2%		100%
3.00 NL - The Netherlands	Nl	36%	52%	1%	10%	1%	1%	100%
4.00 DE - Germany	From	35%	52%	0%	9%	1%	3%	100%
5.00 EN - Italy	It	35%	48%	1%	10%	3%	3%	100%
6.00 LU - Luxembourg	Lu	29%	58%		13%			100%
7.00 DK - Denmark	Dk	24%	60%	3%	9%	1%	3%	100%
8.00 IE - Ireland	Ie	47%	44%	0%	8%	2%		100%
9.00 GB-UKM - United Kingdom	UK	42%	50%	1%	7%	0%		100%
11.00 GR - Greece	Gr	45%	44%	1%	5%	2%	4%	100%
12.00 EN -Spain	It's	46%	37%	1%	8%	3%	5%	100%
13.00 PT - Portugal	En	57%	41%	0%	2%	0%		100%
16.00 FI - Finland	Fi	30%	58%	3%	8%	1%	1%	100%
17.00 SE - Sweden	See	27%	60%	3%	9%	1%	0%	100%
18.00 AT - Austria	At	32%	52%	1%	11%	2%	1%	100%
19.00 CY - Cyprus (Republic)	Cy	60%	32%		4%	2%	2%	100%
20.00 CZ - Czech Republic	Cz	34%	51%	1%	12%	2%		100%
21.00 EE - Estonia	Ee	39%	51%	1%	9%			100%
22.00 HU - Hungary	Hu	34%	46%	1%	12%	4%	3%	100%
23.00 LV - Latvia	Lv	32%	53%	2%	11%	2%		100%
24.00 LT - Lithuania	Lt	41%	47%	2%	8%	2%		100%
25.00 MT - Malta	Mt	63%	33%				4%	100%

26.00 PL - Poland	Pl	29%	50%	1%	12%	3%	4%	100%
27.00 SK - Slovakia	Sk	36%	47%	1%	9%	2%	4%	100%
28.00 SI - Slovenia	Sl	31%	48%	3%	12%	4%	1%	100%
29.00 BG - Bulgaria	Bg	44%	43%	0%	4%	1%	7%	100%
30.00 EN - Romania	Ro	32%	40%	2%	17%	4%	5%	100%
32.00 HR - Croatia	Hr	33%	50%	2%	9%	3%	2%	100%
Total EU28		34%	49%	2%	10%	2%	3%	100%

The majority of respondents in the EU28 believe that ICT will have a beneficial impact, with 34% anticipating a very positive effect and 49% anticipating a rather positive effect. Approximately 2% of the population is of the opinion that ICT will have no impact, while 10% believe it will have a moderately negative impact and 2% believe it will have a very negative impact. Approximately 3% of respondents are doubtful about the impact of ICT.

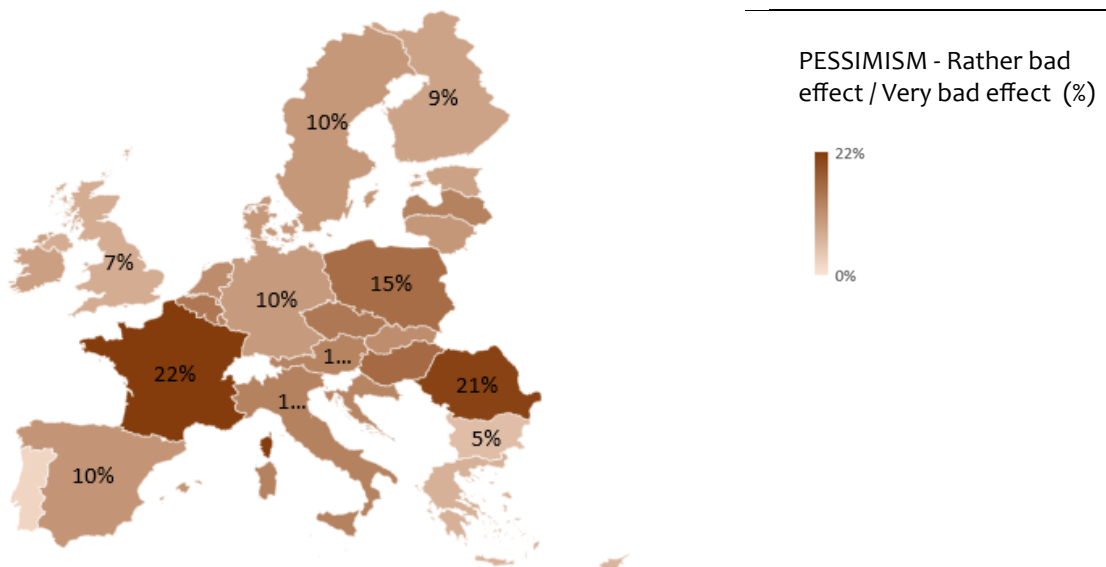
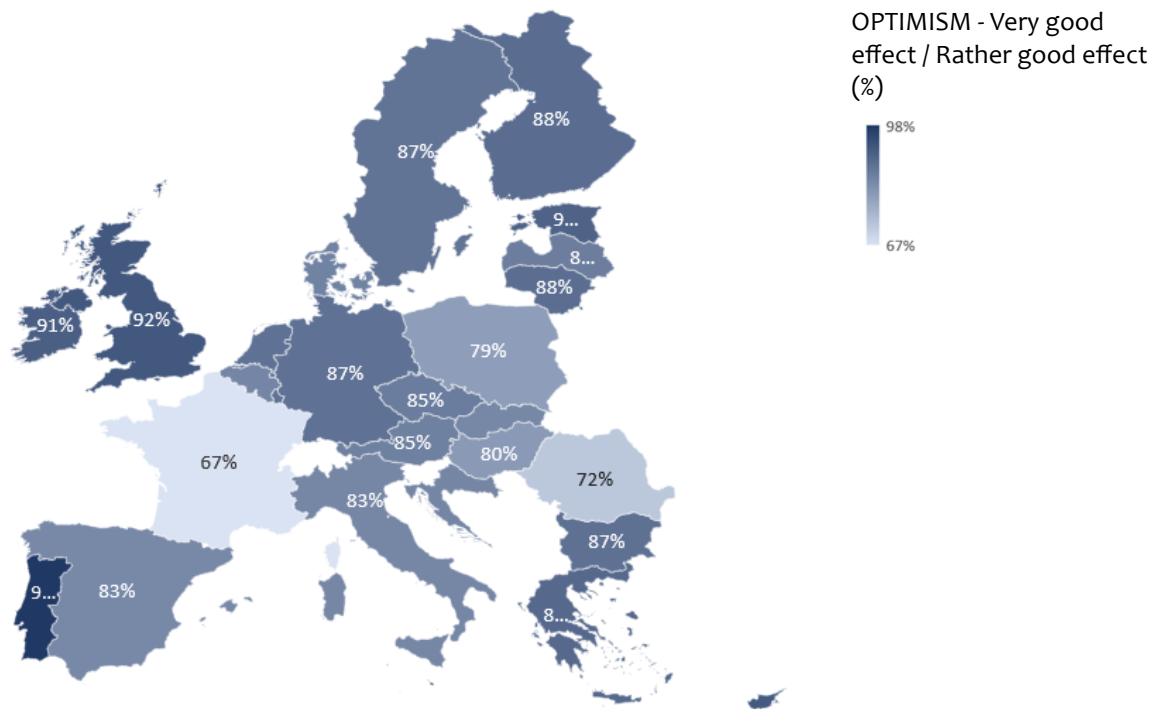
Perceptions vary significantly across countries, with notable outliers. Malta has the most favorable perception of ICT, with 63% of respondents anticipating a very positive impact and 33% anticipating a somewhat positive impact. This results in a combined positive outlook of 96%, which is significantly higher than the EU28 average. Belgium, the Netherlands, and Germany also demonstrate robust positive sentiments. Belgium, for example, has 27% very good and 57% rather good feelings, the Netherlands has 36% very good and 52% rather good sentiments, and Germany has 35% very good and 52% rather good sentiments.

A comparable optimistic outlook is exhibited by southern European countries, such as Spain, Portugal, and Italy. Portugal leads with 57% very good and 41% rather good, while Italy exhibits 35% very good and 48% rather good, Spain has 46% very good and 37% rather good, and Portugal has 57% very good and 41% rather good, all of which suggest a high level of optimism regarding ICT.

Denmark, Finland, and Sweden are among the countries in Northern Europe that maintain a positive outlook. Denmark's rating is 24% very good and 60% rather good, Finland's rating is 30% very good and 58% rather good, and Sweden's rating is 27% very good and 60% rather good. These countries also have reduced percentages of respondents who believe that ICT will have a very negative effect, which is indicative of a generally optimistic outlook.

Opinions are more diverse in Eastern European countries. Romania exhibits a relatively lower positive influence, with 32% rating it as very good and 40% rating it as rather good. However, 17% anticipate that it will have a rather negative impact, and 4% rating it as very negative. Hungary's prognosis is optimistic, with 34% predicting a very positive outcome and 46% predicting a rather positive outcome. However, a substantial 12% anticipate a rather negative outcome.

**Figure 2. Map of optimism about the impact of Information and Communication Technology on our way of life in EU28 countries. Question: 'QA8a.3. Do you think the INFORMATION AND COMMUNICATION TECHNOLOGY will have a positive, negative or no effect on the way we live in the next 20 years?', Answers: Very good effect / Rather good effect (optimism) and Rather bad effect / Very bad effect (pessimism): Source: author's analysis on EB 95.2 data**



Mixed sentiments are demonstrated in Central European countries such as Poland and Austria. 32% of Austrians anticipate a very positive effect, 52% expect a somewhat positive effect, and 11% anticipate a rather negative effect. A rather negative effect is anticipated by 12%, while Poland exhibits 29% very good and 50% rather excellent.

Overall, the EU28’s general sentiment toward the influence of ICT on daily life is primarily favorable, with substantial regional disparities. The potential benefits of ICT are generally viewed with more optimism in Western and Northern Europe, whereas Eastern and Central Europe exhibit a more balanced perspective, which includes some apprehensions about potential negative impacts. The impact of local socio-economic conditions, technological adoption rates, and public trust in ICT developments is underscored by these variations.

**Perceptions on the influence of AI on our way of life**

Table 5 outlines public perceptions in EU28 countries regarding the impact of artificial intelligence (AI) on daily life over the next 20 years. Overall, the sentiment across the EU28 is largely positive toward AI.

**Table 5. Attitudes towards AI (impact of AI on lifestyle), EU28 countries. Source: author’s analysis on EB 95.2 data**

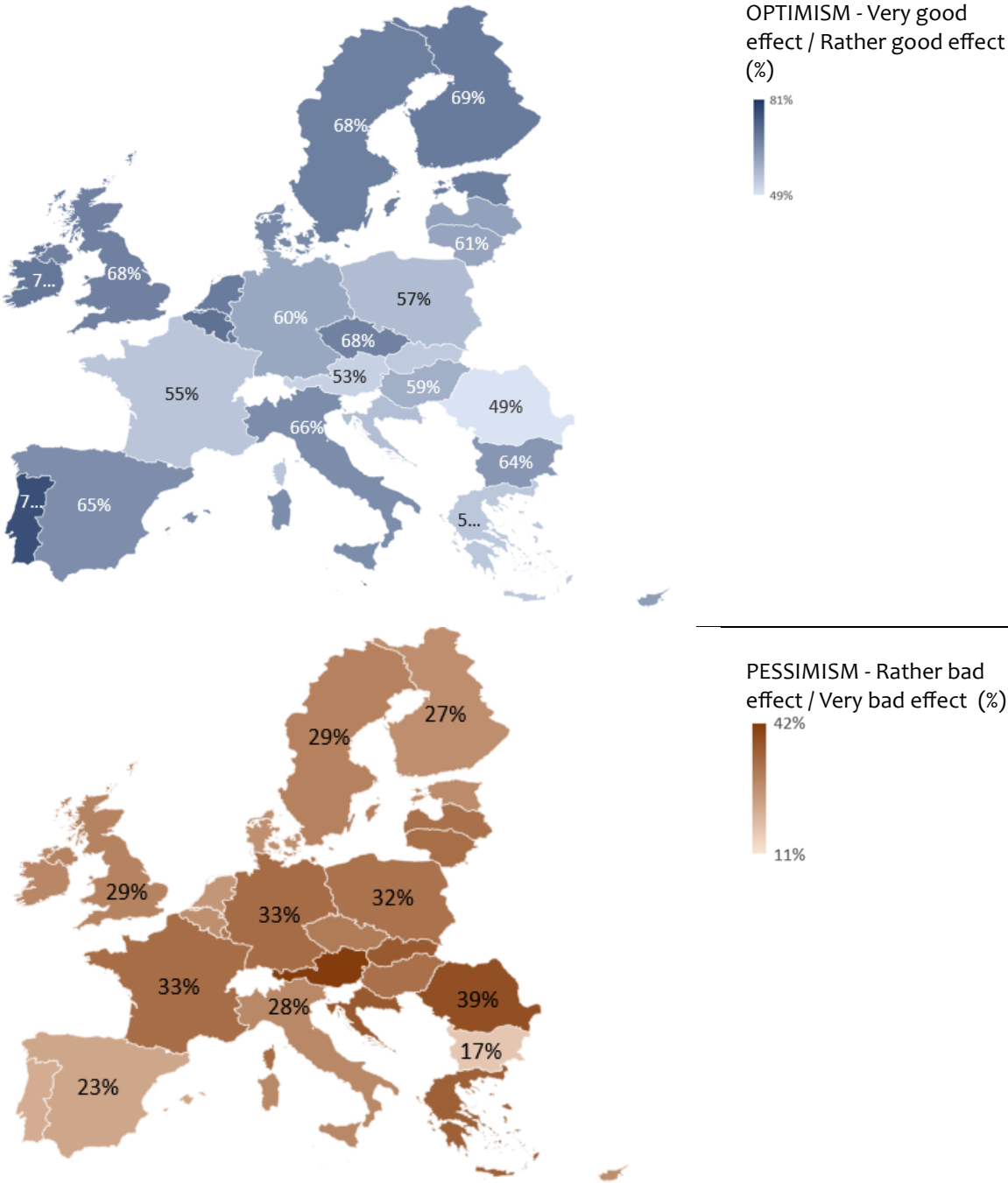
QA8a.10. Do you think the following areas will have a positive, negative or no effect on the way we live in the next 20 years?... ARTIFICIAL INTELLIGENCE	A very good effect	A rather good effect	No effect	A rather bad effect	A very bad effect	I don't know	Total
1.00 EN - France	11%	44%	4%	23%	10%	8%	100%
2.00 BE - Belgium	16%	54%	2%	22%	5%	0%	100%
3.00 NL - The Netherlands	18%	50%	2%	19%	7%	3%	100%
4.00 DE - Germany	13%	47%	1%	26%	7%	5%	100%
5.00 EN - Italy	25%	41%	1%	20%	9%	5%	100%
6.00 LU - Luxembourg	16%	53%		25%	6%		100%
7.00 DK - Denmark	15%	51%	3%	20%	7%	4%	100%
8.00 IE - Ireland	18%	52%	2%	19%	9%		100%
9.00 GB-UKM - United Kingdom	19%	49%	3%	22%	7%		100%
11.00 GR - Greece	19%	36%	2%	24%	11%	8%	100%
12.00 EN -Spain	31%	34%	2%	12%	11%	10%	100%
13.00 PT - Portugal	29%	48%	1%	18%	3%		100%
16.00 FI - Finland	14%	55%	3%	22%	5%	1%	100%
17.00 SE - Sweden	13%	55%	2%	24%	5%	0%	100%
18.00 AT - Austria	13%	39%	1%	29%	13%	4%	100%
19.00 CY - Cyprus (Republic)	25%	38%	2%	13%	15%	8%	100%
20.00 CZ - Czech Republic	16%	52%	2%	27%	4%		100%

21.00 EE - Estonia	16%	52%	4%	23%	4%		100%
22.00 HU - Hungary	23%	37%	2%	24%	9%	6%	100%
23.00 LV - Latvia	15%	47%	6%	25%	8%		100%
24.00 LT - Lithuania	19%	42%	6%	25%	8%		100%
25.00 MT - Malta	41%	41%		7%	4%	7%	100%
26.00 PL - Poland	16%	41%	3%	22%	10%	9%	100%
27.00 SK - Slovakia	16%	38%	3%	21%	16%	7%	100%
28.00 SI - Slovenia	18%	42%	5%	20%	11%	3%	100%
29.00 BG - Bulgaria	22%	42%	2%	12%	4%	18%	100%
30.00 EN - Romania	15%	34%	3%	24%	14%	10%	100%
32.00 HR - Croatia	16%	40%	4%	20%	17%	4%	100%
Total - EU28	18%	44%	2%	22%	9%	5%	100%

The majority of respondents in the EU28 believe that AI will have a beneficial impact, with 18% anticipating a very positive effect and 44% anticipating a rather positive effect. Approximately 2% of individuals are of the opinion that AI will have no impact, while 22% believe it will have a moderately negative impact and 9% believe it will have a very negative impact. Approximately 5% of respondents are apprehensive about the impact of AI.

Malta has the most favourable perception of AI, with 41% of respondents anticipating a very positive impact and another 41% anticipating a somewhat positive impact. This results in a combined positive outlook of 82%, which is significantly higher than the EU28 average. Countries such as France, Germany, and Austria exhibit a more ambiguous perspective. In Germany, 47% of individuals anticipate that AI will have a positive impact, while 26% anticipate that it will have a negative impact. Slovenia and Slovakia exhibit a higher level of negativity, with 11% of respondents in Slovenia believing that AI will have a very negative effect and 16% in Slovakia sharing this view.

**Figure 3. Map of optimism about the impact of Artificial Intelligence on our way of life in EU28 countries. Question: 'QA8a.3. Do you think the ARTIFICIAL INTELLIGENCE will have a positive, negative or no effect on the way we live in the next 20 years?', Answers: Very good effect / Rather good effect (optimism) and Rather bad effect / Very bad effect (pessimism): Source: author's analysis on EB 95.2 data**





Examining Figure 3, we notice significant regional differences. In general, Western European countries, including France and Belgium, have a positive attitude toward AI. In France, 55% of individuals perceive it favorably, while in Belgium, 70% do. The Netherlands and the UK also share this positive sentiment, with 68% of respondents anticipating a positive impact in each country.

Italy, Spain, and Portugal are among the southern European nations that demonstrate a robust sense of optimism. The percentage of individuals who believe in a positive impact is 66% in Italy, while Spain and Portugal exhibit even greater levels of positivity, with 65% and 77% each. Although Greece is generally optimistic, a substantial number of respondents (24%) have expressed apprehensions regarding the adverse effects of AI.

Denmark, Finland, and Sweden are among the Northern European countries that maintain a positive outlook. Denmark's outlook is 66%, Finland's is 69%, and Sweden's is 68%. A generally optimistic outlook is reflected in the lesser percentages of respondents in these countries who believe AI will have a very negative effect.

Opinions are more diverse in Eastern European countries. In Romania, 34% anticipate a favorable outcome, 24% anticipate a moderately adverse outcome, and 14% assert that it will be extremely detrimental. With 60% of respondents anticipating a positive impact, Hungary maintains a positive outlook. However, a substantial 24% anticipate a negative effect.

Mixed sentiments are demonstrated in Central European countries such as Poland and Austria. A rather positive effect is anticipated by 39% of Austrians, while 29% anticipate a rather negative influence. Poland exhibits 41% positive and 22% negative responses.

Consequently, the EU28's general sentiment regarding AI's influence on daily life is primarily favorable, with substantial regional disparities. Eastern and Central Europe generally demonstrate a more balanced perspective on AI's potential benefits, with notable concerns regarding potential negative impacts, whereas Western and Northern Europe generally exhibit more optimism. The impact of local socio-economic conditions, technological adoption rates, and public trust in AI is underscored by these variations.

### ***Perceptions on AI and the future of work***

Table 6 delineates the public perceptions in the EU28 countries with respect to the potential for artificial intelligence (AI) and automation to generate more employment opportunities than they do to eliminate them. In general, the EU28 is characterized by a high level of skepticism, with a substantial number of respondents expressing skepticism regarding the potential of AI and automation to generate net new jobs.

**Table 6. Perception of artificial intelligence and the future of work in EU28 countries. Source: author's analysis on EB 95.2 data**

QA10.6. Artificial intelligence and automation will create more jobs than they eliminate		Totally agree	I tend to agree	Neither agree nor disagree	I tend to disagree	Strongly disagree	I don't know	Total
1.00 EN - France	<b>En</b>	4%	16%	23%	27%	26%	5%	100%
2.00 BE - Belgium	<b>Be</b>	3%	18%	32%	35%	11%	0%	100%
3.00 NL - The Netherlands	<b>Nl</b>	5%	19%	33%	28%	12%	4%	100%
4.00 DE - Germany	<b>From</b>	6%	16%	26%	28%	19%	5%	100%
5.00 EN - Italy	<b>It</b>	11%	33%	30%	15%	7%	4%	100%
6.00 LU - Luxembourg	<b>Lu</b>	6%	15%	36%	30%	12%		100%
7.00 DK - Denmark	<b>Dk</b>	11%	25%	36%	18%	8%	3%	100%
8.00 IE - Ireland	<b>Ie</b>	5%	19%	30%	36%	10%		100%
9.00 GB-UKM - United Kingdom	<b>UK</b>	2%	17%	36%	34%	12%		100%
11.00 GR - Greece	<b>Gr</b>	9%	20%	24%	26%	15%	5%	100%
12.00 EN - Spain	<b>It's</b>	11%	22%	17%	23%	20%	7%	100%
13.00 PT - Portugal	<b>En</b>	4%	19%	17%	45%	15%		100%
16.00 FI - Finland	<b>Fi</b>	5%	20%	34%	30%	11%	0%	100%
17.00 SE - Sweden	<b>See</b>	3%	14%	40%	31%	12%		100%
18.00 AT - Austria	<b>At</b>	8%	19%	26%	23%	19%	4%	100%
19.00 CY - Cyprus (Republic)	<b>Cy</b>	17%	17%	17%	25%	19%	6%	100%
20.00 CZ - Czech Republic	<b>Cz</b>	4%	17%	28%	40%	12%		100%
21.00 EE - Estonia	<b>Ee</b>	6%	19%	27%	39%	10%		100%
22.00 HU - Hungary	<b>Hu</b>	12%	27%	25%	17%	13%	7%	100%
23.00 LV - Latvia	<b>Lv</b>	4%	15%	27%	38%	17%		100%
24.00 LT - Lithuania	<b>Lt</b>	9%	19%	30%	30%	12%		100%
25.00 MT - Malta	<b>Mt</b>	7%	25%	25%	29%	4%	11%	100%
26.00 PL - Poland	<b>Pl</b>	12%	29%	25%	24%	6%	5%	100%
27.00 SK - Slovakia	<b>Sk</b>	8%	23%	25%	27%	13%	4%	100%
28.00 SI - Slovenia	<b>Sl</b>	9%	18%	31%	24%	17%	2%	100%
29.00 BG - Bulgaria	<b>Bg</b>	10%	22%	26%	16%	11%	14%	100%
30.00 EN - Romania	<b>Ro</b>	10%	19%	30%	20%	15%	6%	100%
32.00 HR - Croatia	<b>Hr</b>	5%	20%	27%	24%	21%	2%	100%
<b>Total EU28</b>		<b>7%</b>	<b>21%</b>	<b>27%</b>	<b>26%</b>	<b>15%</b>	<b>4%</b>	<b>100%</b>

On average, only 7% of respondents in the EU28 are in complete agreement that AI and automation will generate additional employment opportunities. An estimated 21% of respondents are inclined to concur, while a significant 27% are neither in agreement nor disagreement. Disagreement is more pronounced, with 26% tending to disagree and 15% completely disagreeing. Only 4% of respondents are uncertain.

For example, Cyprus and Poland exhibit relatively high levels of agreement, with 17% and 12% of respondents respectively expressing complete agreement. Conversely, Portugal and Ireland demonstrate substantial disagreement, with 45% and 36% of respondents tending to disagree, respectively. A more balanced perspective is suggested by the large percentage of neutral responses in Luxembourg and Denmark.

France, Belgium, and Germany are among the Western European countries that primarily disagree with the statement, with a substantial number of respondents either tending to or completely disagreeing. Although the Netherlands maintains a more impartial perspective, it remains inclined toward disagreement.

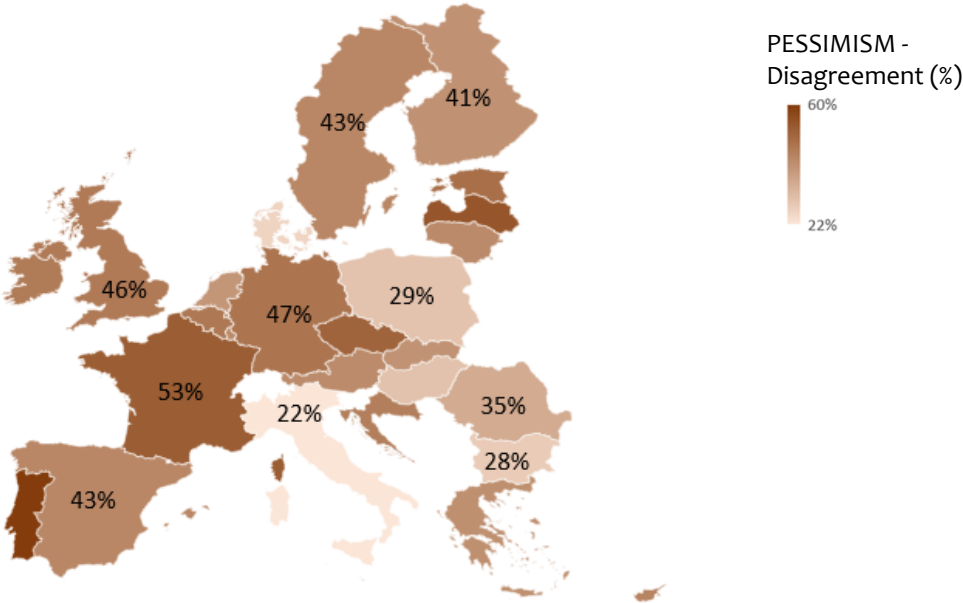
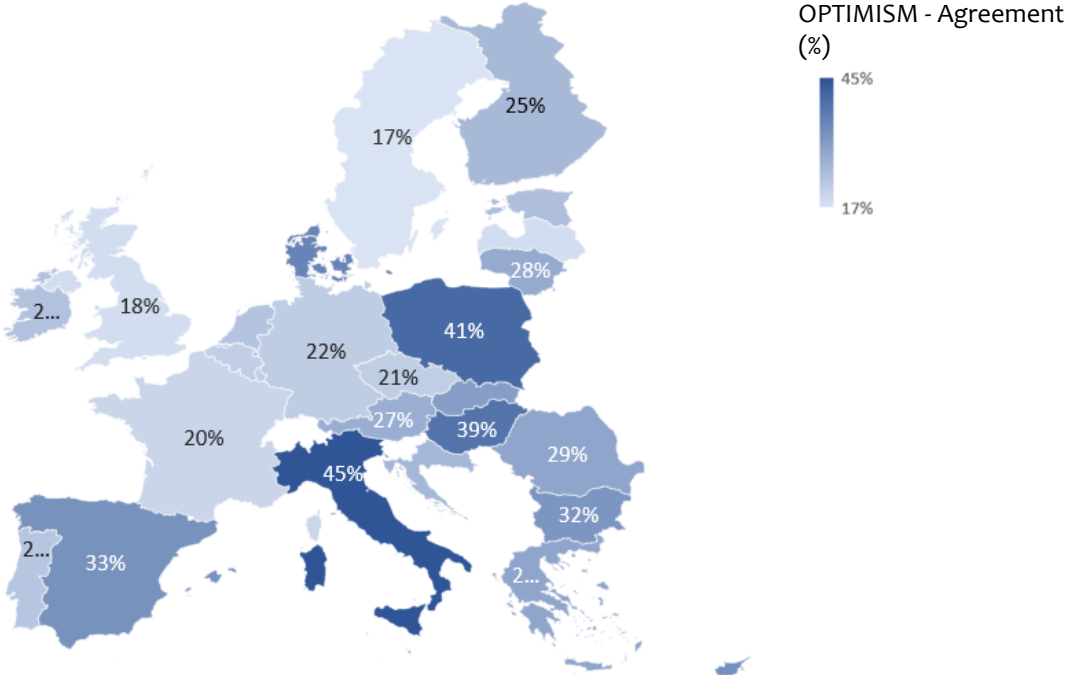
The maps below summarize the distribution of agreement (sum of “strongly agree” and “tend to agree”) and disagreement (sum of “tend to disagree” and “strongly disagree”) responses, respectively. We observe a visible regional specificity. Optimism is more prevalent in southern European countries, such as Italy, where a greater number of respondents concur that AI and automation will generate additional employment opportunities. In contrast, Portugal and Spain demonstrate a more pronounced disagreement, with Portugal more so. In Northern Europe, countries such as Finland and Denmark exhibit a higher level of neutrality, with Denmark and Finland each reporting 36% neutral responses. Sweden also has a substantial proportion of neutral responses, but a substantial number of respondents incline to disagree.

The Eastern European countries, such as Hungary, Poland, and Romania, exhibit a combination of accord and disagreement. Poland has a comparatively high percentage of respondents who tend to agree, whereas Latvia and Estonia exhibit significant skepticism, with high percentages of respondents tending to disagree.

In general, the EU28’s sentiment regarding the beneficial effects of AI and automation on job creation is predominantly skepticism. These perceptions may be influenced by local economic conditions, technological development levels, and public awareness, as indicated by regional variations.

The perceptions of Romania regarding the impact of automation and artificial intelligence (AI) on job creation are distinctive in the broader EU context and among Eastern European countries. Romania exhibits a balanced blend of opinions within the broader EU28 context. In particular, 10% of Romanian respondents are entirely in agreement that AI and automation will generate additional employment opportunities, while 19% are inclined to concur. This sets Romania’s agreement rate at about the same level as the EU28 average, which is 7% for total agreement and 21% for tending to concur. A significant proportion of the population remains skeptical, with 20% tending to disagree and 15% completely disagreeing. Furthermore, 30% of respondents are indifferent or undecided regarding the matter, which indicates a substantial degree of ambiguity or neutrality, though in relatively similar levels to the EU total.

**Figure 4. Map of optimism and pessimism about artificial intelligence and the future of work in EU28 countries. Agreement (optimism) and disagreement (pessimism) with the statement: ‘QA10.6. Artificial intelligence and automation will create more jobs than it will eliminate’. Source: author’s analysis on EB 95.2 data**



Romania's responses exhibit some distinct similarities and distinctions when contrasted with those of other Eastern European countries. As regards higher agreement, Romania, with 29% of respondents (total agreement and tend to concur combined), is more optimistic than several other Eastern European countries, including Latvia (19%) and Estonia (25%). This suggests that Romanians have a relatively higher level of confidence in the prospective job-creating benefits of AI and automation.

As regards neutral and disagreement responses, Romania's neutral response rate (30%) is substantial and comparable to that of Lithuania (30%) and Slovakia (25%). Conversely, Romania's levels of disagreement are moderate, with 20% of respondents expressing a tendency to disagree and 15% expressing a complete disagreement. This is somewhat less skeptical than Latvia (38% inclined to disagree) and Estonia (39% tending to disagree), indicating a more balanced perspective.

In terms of optimism, Romania's perceptions are somewhat consistent with those of Poland and Hungary. Poland exhibits a slightly higher level of optimism than Romania, with 12% of respondents expressing total agreement and 29% inclined to concur. These similarities indicate a regional trend of cautious optimism in these countries, which may be influenced by their similar economic and technological landscapes.

Romania's distinctive profile in the EU and among Eastern European nations is characterized by a distinctive blend of cautious optimism and substantial neutrality. Although a significant portion of the populace is optimistic about the potential of AI and automation to generate employment opportunities, there is still a significant degree of skepticism and uncertainty. Romania's economic conditions, technological advancements, and public discourse regarding the future of AI and work may all contribute to this ambivalent perspective.

## Conclusions

The examination of European public attitudes and perceptions regarding digitalization and artificial intelligence reveals a diverse landscape that is marked by both optimism and apprehension. Romania, despite its general alignment with the broader EU trends, maintains a slightly more cautious stance.

The data suggests that Romanians, like their EU counterparts, acknowledge the prospective advantages of AI and digital technologies. Nevertheless, there is a substantial degree of apprehension regarding the potential effects of these technologies on human rights and job creation. This apprehension is indicative of the more general societal concerns regarding the ethical implications of technological advancements and the future of work.

One of the most significant discoveries is the ambivalent perspective Romanians have on AI. They recognize its potential to enhance daily life and drive innovation, while also harboring concerns about its disruptive impact on individual rights and employment. This dichotomy emphasizes the significance of cultivating a public discourse that is both critical and informed, thereby allowing citizens to navigate the intricacies of digital transformation.

Additionally, the research emphasizes the influence of broad socio-economic factors on public perceptions. At regional level in the EU, more optimistic perspectives regarding artificial intelligence (AI) and digitalization are associated with higher levels of public education and socioeconomic status. This implies that there is a significant potential for public concerns to be alleviated and a more optimistic perspective on technology to be fostered by improving digital literacy and ensuring equitable access to technological resources.

Thus, the research underscores the necessity of EU policies that are cohesive and not only address the common concerns of its citizens, but also take into account the unique apprehensions that are prevalent in countries such as Romania. Transparent, inclusive, and participatory strategies that involve all facets of society are necessary to establish public confidence in technological advancements. By doing so, the EU can guarantee that the digital revolution benefits all of its citizens, thereby cultivating an environment in which technology is utilized as an instrument for societal advancement and empowerment.

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