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Perceptions of digital ethics and AI use on public policy: Greek public sector and tax administration practices

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Abstract

There is no doubt that artificial intelligence (AI) and algorithms will revolutionize healthcare, human resources, policing, education, and other public services. Algorithms are already used in numerous social service contexts. Regardless of the application domain, the power for positive change that AI provides simultaneously holds the potential for negative impacts on society. How does public opinion in Greece deal with the above issues and to what extent does it accept their use to improve transparency, efficiency and good governance in the Public Administration and Tax Administration? This paper analyzes the results of a large nationality sample of 965 individuals who were contacted during a Post Doc Research Project. This research has allowed us to capture a wide range of opinions and explore public perceptions of digital ethics and AI use on public policy. The survey is focused on issues of implementation of new technologies and AI in the Greek Public Administration and Tax Administration. Through its results, it is anticipated to be a vital resource for those in Government, Tax Administration, the wider public sector civil society and academia seeking to understand public attitudes towards data and AI.

JEL classification: O30, K34

Keywords: Public administration, tax administration, digital ethics, AI

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1. Introduction

The modern flurry of developments in the science of new technologies undoubtedly has already set the conditions for the improvement of public and private life, in all levels of human social activity (Dubber, et al., 2020; Stahl, 2021; Steingard, 2023). These developments likewise may cover a considerable range of activities of Public Administration organizations (Tangi et al., 2022) but also of Tax Administration (Collosa 2022; OECD, 2023) internationally, often contributing to radical restructuring of the organizations as well as the quality of the services provided. The new challenges, however, often raise important ethical issues, with main recipient the human factor. In particular, issues such as extended use of data, artificial intelligence (AI), the ever-expanding application of algorithms for decision and policy-making, but also its gradual decline of human participation or supervision in automated (often opaque or discriminatory) procedures raise questions of fairness, accountability and eventually protection of human rights (Pasquale 2017; Andersen 2018; Floridi et al., 2018; Tsamados et al., 2021), critical aspects of the now well-known term "digital ethics".

The capture of public opinion on high impact issues such as bureaucracy and tax evasion is, understandably, particularly critical to planning government policies and making decisions of wider interest. This is because, despite the perennial efforts to combat these phenomena, significant problems continue to exist in the above sectors internationally, similarly causing low returns in areas of transparency and efficiency. The attitude of public opinion on the above points has systematically been studied since 1968, with a significant amount of research on related issues. As the digital transformation of States was significantly activated after COVID, surveys on public perception of AI matters, transparency, efficiency and corruption are showing the first results. Nevertheless, no research to date correlates the assessment of public opinion on matters of artificial intelligence, transparency, efficiency and good governance compared to the way the Public Administration and the Tax Administration operate. In particular, questions regarding the relationship between new technologies and AI arise with the operation of Public Administration and Tax Administration organizations. Can this relationship provide added value when offering public services in general and be an essential tool in planning public policies against corruption and tax evasion? How does Greek public opinion react towards the above matters and how ready is it to accept their use for the improvement of transparency, efficiency and good governance in the Public Administration and the Tax Administration? What aspects of digital ethics can and should be implemented by the above bodies?

This study attempts to answer the above questions by presenting the research results in a large-scale survey conducted for the capture of Greek public opinion, regarding digital ethics issues in the context of digital transformation of the Public Administration as well as of the Tax Administration, examining in particular the possible effects of AI applications in matters of efficiency, transparency and good governance.

2. Literature review

AI research is evolving widely, sometimes causing high expectations for solving complex issues and sometimes a high degree of mistrust and reservations about the actual effectiveness of the phenomenon. Although to date there is no commonly accepted definition of AI (Nilsson, 2009), existing efforts have been criticized for being too anthropocentric (Wang, 2019). Research on AI addresses issues such as governance and the use of AI for the common good (Floridi et al., 2020; Stahl, 2021) sustainable environmental and social development (Truby, 2020), including use as a powerful anti-corruption tool (Wirtz & Moller, 2019; Adam & Fazekas, 2021), for improving accountability and transparency (Sturges, 2004; Bertotet al., 2010; Aarvik, 2019) and tax compliance (Carrero & Ribeiro, 2020; Raikov, 2021).

More specific areas of AI applications in the existing literature (Panagopoulou-Koutnatzi 2023) are currently mentioned: a) face recognition, b) natural language processing, c) the operation of autonomous machines, d) biomedicine, e) the administration of justice, f) the information network g) the fight against tax evasion. In the Greek reality, different research initiatives and participations are worth highlighting (Automating Society Report, 2020): a) in the research project “ROBORDER” (Robots for BORDER) with the aim of monitoring national borders, b) in the research project “TRESSPASS” (“robusT Risk basEd Screening and alert System for PASSengers and luggage”) in order to promote the idea of “risk-based” security checks, offering an analytical framework for risk modeling as well as a systematic risk quantification approach, based on a set of indicators, c) in the "Smart Policing" program for the operation of the Police Authorities and the Prosecution of Crimes, d) in the "IASIS" program for medical care, etc. Applications such as the automatic recognition of vehicle registration plates, automatic passport control machines, etc are already part of our daily life.

2.1. AI & law

Specific rules regarding the regulation of issues that arise in the context of the application of AI do not exist, with the exception of the relevant network of "soft law" initiatives that has been developed by Organizations, by Expert Groups, in view of the forthcoming specific and legally binding acts – within EU framework - such as the relatively recent attempt to delineate AI with the Proposal for a Regulation of the European Parliament and of the Council establishing harmonized rules on artificial intelligence (known as the AI Act). At the international level, there are no legally binding acts, although individual efforts by States attempt to institutionally regulate AI. Although USA, for example, initially approached the new trend through mild approaches, today there is a strong expectation of a special institutional demarcation of the phenomenon. In Great Britain, efforts are focused on the institutional delimitation of AI by establishing a special regulatory framework in favor of innovation. At the level of Organizations, however, the contribution of the OECD with the adoption of (non-binding) Recommendations on AI (2019), of UNESCO with the adoption of

Recommendations on Ethics in AI (2021), while the Council of Europe is already working on development of an international convention on AI issues.

At the same time, the EU-US Trade and Technology Council is working together to develop a joint strategy for dealing with AI issues, as well as a Code of Conduct on AI issues. In the same soft law direction, initiatives such as the Ethical Guidelines for reliable AI High Level Expert Group on AI (2018) as well as the White Paper on AI (European Commission, 2020) must be complemented. In Greece, the provisions of Law 4961/2022 (A΄146) "Emerging information and communication technologies, strengthening of digital governance and other provisions" attempt to establish, among others, the first institutional background for the use of AI by public bodies and private sector. Depending, however, on the nature of the issues that arise today, the law enforcer is called upon to adapt the law on intellectual or industrial property and administrative law (Panagopoulou-Koutnatzi, 2023) to each regulated case (proportionately) the framework governing the legislation for the protection of personal data.

It becomes obvious, therefore, that the recently submitted Proposal for a Regulation of the European Parliament and of the Council laying down harmonized rules on AI (AI Act) constitutes the only systematic attempt, to date, of a specific regulatory delimitation of AI. According to the explanatory statement of the Proposal, the AI Act implements the commitment of the E.U. on a coordinated European approach to the human and ethical implications of AI. Being therefore part of a wider set of measures and a coordinated plan for AI, the purpose of this regulatory proposal is to establish clear requirements and obligations when using AI, occupying the field of action of developers, implementers and users of AI. According to the EU, these actions are a guarantee of the security and fundamental rights of citizens and businesses with regard to AI.

2.2. AI & public administration

AI and related technologies such as robotics, virtual assistants, process automation and machine learning are increasingly linked to the operation of Public Administration. Although the debate on the relationship between AI and public policy begins as early as 1980 (e.g. Hadden, 1986), the first faint examples of the integration of AI into Public Administration can be found from 2000 onwards (Zheng et al., 2018; de Sousa et al., 2019). Drawing on studies in France (Vitalis & Duhaut, 2004) and the Netherlands (Bekkers et al., 2011), Buffat argues that web-based interaction has an enabling effect, reducing information asymmetry between public servants and citizens and providing citizens with powerful action resources . Others argue that new technology can destabilise trust or propagate mistrust between public servants and citizens (Feeney & Welch, 2016). Some observers point to the continuation of practices whereby public servants favour some citizens over others when encounters take place online (Huang et al., 2017).

Today, only 4% of public sector organizations in Western Europe are effectively implementing forms of AI to achieve any significant degree of organizational transformation (Bertrand, 2020), thus

demonstrating the level of difficulty governments face in adopting AI as opposed to the private sector. The above occurs even though a recent study estimates that the introduction of AI in Public Administration is expected to free up almost a third of the time of civil servants, allowing them to focus on high added value tasks (Eggers et al., 2017). Moreover, an even more recent study finds that two-thirds of Public Sector Organizations consider AI as a digital priority (Bertrand, 2020). The implementation, therefore, of public policies becomes easier by exploiting the potential of AI to improve policy planning, strengthen the commitment and participation of citizens in decision-making, the provision of upgraded services and the more efficient operation of the Public Administration in general. Indicatively, typical cases of integration of AI in Public Administration to date are reflected in areas such as: In the field of criminal justice, the police in the United Kingdom use AI to predict where crime will occur (West Midlands Police, 2018) but also facial recognition applications to identify troublemakers at football matches (NEC Corporation, 2016). In this effort, it should be mentioned the significant contribution of OECD after the following publications:

(a) OECD, Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449 (OECD, 2023)

(b) OECD Report: State of the Art in the Use of Emerging Technologies in the Public Sector (OECD, 2019a)

(c) OECD Report: Hello, World: Artificial Intelligence and its Use in the Public Sector (OECD, 2019b)

(d) OECD Report on Building Resilience (OECD, 2021a)

2.3. AI & taxation

Communication, interaction and the facilitation of cooperation with taxpayers, as systematically supported (OECD, 2021 b) constitute a key core for the smooth operation of the Tax Administration, in a climate of practical taxpayer compliance. Modern Tax Administrations, today, implement the above through a series of contact points, such as: face-to-face interactions, phone calls, multi-functional websites, etc. These are "smart" points of contact for taxpayers with the Tax Administration, with the aim of solving daily frictions and malfunctions that may arise, such as, for example, the lack of mutual understanding, dealing with exceptional circumstances that require further cooperation with the Tax Administration or the management of other administrative procedures that may malfunction. A significant number of existing services are being improved today with the use of innovative technologies, such as AI, thus enabling real-time interaction between the Tax Administration and taxpayers. For example, a growing number of Tax Administrations are confirming the use of AI through virtual assistants to facilitate responses to taxpayer queries, with the aim of encouraging a new culture of self-service. In their internal operation, Tax Administrations internationally are practically integrating AI applications to improve the efficiency, accuracy and quality of their work, with an emphasis on dealing with tax evasion.

In particular, tax authorities are particularly interested in machine learning (ML), a subfield of AI, for its ability to decipher layers of seemingly unrelated information. For example, ML can analyze though complex partnership structures and predict which entities are more likely to be non-compliant and pay less tax. Studies also focus on the possibility of using ML to better identify tax MNEs. Specifically, over 75% of Tax Administrations (out of 52 jurisdictions surveyed) report that they are already using AI and ML to exploit data in ways that can uncover previously hidden assets or identify new risks, with the ultimate goal of reducing tax evasion and fraud. Especially for the relationship between AI and taxation, an already relevant OECD report (OECD, 2021 c) internationally finds that, between the years 2018 and 2020, the percentage of Tax Administrations using tools with integrated AI and ML technologies increased by 16%, while similarly the percentage of Tax Administrations intending to do so in the near future increased. In particular, 61% of modern Tax Administrations are changing their digital strategy and in particular investing in the following areas: (a) Increasing use of large and comprehensive data sets. Over 80% of Tax Administrations report that they use data science and analytical tools to manage data from third parties, (including other Tax Administrations), as well as data sourced internally for tax compliance purposes; (b) Increasing use of AI and machine learning. About 75% of Tax Administrations report that they use or are in the process of integrating cutting-edge technologies to exploit data, reducing the need for human intervention. The above creates conditions capable of improving the efficiency of the Tax Administration, freeing up more human and material resources in the future. The most recent OECD Report (2023) finds that Tax administrations have however been making significant progress on artificial intelligence. Around 50% of administrations are using it for risk assessment and also fraud detection. These services are opening up opportunities for innovative approaches, such as filing through completing a questionnaire or helping to automate taxpayer enquiries. This is making chatbots, which have been a feature of previous editions of this series 'smart'.

3. Research

The case of Greece has been chosen for the following reasons:

(i)The digital transformation of the state (Public Administration and Tax Administration) is developing by leaps and bounds from 2020 onwards, making satisfactory progress compared to other countries in recent years (DESI Report, 2022).

(ii)As 52 % of people (aged 16-74) have at least basic digital skills, Greece is very close to the EU average (54 %), while focusing on the 16-24 age group, Greece is among the frontrunners, with 88% of young people having at least basic digital skills, a much higher percentage than the EU average (71%).

(iii)As far as advanced technologies are concerned, although artificial intelligence constitutes key strategic area of action within the Digital Transformation Bible, the country's national strategy is still in the preparation stage. Indicatively, it is reported that although 13% of businesses in Greece use big

data, which is generally in line with the EU average (14%), their performance is nevertheless much lower than the EU average in terms of usage of cloud computing and artificial intelligence (AI).
(iv)According to the data released by the European Commission, the member states managed to combat tax evasion by reducing the "VAT Gap" in 2021 to 60.6 billion euros (5.3%) from 99.3 billion euros (9.6%) in 2020. In Greece the corresponding percentage decreased to 17.8% or 3.23 billion euros from 21% or 3.4 billion euros in 2020 (Poniatowski et al., 2023).
(v) Citizens' levels of trust towards the state occupy particularly low percentages, compared to other countries (World Employment and Social Outlook Trends, 2022).

4. Results

The analysis of the quantitative data is carried out through the statistical process. After collecting the questionnaires from GoogleForms, they were exported to an Excel file containing all the variables with their responses and timestamp as a single user identifier (ID). Then, the file was imported in statistical data processing software IBM SPSS v. 27.0 (Statistical Package for the Social Sciences) for statistical processing and analysis of the data. Microsoft Office Excel software was also used in order to illustrate the results with tables, diagrams and figures. In particular, with regard to the population sample, the following are mentioned:

4.1. Demographics

Regarding the demographic data of the participants, it is found that out of the 965 survey participants 350 are men (36.4%), 613 are women (63.4%) and 2 belong to the category "An identity that is not mentioned" (0.2%). In the survey, the majority of participants belong to the "41-50" age group (44.7%), 13.3% belong to the "18-30" age group, 16.4% belong to the "31-40" age group, 23.5% belong to the age group "51-65" and 2.2% belong to the age group "65+". Regarding their marital status, 305 (31.6%) belong to the "Single" category, 562 (58.2%) belong to the category "Married", 85 (8.8%) belong to the "Divorced" category and 13 (1.3%) belong to the "I don't want to answer" category. Regarding the education level of the participants, 259 (26.8%) belong to the "High School Graduate" category, 316 (32.7%) belong to the "University/TEI Graduate" category, 339 (35.1%) belong to the "Master's degree holder" category and 51 (5.3%) belong to "Doctoral title holder" category. Of the survey participants, 525 (54.4%) belong to the "Public Employee" category, 214 (22.2%) belong to the category "Private employee", 106 (11.0%) belong to the "Self-employed" category, 92 (9.5%) belong to the "Unemployed" category and 28 (2.9%) belong to the "Retired" category. Finally, 681 (70.6%) are not Tax Administration personnel, while 284 (29.4%) are.

4.1.1. Digital maturity of participants

In Table 1, the digital maturity of the participants is captured. In particular although they answered information seeking as their most common activity while using the Internet in percentage (65.3%), it is interesting that transaction with the Public Administration, Banks, etc. follows as their second

predominant activity in percentage (43.7%). Next is social media navigation (33.8%) and buying products (18.5%).

Table 1: Digital maturity of participants

Information seeking	Not at all	2	0,2%
	A little	18	1,9%
	Moderate	52	5,4%
	A lot	263	27,3%
	Very much	630	65,3%
Navigation in social media	Not at all	63	6,5%
	A little	114	11,8%
	Moderate	220	22,8%
	A lot	242	25,1%
	Very much	326	33,8%
Buying products	Not at all	58	6,0%
	A little	184	19,1%
	Moderate	283	29,3%
	A lot	261	27,0%
	Very much	179	18,5%
e Transactions with Public Administration, Banks etc	Not at all	23	2,4%
	A little	60	6,2%
	Moderate	154	16,0%
	A lot	306	31,7%
	Very much	422	43,7%

4.1.2. Degree of trust in the ethical operation of institutions

Trust in institutions regarding their ethical functioning is differentiated judging by the answers given by the participants, without however generally reflecting high levels of confidence. Specifically, 48.3% of respondents have "moderate" trust in the institution of Public Administration. Likewise 43.9% "moderately" trusts the institution of Tax Administration. As well trust in private and public sector businesses fluctuates in moderate percentages as confidence rates correspond to 49.2%, 49.6% respectively. Finally, regarding the institution of the media, the majority of participants in percentage 43.7% answered "Not at all".

Table 2: Trust in the ethical operation of institutions

Public Administration	Not at all	59	6,1%
	A little	163	16,9%
	Moderate	466	48,3%
	A lot	227	23,5%
	Very much	50	5,2%
Tax Administration	Not at all	45	4,7%
	A little	159	16,5%
	Moderate	424	43,9%
	A lot	259	26,8%
	Very much	78	8,1%
Private Organizations	Not at all	71	7,4%
	A little	242	25,1%
	Moderate	475	49,2%
	A lot	153	15,9%
	Very much	24	2,5%
Public Organizations	Not at all	62	6,4%
	A little	236	24,5%
	Moderate	479	49,6%
	A lot	161	16,7%
	Very much	27	2,8%
Media	Not at all	422	43,7%
	A little	319	33,1%
	Moderate	192	19,9%
	A lot	24	2,5%
	Very much	8	0,8%

4.1.3 Trust in the use of e services in public administration

According to Table 3 in the question "I trust the use of e Services in my transactions with the Public Administration", the established trust of participants in the use of electronic services in Public Administration is now evident. This is because a percentage of 43.8% answered "a lot", a percentage of 30.6% "very much", followed by a percentage of 20, 3% "Moderate", 4.4% "A little" and 0.9% "Not at all".

Table 3: Trust in e services of public administration

I trust the use of electronic services in my transactions with the Public Administration	Not at all	9	0,9%
	A little	42	4,4%
	Moderate	196	20,3%
	A lot	423	43,8%
	Very much	295	30,6%

4.1.4 Data provision and e transactions

According to Table 4, in the question "During my online transactions with Public Administration, I am willing: 251i.e. 26.0% answered (in collecting data, with the aim of better provision of public services in the future), 237 i.e. 24.6% answered (in collecting my personal data for the sole purpose of facilitating me in the future) and 477 i.e. 49.4% answered (in the collection of anonymous data, in order to provide better public services in the future). The above shows the majority mood of the participants in the collection of anonymous data for the purpose of better public services in the future, although the percentage of those who consent to the provision of personal data with the aim of better public services in the future, is also important against those who consent to the provision of personal data for the sole purpose of facilitating them in the future.

Table 4: Data & e transactions

During my online transactions with Public Administration, I am willing	in collecting data, with the aim of better provision of public services in the future	251	26,0%
	in collecting my personal data for the sole purpose of facilitating me in the future	237	24,6%
	in the collection of anonymous data, in order to provide better public services in the future	477	49,4%

4.1. 5. Use of data by the public administration

Looking at Table 5 in the question: “When Public Organizations collect my data, I am informed about how it is going to be used" 666, i.e. 69.0%, answered that they agree and 299, i.e. 31.0%, answered that they disagree. In the question "When Public Organizations keep my data, they are safe" 445, i.e. 46.1%, answered that they agree and 520, i.e. 53.9%, answered that they disagree. Additionally, in the question “I maintain control as to who collects my data and how it is processed" 486, i.e. 50.4%, answered that they agree and 479, i.e. 49.6%, answered that they disagree.

Furthermore, in the question “When malicious use of my data is detected in Public Organizations, there is accountability” 429, i.e. 44.5%, answered that they agree and 536, i.e. 55.5%, answered that they disagree. Finally, in the question "When malicious use of my data is found in entities other than the State, there is accountability" 359, i.e. 37.2%, answered that they agree and 606, that is 62.8%, answered that they disagree.

Table 5: Use of data by public administration

When Public Organizations collect my data, I am informed about how it is going to be used	Agree	666	69,0%
	Disagree	299	31,0%
When Public Organizations keep my data, they are safe	Agree	445	46,1%
	Disagree	520	53,9%
I maintain control as to who collects my data and how it is processed	Agree	486	50,4%
	Disagree	479	49,6%
When malicious use of my data is detected in Public Organizations, there is accountability	Agree	429	44,5%
	Disagree	536	55,5%
When malicious use of my data is found in entities other than the State, there is accountability	Agree	359	37,2%
	Disagree	606	62,8%

4.1.6. Meaning and content of AI in public opinion

Table 6 shows that the participants are extremely familiar with the concept of AI as in the question "Are you familiar with the term artificial intelligence?" 52.7% answered (Yes, but I have doubts about the content), 45.7% answered (Yes, and I can explain the content well), and only 1.6% answered (No).

Table 6: AI in public opinion

Are you familiar with the term artificial intelligence	Yes, and I can explain the content well	441	45,7%
	Yes, but I have doubts about the content	509	52,7%
	No	15	1,6%

4.1.7. Possibilities of contribution of AI to public administration

In the question "If the use of artificial intelligence by the Public Administration, can contribute to a) Health & medical care, b) Climate change, c) Finding jobs, d) Providing services to citizens, e) Taxation, f) Corruption, g) Road traffic and transport", participants stated that AI can contribute "Very Much" foremost to issues of providing services to citizens as well as road traffic and transport issues (24.4%) while it is also necessary to point out the high expectation of the participants in the contribution of artificial intelligence to corruption issues (21.6%). The participants also assess the potential contribution of artificial intelligence as important in taxation (19.3%), health and medical care (19.2), finding jobs (18.5%) and climate change (14.6%). More specific details are shown in Table 7.

Table 7: Areas of AI integration in public administration

Healthcare	Not at all	45	4,7%
	A little	115	11,9%
	Moderate	224	23,2%
	A lot	396	41,0%
	Very much	185	19,2%
Climate Change	Not at all	51	5,3%
	A little	137	14,2%
	Moderate	274	28,4%
	A lot	362	37,5%
	Very much	141	14,6%
Job Finding	Not at all	49	5,1%
	A little	100	10,4%
	Moderate	249	25,8%
	A lot	388	40,2%
	Very much	179	18,5%
Citizen services	Not at all	32	3,3%
	A little	86	8,9%
	Moderate	201	20,8%
	A lot	411	42,6%
	Very much	235	24,4%
Taxation	Not at all	45	4,7%
	A little	104	10,8%
	Moderate	251	26,0%
	A lot	379	39,3%

	Very much	186	19,3%
Corruption	Not at all	69	7,2%
	A little	140	14,5%
	Moderate	256	26,5%
	A lot	292	30,3%
	Very much	208	21,6%
Road traffic and Transport	Not at all	35	3,6%
	A little	92	9,5%
	Moderate	214	22,2%
	A lot	389	40,3%
	Very much	235	24,4%

4.1. 8 Challenges when integrating AI in public administration

According to Table 8, in the question “Which of the following issues are you concerned with when integrating artificial intelligence into the operation of Public Administration" participants’ answer, in major percentage, is with issues related to ensuring privacy and confidentiality (32.4%), maintaining jobs (30.8%) and ensuring human dignity (28.5%). Next are matters related to the ability to manage artificial intelligence by administrative staff (21.8%), bias and discrimination (20.5%), lack of transparency in decision-making (20.1%) and finally the accuracy of results and analyses (16.9%).

Table 8: Future challenges for AI implementation in public administration

Transparency in decision making	Not at all	61	6,3%
	A little	149	15,4%
	Moderate	240	24,9%
	A lot	321	33,3%
	Very much	194	20,1%
Accuracy of results	Not at all	74	7,7%
	A little	152	15,8%
	Moderate	247	25,6%
	A lot	329	34,1%
	Very much	163	16,9%
Ai applications & capacity of public servants	Not at all	32	3,3%
	A little	92	9,5%
	Moderate	253	26,2%

	A lot	378	39,2%
	Very much	210	21,8%
Bias	Not at all	71	7,4%
	A little	134	13,9%
	Moderate	269	27,9%
	A lot	293	30,4%
	Very much	198	20,5%
Human dignity	Not at all	50	5,2%
	A little	110	11,4%
	Moderate	237	24,6%
	A lot	293	30,4%
	Very much	275	28,5%
Privacy & Confidentiality	Not at all	50	5,2%
	A little	89	9,2%
	Moderate	209	21,7%
	A lot	304	31,5%
	Very much	313	32,4%
Maintaining jobs	Not at all	58	6,0%
	A little	98	10,2%
	Moderate	244	25,3%
	A lot	268	27,8%
	Very much	297	30,8%

4.1.9 Decision-making in public administration in the future

According to Table 9, we notice that in the question "In the future, during the operation of Public Administration, I can trust decision-making:" 111, i.e. 11.5%, answered (by a computer) 778, i.e. 80.6%, answered (by a computer but over human control) and 76, i.e. 7.9%, answered (by human factor - exclusively).

Table 9: Future decision-making in public administration

In the future, during the operation of Public Administration, I can trust decision-making	By computer (automated decision making)	111	11,5%
	By computer but over a human control	778	80,6%
	By human (exclusively)	76	7,9%

4. 1.10 Confidence in the e services of the tax administration

According to Table 10, we note the confidence of the participants in the use of electronic services of Tax Administration. Specifically in the question: "I trust the use of electronic services in the Tax Administration", 42.4% answered "A lot" and 26.3% answered "Very much". Only 1.5% answered "Not at all", 3.7% answered "A little" and 26.1% answered "Moderately".

Table 10: Trust in e services of tax administration

I trust the use of electronic services in the Tax Administration	Not at all	14	1,5%
	A little	36	3,7%
	Moderate	252	26,1%
	A lot	409	42,4%
	Very much	254	26,3%

4. 1.11 Degree of public satisfaction with the use of tax administration electronic services

In the question: “Which of the following responds best when electronic services of the Tax Administration are used?" 114, i.e. 11.8%, answered 'My needs are not usually met and physical access is required, 735, i.e. 76.2%, answered 'Most of my needs are satisfied' and 116, i.e. 12.0%, answered that 'All my needs are met' (see Table 11).

Table 11: Public satisfaction in tax administration e services

Which of the following responds best when electronic services of the Tax Administration are used?	My needs are not usually met and physical access is required	114	11,8%
	Most of my needs are satisfied	735	76,2%
	All my needs are met	116	12,0%

4. 1.12. Opinions when using e services of tax administration

Table 12 shows the opinions of the participants during the use of Tax Administration electronic services. In general, the impression of public opinion when using the Tax Administration electronic services is positive, since it characterizes the electronic environment as citizen-friendly (68.8%), the language is simple and understandable (73%), no more than the necessary information is required (71.9%), the benefits of electronic services for users are understood to a significant extent (89.9%), it is considered that personal details are not processed for another purpose (59.8%) and finally, it concludes that personal data are kept secure (59.5%).

Table 12: Public opinion when using e services of tax administration

Language is simple and understandable	Agree	704	73,0%
	Disagree	261	27,0%
Personal details are not processed for another purpose	Agree	574	59,5%
	Disagree	391	40,5%
Personal details are not processed for another purpose	Agree	577	59,8%
	Disagree	388	40,2%
Benefits of e services are understood	Agree	868	89,9%
	Disagree	97	10,1%
No more than the necessary information is required	Agree	694	71,9%
	Disagree	271	28,1%
Electronic environment taxpayer-friendly	Agree	664	68,8%
	Disagree	301	31,2%

4. 1.13 Risks when using data

Table 13 shows the views of the participants regarding the risks arising when the Tax Administration uses citizens' data. In particular, the participants describe the possibility of exclusion of citizens due to lack of access to electronic services as their most important concern (78.4%), as well as the possibility of making automated and without human involvement critical decisions in the future (74.7%). The participants also express some reservations regarding the Tax Administration's ability to ensure privacy, as a significant percentage (71.3%) considers that data can be transmitted to other Organizations or not kept securely and may leak maliciously (63.4%).

Table 13: Risks & data in tax administration

Information Leaks	Agree	612	63,4%
	Disagree	353	36,6%
Data transmission to third parties	Agree	688	71,3%
	Disagree	277	28,7%
Making automated and without human involvement critical decisions in the future	Agree	721	74,7%
	Disagree	244	25,3%
Exclusion of citizens due to lack of access to electronic services	Agree	757	78,4%
	Disagree	208	21,6%

4. 1.14 Digital ethics & AI integration in tax administration

According to Table 14, in the question of whether the introduction of artificial intelligence in the Tax Administration operation should be governed by principles, the participants answer that security (76%), as well as protection of human rights (75%), should be prioritized during the integration of AI in Tax Administration. Next come principles such as fairness and avoidance of discrimination (71.7%), efficiency (70.2%), transparency and explainability (68.1%), accountability (66.5%) and finally the possibility of human control in the new applications (58.8%).

Table 14: Future challenges for AI implementation in tax administration

Transparency & Explainability	Not at all	7	0,7%
	A little	24	2,5%
	Moderate	41	4,2%
	A lot	236	24,5%
	Very much	657	68,1%
Security	Not at all	11	1,1%
	A little	20	2,1%
	Moderate	33	3,4%
	A lot	168	17,4%
	Very much	733	76,0%
Accountability	Not at all	13	1,3%
	A little	21	2,2%
	Moderate	49	5,1%
	A lot	240	24,9%
	Very much	642	66,5%
Fairness & Non Discrimination	Not at all	11	1,1%
	A little	24	2,5%

	Moderate	44	4,6%
	A lot	194	20,1%
	Very much	692	71,7%
Human Control over AI applications	Not at all	11	1,1%
	A little	31	3,2%
	Moderate	90	9,3%
	A lot	266	27,6%
	Very much	567	58,8%
Efficiency	Not at all	9	0,9%
	A little	18	1,9%
	Moderate	45	4,7%
	A lot	216	22,4%
	Very much	677	70,2%
Human Rigths Protection	Not at all	10	1,0%
	A lttle	23	2,4%
	Moderate	39	4,0%
	A lot	169	17,5%
	Very much	724	75,0%

4.1.15. Areas of AI integration in tax administration

Looking at Table 15, in the question "I would prefer the integration of artificial intelligence in the Tax Administration", 107, i.e. 11.1%, answered (for simple information), 274, i.e. 28.4 %, answered (for simple usual instructions of tax interest), 212, i.e. 22.0%, answered (when submitting tax returns), 321, i.e. 33.3%, answered (when processing complex tax issues) and 51, i.e. 5.3%, answered (I do not want AI integration in the future).

Table 15: Areas of AI Integration in tax administration

I would prefer the integration of artificial intelligence in the Tax Administration	For simple information	107	11,1%
	For simple usual instructions of tax interest	274	28,4%
	For submitting my tax returns	212	22,0%
	When processing complex tax issues	321	33,3%
	For no reason	51	5,3%

5. Results

5.1. Digital maturity of participants in transactions with the government

the digital maturity of the survey participants is particularly high in areas such as transactions with the Public Administration, Tax Administration and other areas of daily transaction, demonstrating the high degree of trust in electronic transactions and with agencies of the State and the availability now of the participants in the expansion of electronic transactions in all the actions of the Greek public administration (see Table 1). This is also confirmed by the degree of trust in the use of electronic services of the Public Administration (see Table 3) and the Tax Administration (see Table 4).

5.2. Moderate degree of trust in the ethical functioning of the institutions

Citizens' trust in the ethical functioning of the institutions is reflected with great differences, without, however, reflecting high percentages of trust of the participants in their functioning. A comparative overview of the results) shows that the Tax Administration enjoys the greatest trust of the participants, not only in relation to other State bodies but also in relation to other third parties as representatives of the institutions (Public Enterprises, Private Enterprises, media) -(see Table 2).

5.3. Data for the common good

The expanded use of digital services in Greek everyday life demonstrates the availability and maturity of citizens to use data for various purposes. This includes the use of anonymous as well as personal data in order to better provide public services in the future.

5.4. Uncertainty in the use of data by the public administration

network of questions regarding the trust of the participants in the public administration when using data from it, demonstrates a high degree of uncertainty of the participants. This results from high rates of disagreement on questions such as a) the application of accountability rules when malicious use of data is found in the State, b) data security when Public Organizations retain the data, and c) data control as to who collects the data and how they are processed. Despite this, the participants state that when the Public Organizations collect the data, they are informed about the way it is going to be used. Finally, it must be pointed out that the belief in the non-application of accountability rules is strong even in cases where malicious use of data is found in other bodies other than the State (see Table 5).

5.5. Familiarity with AI topics

The vast majority of respondents regarding the concept and content of AI respond positively stating that the concept of AI is known and the participants are able to explain the content well. The majority of respondents declare knowledge about the content of the concept but at the same time have doubts (see Table 6).

5.6. Strong expectation of AI application in areas of citizen services, taxation and anti-corruption.

The participants strongly believe that AI can be applied and therefore contribute primarily to matters of providing services to citizens in the operation of the Public Administration (as well as in matters of road traffic & transport), in the operation of the Tax Administration and also in matters of corruption (see Table 7).

5.7. Strong challenges and risks of digital ethics in the application of AI especially in matters of privacy / confidentiality, maintaining jobs and respecting human dignity

Participants may respond positively to the application of AI in important areas of human activity, however significant reservations remain regarding its ethical and ethical application. In particular, concerns regarding the possibility of ensuring privacy and confidentiality, the preservation of jobs and respect for human dignity in general are expressed as more important reservations. The risk of lack of transparency during decision-making, the accuracy of results, bias and discrimination, but also the possibility of (proper) management of AI by administrative staff are some of the challenges that the participants assess as particularly important when integrating IT into Public Administration (see Table 8).

5.8. Trust in automated decision-making in the public administration, but after human review

The strong acceptance of the application of AI in areas of operation of the Public Administration, as analyzed above, is combined with the strong acceptance and trust of the participants in automated decision-making after human control. However, the strengthened opinion of the participants that in the future, during the operation of the Public Administration, they can trust decision-making exclusively by a computer is also interesting (see Table 9).

5.9. Greater trust in the use of electronic services of the public administration in general compared to trust in the use of electronic services of the tax administration

However, more of the taxpayers' needs are met through the use of the Tax Administration's electronic services. The comparative overview of Tables 3 and 9 leads to the conclusion that the participants express a high percentage of acceptance and trust in the electronic services of the Public Administration as well as the Tax Administration, however expressing a higher preference for the electronic services of the Public Administration in general. This is combined with the participants' statements that the majority of taxpayers' needs (and not all) are met to date through the use of the Tax Administration's electronic services (see Table 11).

5.10. Public opinion is positive regarding the quality of the Tax Administration's electronic services

A network of questions regarding the participants' satisfaction with the use of the electronic services of the Tax Administration demonstrates the positive opinion and therefore the satisfaction of public opinion with the quality of the services provided. In particular, he answers that the electronic environment is citizen-friendly, the language is simple and understandable, no more information is requested than is necessary for the fulfillment of tax obligations, confidence is expressed that personal information is kept securely and is not processed for other purpose and in the end the benefits of electronic services to each individual taxpayer-user are understandable (see Table 12).

5.11. Challenges and risks when using data by the Tax Administration

The participants accept that critical decisions in the future may be taken, within the framework of the operation of the Tax Administration, automatically and without human participation. However, they express their strong concern regarding the possibility of excluding citizens due to not having access to electronic services, the risk of data transmission to other Organizations (except the Tax Administration), while they consider that the data is not kept securely and can be maliciously leaked (see Table 13).

5.12. Data security, protection of human rights, fairness and non-discrimination, transparency and explainability: guiding principles for the development of digital ethics rules in the integration of AI in the tax administration

The digital maturity of the participants as well as the acceptance of the potential contribution of AI to the functioning of the Tax Administration does not imply the unconditional acceptance of the integration of AI into the Tax Administration. Even taking into account what was previously developed (see 5.11), the participants highlight the need to adopt rules of digital ethics such as data security, the observance of rules of transparency and explainability (e.g. when applying algorithms), the protection of human rights, the avoidance of discrimination and the application impartial criteria, efficiency, accountability and finally the possibility of human control in the applications (see Table 14).

5.13. Application of AI when processing complex tax issues as well as for common simple instructions of tax interest

The expectation of integrating AI into the operation of the Tax Administration is, as developed, strong. This is also confirmed by the results of the preference for the integration of AI in individual areas such as priority, in the processing of complex taxation issues as well as for usual simple instructions of tax interest. The contribution of AI is also expected in other popular fields of action of the Tax Administration, such as the submission of tax returns (see Table 15).

6. Conclusions

(i)Both public and tax administration must serve the public interest and, at the same time, respect citizens' / taxpayers' rights

Under the light of social participation and human rights protection, public policy options -concerning Public Administration and Tax Administration - about selecting strategies and making choices for the AI strategy implementation in the near future is a matter of high importance for Greece. As the European Commission points out, due to the growth of computing capacity, the availability of data and the advances in algorithms, we are facing one of the most strategic technologies of the 21st century (European Commission (2018), Communication of 7 December 2018, Coordinated Plan on artificial intelligence, Brussel).

According to the explanatory Memorandum of the AI ACT Proposal (COM 2021, 206 FINAL), "the use of AI with its specific characteristics (e.g. opacity, complexity, dependency on data, autonomous behaviour) can adversely affect a number of fundamental rights enshrined in the EU Charter of Fundamental Rights ('the Charter'). This proposal seeks to ensure a high level of protection for those fundamental rights and aims to address various sources of risks through a clearly defined risk-based approach. With a set of requirements for trustworthy AI and proportionate obligations on all value chain participants, the proposal will enhance and promote the protection of the rights protected by the Charter: the right to human dignity (Article 1), respect for private life and protection of personal data (Articles 7 and 8), non-discrimination (Article 21) and equality between women and men (Article 23). It aims to prevent a chilling effect on the rights to freedom of expression (Article 11) and freedom of assembly (Article 12), to ensure protection of the right to an effective remedy and to a fair trial, the rights of defense and the presumption of innocence (Articles 47 and 48), as well as the general principle of good administration. Furthermore, as applicable in certain domains, the proposal will positively affect the rights of a number of special groups, such as the workers' rights to fair and just working conditions (Article 31), a high level of consumer protection (Article 28), the rights of the child (Article 24) and the integration of persons with disabilities (Article 26). The right to a high level of environmental protection and the improvement of the quality of the environment (Article 37) is also relevant, including in relation to the health and safety of people. The obligations for ex ante testing, risk management and human oversight will also facilitate the respect of other fundamental rights by minimising the risk of erroneous or biased AI-assisted decisions in critical areas such as education and training, employment, important services, law enforcement and the judiciary. In case infringements of fundamental rights still happen, effective redress for affected persons will be made possible by ensuring transparency and traceability of the AI systems coupled with strong ex post controls".

(ii) Virtual public servants or human public servants: a matter of great sensitivity

As Jeffares (2021) argues there are four essential public service problems that AI is offered to overcome: a problem of control (e.g. ensuring compliance with rules), a problem of cost (e.g. how to

meet demand with reduced funds), a problem of convenience (e.g. how to meet growing customer expectations), a problem of connection (e.g. how to maintain trust and mutual empathy). One could find numerous examples in the field of taxation: Is it possible that, in the future, all taxpayers´ doubts regarding taxes are resolved by virtual assistants? Will we see a world in which taxpayers do not have to file tax returns, which will be made by intelligent machines? Will a verification procedure be sorted out without the intervention of officials?

As Jeffares also notes, the above examples, however, also evoke ideas of the public encounter (Stout & Love, 2017) where citizens communicate with public servants to transact matters of public interest, has an uncertain future. Face-to-face public encounters are problematical as bureaucratic, corruptible. Face-to-face public service encounters enable frontline public servants to balance community values (Bartels 2013). For Bartels "public encounters … enhance public service delivery by nurturing stable relationships and constructive communication" (2013: 473). He argues, with others, that public encounters facilitate authentic participation and facilitate trust and personal connection and counter alienation. Consideration of implications for the public encounter prompts Buffet to ask the question: What happens "to the administrative relationship when such a human interaction is being replaced by a virtual one?"

(iii) A robust and universally harmonized legislative framework is needed

Calls for legislative action to ensure a well-functioning internal market for artificial intelligence systems ('AI systems') where both benefits and risks of AI are adequately addressed at Union level, now reflect the new Proposal for a Regulation of the European Parliament and of the Council establishing harmonized rules on artificial intelligence (known as the AI Act). As previously mentioned, the proposal is based on EU values and fundamental rights and aims to give people and other users the confidence to embrace AI-based solutions, while encouraging businesses to develop them. Although the Proposal sets a robust and flexible legal ramework, AI is limited to to the minimum necessary requirements to address the risks and problems linked to AI within Union level, without having effects to non EU countries. In other words since AI is a universal trend, for a trustworthy AI, a universal/ coordinated plan on Artificial Intelligence legislation is needed.

(iv)Ethical Standards: Code of Conduct as a tool for soft AI law

It is well known that there is a strong and complex relationship between ethics and law. As Boddington (2017) argues, Codes of ethics are nested within the appropriate legal jurisdictions of local, national and international laws, and seek to adhere to these. However, especially when technology is rapidly advancing, the law might not be able to keep up, and professional bodies and others considering ethical aspects of that technology might well lobby for appropriate changes to the law. It may be possible to amend codes of ethics issued by professional bodies more flexibly and more rapidly than national, and especially international, laws. There may be great differences in some aspects of the law between different jurisdictions, some of these being differences of great relevance to AI. For example, there are significant differences between the laws on data protection and privacy

in the US and in Europe, which can potentially be highly relevant to codes of ethics for regulating AI, and indeed, to how AI is developed.

Our research concluded that citizens' trust in the ethical operation of institutions in Greece is still low. Despite the major satisfaction that citizens express after the digitalization of Public Administration and Tax Administration, citizens' negative opinion has not been reversed, although in the literature e-government was viewed as a solution to reverse this trend through fundamental changes to the way core functions of government are performed to achieve noticeable gains in performance, efficiency and good governance (Tolbert & Mossberger, 2006; Teo et al., 2008; Morgesn et al., 2011). Although a number of e-government projects and solutions were deployed and implemented in the country, Greece has still major issues to solve concerning public trust and confidence both in Public Administration and Tax Administration. AI implementation may enable further major transformation projects in country's public services, with limited impact, though, if other crucial factors, within public policy agenda, are not been dealt with: issues of transparency, accountability, citizens' expectations, citizens' satisfactions - rights and government performance should not be ignored within AI country's transformation together with the broader issues of change that is needed within the forthcoming AI transformation agenda.

References

Aarvik, P. (2019). Artificial Intelligence–a promising anti-corruption tool in development settings. *U4 Anti-Corruption Resource Centre*.

Adam, I., & Fazekas, M. (2021). Are emerging technologies helping win the fight against corruption? A review of the state of evidence. *Information Economics and Policy*, *57*, 100950. https://doi.org/10.1016/j.infoecopol.2021.100950

Anderson, J., Rainie, L., & Luchsinger, A. (2018). Artificial intelligence and the future of humans. Pew Research Center, 10(12).

Bartels, K. P. (2013). Public encounters: The history and future of face-to-face contact between public professionals and citizens. *Public administration*, *91*(2), 469-483.

Bekkers, V., Edwards, A., Moody, R., & Beunders, H. (2011). Caught by surprise? Micro-mobilization, new media and the management of strategic surprises. *Public Management Review*, *13*(7), 1003-1021.

Wirtz, B. W., & Müller, W. M. (2019). An integrated artificial intelligence framework for public management. *Public Management Review*, *21*(7), 1076-1100. 10.1080/14719037.2018.1549268

Berryhill, J., Heang, K. K., Clogher, R., & McBride, K. (2019). Hello, World: Artificial intelligence and its use in the public sector. https://doi.org/10.1787/726fd39d-en.

Bertrand, A. (2020). *Why AI and the public sector are a winning formula*. Retrieved from: https://www.ey.com/en_gl/government-public-sector/why-ai-and-the-public-sector-are-a-winning-formula

Boddington, P. (2017). *Towards a code of ethics for artificial intelligence* (pp. 27-37). Cham: Springer.

Carrero, J. C., & Ribeiro, J. S. (2020). *Fighting Tax Fraud Through Artificial Intelligence Tools: Will the Fundamental Rights of Taxpayers Survive the Digital Transformation of Tax Administrations? European Taxation*, *6*, 236-238

Collosa, A. (2002). *Artificial intelligence in tax administrations*. Retrieved from: https://www.ciat.org/artificial-intelligence-in-tax-administrations/?lang=en

De Sousa, W. G., de Melo, E. R. P., Bermejo, P. H. D. S., Farias, R. A. S., & Gomes, A. O. (2019). How and where is artificial intelligence in the public sector going? A literature review and research agenda. *Government Information Quarterly*, *36*(4), 101392.

Dubber, M. D., Pasquale, F., & Das, S. (Eds.). (2020). *The Oxford handbook of ethics of AI*. Oxford Handbooks.

Eggers, W. D., Schatsky, D., & Viechnicki, P. (2017). AI-augmented government. Using cognitive technologies to redesign public sector work. *Deloitte Center for Government Insights*, *1*, 24.

Poniatowski, G., Bonch-Osmolovskiy, M., Duran-Cabré, J. M., Esteller-Moré, A., & Śmietanka, A. (2019). Study and Reports on the VAT Gap in the EU-28 Member States: 2019 Final Report. https://data.europa.eu/doi/10.2778/911698

Feeney, M. K., & Welch, E. W. (2016). Technology–task coupling: Exploring social media use and managerial perceptions of e-government. *The American Review of Public Administration*, *46*(2), 162-179. https://doi. org/10.1177/0275074014547413.

Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., ... & Vayena, E. (2018). AI4People—an ethical framework for a good AI society: opportunities, risks, principles, and recommendations. *Minds and machines*, *28*, 689-707. https://doi.org/10.1007/s11023-018-9482-5

Floridi, L., Cowls, J., King, T. C., & Taddeo, M. (2021). How to design AI for social good: Seven essential factors. *Ethics, Governance, and Policies in Artificial Intelligence*, 125-151.https://doi.org/10.1007/s11948-020-00213-5

Hadden, S. G. (1986). Intelligent advisory systems for managing and disseminating information. *Public Administration Review*, 572-578.

Huang, Y., Wu, Q., & Hou, Y. (2017). Examining Twitter mentions between police agencies and public users through the lens of stakeholder theory. In *Proceedings of the 18th Annual international conference on digital government research* (pp. 30-38).

Jeffares, S. (2020). *The virtual public servant: Artificial intelligence and frontline work*. Springer Nature. https://doi.org/10.1007/978-3-030-54084-5

Nilsson, N. (2009). *The Quest for Artificial Intelligence*. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511819346

OECD. (2019a). *Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449*. OECD Publishing

OECD. (2019b). *Working Papers on Public Governance No. 31*. OECD Publishing.

OECD. (2021). Building resilience: New strategies for strengthening infrastructure resilience and maintenance", *OECD Public Governance Policy Papers*, No. 05, OECD Publishing.

OECD. (2021a). *Building Tax Culture, Compliance and Citizenship: A Global Source Book on Taxpayer Education, Second Edition*, OECD Publishing.

OECD. (2021b). *Tax Administration 2021: Comparative Information on OECD and other Advanced and Emerging Economies*, OECD Publishing.

OECD. (2023). *Tax Administration 2023: Comparative Information on OECD and other Advanced and Emerging Economies*, OECD Publishing, Paris.

Panagopoulou-Koutnatzi F. (2023). *AI: The road to a digital constitutionalism* .Politeia.

Pasquale, F. (2019). Professional judgment in an era of artificial intelligence and machine learning. *boundary 2: an international journal of literature and culture*, *46*(1), 73-101.https://ssrn.com/abstract=3067711

Raikov, A. (2021). Decreasing Tax Evasion by Artificial Intelligence. IFAC-PapersOnLine, *54*(13),172–177. https://doi.org/10.1016/j.ifacol.2021.10.440

Stahl, B. C. (2021). *Artificial intelligence for a better future: an ecosystem perspective on the ethics of AI and emerging digital technologies* (p. 124). Springer Nature. https://doi.org/10.1007/978-3-030-69978-9_2

Stout, M., & Love, J. M. (2017). Integrative governance: A method for fruitful public encounters. *The American Review of Public Administration*, *47*(1), 130-147.

Steingard, D., Balduccini, M., & Sinha, A. (2023). Applying AI for social good: Aligning academic journal ratings with the United Nations Sustainable Development Goals (SDGs). *AI & SOCIETY*, *38*(2), 613-629.

Tsamados, A., Aggarwal, N., Cowls, J., Morley, J., Roberts, H., Taddeo, M., & Floridi, L. (2021). The ethics of algorithms: key problems and solutions. *Ethics, governance, and policies in artificial intelligence*, 97-123. 37. 10.1007/s00146-021-01154-8.

Truby, J. (2020). Governing artificial intelligence to benefit the UN sustainable development goals. *Sustainable Development*, *28*(4), 946-959. 10.1002/sd.2048

Vitalis, A., & Duhaut, N. (2004). NTIC et relation administrative: de la relation de guichet à la relation de réseau. *Revue française d'administration publique*, (2), 315-326.

Wang, P. (2019). On defining artificial intelligence. *Journal of Artificial General Intelligence*, *10*(2), 1-37. https://doi.org/10.2478/jagi-2019-0002

Zheng, Y., Yu, H., Cui, L., Miao, C., Leung, C., & Yang, Q. (2018, April). SmartHS: An AI platform for improving government service provision. In *Proceedings of the AAAI Conference on Artificial Intelligence* (Vol. 32, No. 1).