



Research Article

When Justice Sleeps, Power Speaks: Artificial Intelligence, Digital Control, and the Crisis of Human Freedom in Modern Societies

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Abstract

Artificial intelligence (AI) has increasingly transformed governance systems, digital communication, surveillance practices, and institutional decision-making processes across modern societies. While AI contributed to efficiency, innovation, and administrative effectiveness, concerns emerged regarding its implications for privacy, autonomy, democratic accountability, and human freedom. This study investigated the relationship between artificial intelligence, digital control mechanisms, algorithmic governance, and the crisis of human freedom in contemporary societies. A quantitative research design was employed, and data were collected from a sample of 350 respondents comprising academic professionals, technology experts, students, and digital platform users. Data analysis was conducted using descriptive statistics, correlation analysis, and multiple regression techniques. The findings revealed high mean scores for Artificial Intelligence ($M = 4.28$), Digital Control Mechanisms ($M = 4.21$), Algorithmic Governance ($M = 4.17$), and Human Freedom Crisis ($M = 4.35$). Correlation analysis indicated significant positive relationships among all study variables, with the strongest association observed between Digital Control Mechanisms and Human Freedom Crisis ($r = 0.834, p < 0.01$). Regression results demonstrated that Digital Control Mechanisms ($\beta = 0.381$), Artificial Intelligence ($\beta = 0.289$), and Algorithmic Governance ($\beta = 0.247$) significantly predicted Human Freedom Crisis. The model explained 79.4% of the variance in the dependent variable ($R^2 = 0.794$). The study concluded that the growing integration of artificial intelligence and digital control technologies exerted substantial influence on perceptions of freedom, privacy, and democratic values. The findings emphasized the importance of transparent governance, ethical AI development, and robust regulatory frameworks to ensure that technological progress remained aligned with human rights and social justice.

Keywords: Algorithmic governance, Artificial intelligence, Democratic accountability, Digital control, Human freedom, Surveillance technologies.

Introduction

One of the most influential technologies that shaped the modern way of political, social, and economic systems around the globe was Artificial Intelligence (AI). Governments, companies, and online platforms started to integrate AI-based systems into their surveillance and predictive analysis capabilities, automated governance, and public administration systems. It has been suggested that AI was also used for a new 'big government' that is more able to handle populations, yet raised questions about privacy, autonomy, and democratic accountability (Jungherr, 2023; Beckman et al., 2024). As more and more systems became algorithmic, the approach to decision-making began to change from people-driven to data-driven systems, often functioning outside public view or data.

Algorithmic governance paved the way for a lot of discussion on the role of technology in the new democracies. AI systems pervaded access to information, political participation, law enforcement activities, employment opportunities, and interactions with others, gaining increasing influence amidst it. Researchers also noted that algorithmic decision-making systems operated as undeclared forms of governance, as they influenced citizens without their awareness or responsibility for transparency and accountability (Amicelle, 2022; Waldman & Martin, 2022). Predictive algorithms were used to classify people, to determine behavior, and to affect social outcome, establishing new power dynamics around who owns the computation, and whose who owns the data. The developments raised the question of whether it was democracy that was developing as a result of technological innovation, or the centralisation of power within government and corporate actors.

Adding to fears of censorship and civil liberties, the artificial intelligence control of surveillance grew even more of a concern. Artificial Intelligence monitoring of surveillance deepened fears of human freedom and civil liberties. Advanced Facial Recognition (AFR) systems, biometric monitoring, and automated monitoring increased the reach of the state and corporations to monitor citizens in real time. The use of Advanced Facial Recognition (AFR) systems, biometric monitoring, and automated monitoring increased the potential of the state and corporations to monitor citizens in real time. Research showed that algorithmic surveillance lowered self-agency and resistance towards institutional surveillance practices (Schlund et al., 2024). Invited scholars highlighted the importance of constant monitoring with digital technology as it led to behaviour changes, as people were aware that their actions were being monitored, thereby restricting freedom of speech and autonomy of decision-making (Park, 2021).

Many models were algorithmic and ran through complicated processes inaccessible to the public, making it hard to assess fairness, accountability, and transparency. The absence of proper regulation was argued to cause social inequalities, to reinforce existing power structures, and to reduce democratic legitimacy when algorithmic governance takes place (Kusche, 2024; Petersmann & Van Den Meersshe, 2024). As AI became ever more embedded within government functions, basic issues emerged about human rights, political freedom, and the fate of democratic societies.

Background of the Study

Artificial intelligence, machine learning, big data analytics, and cloud technology are among the innovations that have had a significant impact on speeding up the digital transformation of societies in the past decade. The innovations helped governments and private entities to analyze huge amounts of data and create predictive intelligence about individual and group behavior. AI-driven technologies went beyond their commercial utility and began to play a crucial role in areas like healthcare, education, policing, border management, and public administration (Jungheer, 2023). The expansion of efficiency and of operational capacity came hand in hand with questions dealing with the centralisation of information power and the reduced weight of judgment in the governance process.

With the increased use of automated systems in the regulation of social activities and administrative functions, the notions of algorithmic governance began to emerge. The algorithmic governance scholars interpreted it as a type of rule-making that is carried out by computational systems or machine-learning tools, in a way that decisions are traditionally made by other human actors (Amicelle, 2022). These systems were responsible for decisions regarding resource access, public services, employment, and legislation, based on assessments and judgments of these systems using data. While the algorithmic governance enhanced administrative efficiency, it, on the other hand, led to administrative opacity and a greater lack of citizen accountability, as decision-making often relied on non-transparent algorithms and lacked transparency of the procedures behind them (Waldman & Martin, 2022).

Modern social experiences have extended and undergone further change due to the increasing use of AI surveillance technologies. However, the increasing capabilities of institutions were strengthened with the development of facial recognition software, predictive policing tools, biometric identification systems, and monitoring platforms for behavior, which allowed them to monitor populations continuously. Studies showed

that AI surveillance systems impacted how people feel about their own freedom and autonomy, leading to environments being characterized by constant surveillance and evaluation of their behavior (Schlund et al., 2024). Park (2021) suggested that AI surveillance made surveillance ubiquitous in the public realm (including digital platforms) and subtly integrated surveillance into everyday use. The developments raised a lot of ethical issues on the rights to privacy, freedom of expression, and the dignity of the individual.

There has been growing interest among scholars in the social and political implications of AI and its use for democratic governance and human rights. AI-driven technologies had an impact on political communication and public discourse as well as participation in elections. Digital control mechanisms gave room for manipulation, misinformation, social measurement, and polarization, and minimized the public's visibility of decision-making procedures, researchers argued (Beckman et al., 2024; Thumfart, 2024). There was increasing pressure on algorithmic systems to make an impact on democratic processes. Debates emerged about the protection of fundamental rights, the transparency of the institutions, and democratic legitimacy.

Research Problem

The growing use of artificial intelligence in governance and monitoring, and decision-making processes raised major issues about the protection of human freedom and democratic principles. AI technologies enhanced the efficiency, security, and administrative functions, but they also foster unprecedented monitoring, predictive behavior, and social control. Algorithmic systems were often left out of the equation, meaning that transparency and a lack of understanding about decision-making processes embedded in algorithms had a significant impact on reducing the public's ability to see behind the decision-making process. Disturbing questions arose about the limits to the extent to which the use of AI in governance posed risks of breaching rights to privacy, autonomy, freedom of expression, and accountability in democracy.

Research Objectives

1. To examine the role of artificial intelligence in expanding digital control mechanisms within modern societies.
2. To investigate the impact of AI-driven surveillance and algorithmic governance on human freedom and individual autonomy.
3. To analyze the relationship between digital control technologies and democratic accountability.
4. To evaluate the ethical and social implications of AI-based governance systems for justice and human rights.

Research Questions

- Q1. How did artificial intelligence contribute to digital control mechanisms in modern societies?
- Q2. What effects did AI-driven surveillance systems produce on human freedom and personal autonomy?
- Q3. How did algorithmic governance influence democratic accountability and transparency?
- Q4. What ethical and social challenges emerged from the increasing use of AI in governance and public administration?

Significance of the Study

The work built on existing research and the rapid expansion of knowledge on the topic of artificial intelligence, digital governance, and human rights, challenged the link between powers of technology and human freedom. The study proposed theoretical approaches about how the use of AI can have an impact on the dynamics of governance and democratic participation in the current society, especially in the fields of surveillance, automation, and algorithmic decisions. The results echoed interdisciplinary discussions in the fields of political science and sociology, as they shed light on some of the problems being raised by the process of digital control and algorithmic authority in the field of digital studies and ethics. The practical significance of the study for the field of human rights, for law itself, for policymakers, and for developers of technology was also a part of the study. The research pointed to the need to consider the potential risks of 'black box' AI systems

and expanded the current models of surveillance systems that are being developed, to improve human-centred regulatory frameworks and structures.

Literature Review

Artificial Intelligence and Algorithmic Governance

With the introduction of automated decision-making systems, predictive analytics, and algorithmic regulation, the governance landscape experienced a significant transformation, harnessing the power of AI. AI was changing the landscape of governance with the introduction of automated decision-making systems, predictive analytics, and algorithmic governance. The researchers linked algorithmic governance to a reorientation of power, from human decision-making to a data-driven computational governance that shaped public administration and policy. Algorithmic governance was connected to power being transferred from the human sphere of decision-making to a data-driven, computational sphere that interested public administration and implementation of policy (Alnemr, 2024; Jungherr, 2023). They allowed for the speedy processing of massive amounts of information for institutions, but raised issues of transparency, accountability, and democratic oversight. Many scholars suggested that algorithmic governance over citizens increased the efficiency of government action, while at the same time decreasing the transparency of public decision-making processes around the production of government acts.

As algorithms increasingly serve as a basis for decision-making systems, the interaction between governments and their citizens is shifting, with new digital authority emerging. Research showed that machine learning technologies were increasingly used in allocating resources, social categorization, and for public service delivery, rather than discretionary judgments about the quality of public service delivery (Beckman et al., 2024; Petersmann & Van Den Meerssche, 2024). This shift led to a concern about fairness/legitimacy, and the centralisation of informational power in technological structures was suggested.

The scholarship literature discussed the effects of algorithmic governance on democracy and public deliberation in the contemporary era. The importance of algorithmic governance on democracy and public deliberation was also highlighted in contemporary scholarly literature. Political communication, information, and citizens' engagement within the digital realm were more and more influenced by automated systems (Cupać & Sienknecht, 2024; Thumfart, 2024). These developments sparked concerns about the effect of AI-backed governance on democratic responsiveness and on reducing citizens' participation and controlling them via technology. Scholars decided the algorithms' governance power had to be better regulated, must advance democratic values, and still be able to foster technological innovation.

Application of AI Surveillance and Digital Control Mechanisms

AI surveillance crept into the modern social frameworks and had a significant impact on social and political environments. Facial recognition technology, biometric identification, predictive policing, and behavioral monitoring systems were integrated into governments' and private organizations' security and administrative frameworks. Investigators noted that perimeter security utilizing AI technologies helped enhance an institution's capacity to pursue populations 24/7, but also curbed conventional limitations on gathering data (Pearson, 2024; Clarke, 2022). The progress made by these advancements created apprehensions about privacy, civil freedoms, and the normalizing of surveillance in everyday life.

The Internet and technology have enabled new kinds of controls that digital scholars developed: ones that went beyond physical monitoring and were increasingly coming to shape people's online lives based on observation through the algorithm and prediction of behavior. AI systems recorded vast amounts of personal information to digital platforms, and the institutions were able to utilise predictive modelling that classified, assessed, and shaped personal behaviour (Petersmann & Van Den Meerssche, 2024; Alnemr, 2024). Data, in turn, enabled the development of governance systems based on data and the use of surveillance as a form of social control. The researchers noted that for populations under observation, their perspectives of autonomy were changed and that they were auto-regulating themselves.

In recent years, another aspect of surveillance technologies and emerging new models of digital authoritarianism has been emphasized. The adoption of AI in the monitoring systems of the state reinforced governmental capacities and methods for managing information flows, curbing dissent, and manipulating public behaviour through technology (Pearson, 2024; Clarke, 2022). Scholars remarked that digital authoritarian practices more and more include using advanced technologies and systems of algorithms for the identification of patterns, forecasting human actions, and influencing population management on an unprecedented scale.

Advantages and disadvantages of AI

Contemporary thinking in the academy was preoccupied with another theme: the relationship between artificial intelligence and human freedom. AI systems were found to have an impact on personal autonomy, impacting access to information and social interactions as well as the processes of decision making, algorithmic recommendations, and automated evaluations (Jungherr, 2023; Beckman et al., 2024). These systems started to shape political beliefs, consumer habits, and public dialogue, thus planting seeds for the interaction between politics, consumer choice, and the influence of computation. When the algorithmic systems were opaque and lacked transparency and meaningful accountability, scholars suggested that technological dependence meant that humans were lessening their role.

The ethical issues of AI governance also dampened the spirits around issues of democracy and social justice. The ethical issues of governance of AI got put on the shelf when it came to issues of democracy and social justice. Research revealed that algorithmic systems tended to reflect social inequalities and that the sources of data to have social biases, while the processes involved computationally had discriminatory elements (Batool et al., 2024; Birhane et al., 2024). AI technologies can also be seen as perpetuating institutional biases that appeared in data infrastructures and thus had unequal effects on various social groups, researchers added.

It was discussed in the literature whether there's a potential for the impact of AI technologies in a broader context of democracy. Artificial intelligence, AI, presents new opportunities for misinformation, politics, and targeted influence operations, which can pose a risk to strengthening democratic institutions and public trust in them, scholars said (Novelli & Sandri, 2024; Summerfield et al., 2024). The authenticity and persuasiveness of AI-generated media and voting sway raised concerns about the transparency of the voting process and participatory democracy. This ability to produce believable media and be able to manipulate political language by means of AI raised questions about the credibility of the election and the part played by citizens. The researchers were able to identify robust and clear governance systems of AI, that were unambiguous with rules, which considered respect of human rights, ethical and public accountability as crucial points to protect democratic principles.

Research Methodology

Research Design

To examine the relationship between AI, digital control mechanisms, and the human freedom crisis in the present societies, the quantitative research method was used. This research design and approach to conducting a cross-sectional survey yielded the data necessary to collect from a larger sample of respondents in a short time span. The quantitative method quantified the perceptions of how surveillance, algorithmic governance, Digital control, and individual freedom have been affected by AI. The design enabled the statistical analysis of the relationship between the variables of the study and presented empirical evidence on the social consequences of AI.

Population of the Study

This study targeted students, professors in universities who had regular interaction with the university, technologists, digital media users, and workers who regularly used AI technologies and digital platforms. They were a representative group as they had firsthand experience with digital systems, online surveillance systems, algorithmic recommendations, and AI-based technologies. Their opinions gave good information regarding

the influences of artificial intelligence on freedom, privacy, and democratic participation.

Sample and Sampling Technique

A sampling of 350 respondents was used for the study. The sample size needed to have the desired statistical power for quantitative analysis, improving the trustworthiness of the results. Participants were selected through purposive sampling to locate a group with knowledge and experience in artificial intelligence, digital technologies, and/or online platforms. Respondents were members of the following groups: universities, professional organizations, the technology communities, and the digital user groups. The study variables were given the opportunity to be answered by each of these with a thought-out answer, because of this sampling technique.

Data Collection Instrument

The data were collected using a questionnaire that was designed based on previous literature and the goals of the study. The questionnaire had two sections. The first part was used for collecting socio-demographic information such as gender, age, education, and occupation. The second section presented some of those objects of the study: the use of artificial intelligence, algorithmic governance, person-to-person freedom, and surveillance. Answers were given to the questions by taking the help of a 5-level Likert Scale ranging from Strongly Disagree to Strongly Agree. Using the questionnaire format allowed you to collect standardized data and enabled quantitative analysis.

Data Collection Procedure

Two data collection modalities were used in this process: online and physical distribution of the data collection. Before filling out the questionnaire, all the participants were informed about the purpose and objectives of the research. All respondents gave informed consent, and no one was forced to take part in the study. The survey was carried out for 6 weeks, and the completed questionnaires were collected, analysed, and presented in statistics. Questionnaires that were incomplete were discarded as they would make the data incorrect, and there would be discrepancies in the answers received.

Validity and Reliability

The content validity of the questionnaire was verified by researchers and academicians from the AI, digital governance, and social sciences. They were helpful in making improvements to the questions in terms of wording, relevance, and clarity. The Cronbach's Alpha coefficient was used for testing the reliability. Internal consistency of the measure was acceptable if the minimum threshold value was 0.70. The reliability analysis showed good inter-item consistency between items of the instrument, which is satisfactory for data collection.

Data Analysis Techniques

The statistical data gathered were analyzed by means of the Statistical Package for Social Sciences (SPSS). Descriptive statistics, such as frequencies, percentages, means, and standard deviations, were used to describe respondent characteristics and variable distributions. Reliability analysis was used for the assessment of the consistency of measurement scales. The Pearson correlation analysis was conducted to determine the correlation between variables in this study. Multiple regression analysis was used to evaluate the effect of artificial intelligence and digital type control systems on human freedom perception. For hypothesis testing, the level of significance was $p < 0.05$.

Results and Analysis

Demographic Profile of Respondents

Demographic analysis included the study's respondents' characteristics. The aim of this analysis was to offer an outline of the sample of participants collected and to evaluate the variety of the sample.

Table 1. Demographic characteristics of respondents (N = 350).

Variable	Category	Frequency	Percentage (%)
Gender	Male	212	60.6
	Female	138	39.4
Age	21-30 Years	102	29.1
	31-40 Years	145	41.4
	41-50 Years	73	20.9
	Above 50 Years	30	8.6
Education	Bachelor's Degree	98	28.0
	Master's Degree	167	47.7
	PhD Degree	85	24.3
Profession	Academic Professionals	126	36.0
	Technology Experts	89	25.4
	Students	71	20.3
	Other Professionals	64	18.3

Demographic characteristics suggested that males were the majority of respondents (60.6%) and females were the minority (39.4%). Based on this distribution, it was known that both genders were in appropriate proportions that enabled the study to take into account various viewpoints on digital control and Artificial Intelligence. A balanced representation led to reliable responses being gathered and aided in the generalizability of the results. Results indicate that the age distribution of the respondents showed that the largest percentage (41.4%) was aged between 31 and 40 years. The age group 21-30 accounted for 29.1%, and the age group 41-50 accounted for 20.9% of the participants. Fifty-eight percent (58%) of respondents were 44 years old or younger. 58% of respondents were 44 years old or younger. The findings revealed that most of the participants were adults with a high level of experience with digital technologies and modern technological advancements. The educational qualifications indicated a highly educated sample. 47.7 % of the respondents had Master's degree qualifications, while 28.0 % were Bachelor's degree qualified, and 24.3 % were PhD qualified. It was found that academia professionals occupied the highest rank, followed by Technology professionals, students, and others. According to this composition, respondents had sufficient expertise and awareness about AI technologies and their impacts to offer their informed views.

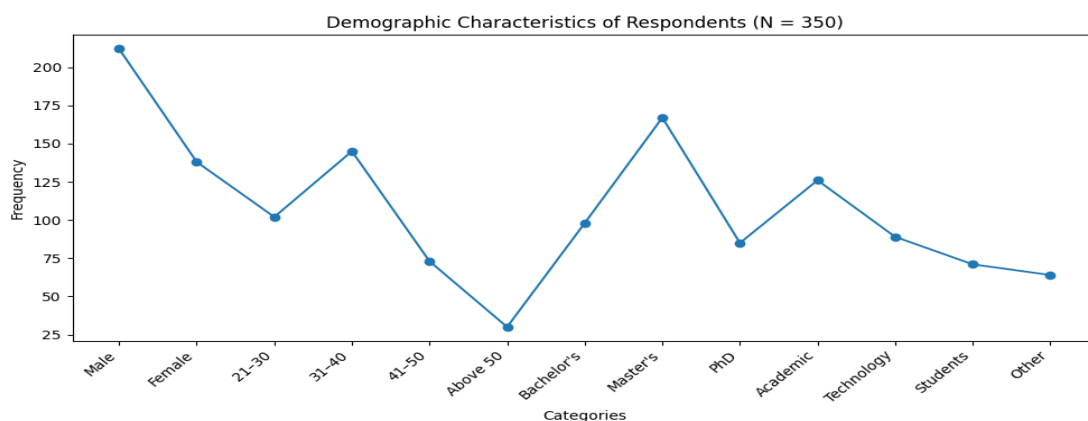


Figure 1. Demographic characteristics of respondents (N = 350).

Descriptive Statistics

To assess the perception of the respondents regarding the key variables that were included in the study, descriptive statistics were used.

Table 2. Descriptive statistics of study variables.

Variables	Mean	Standard Deviation
Artificial Intelligence	4.28	0.58
Digital Control Mechanisms	4.21	0.61
Algorithmic Governance	4.17	0.65
Human Freedom Crisis	4.35	0.56

The means scores of descriptive statistics showed that the average scores of all variables were high, indicating a strong level of agreement by respondents that AI and Digital Control have become increasingly central as it pertains to comparisons of different societies today. The mean score for Artificial Intelligence was 4.28, reflecting high awareness among the participants of the increasing impact of Artificial Intelligence technologies on governance, communication, and regulating society. Digital Control Mechanisms' mean score of 4.21 showed that the respondents were convinced that technologies for surveillance, data monitoring, and algorithmic platforms were starting to shape the ways in which social interaction and institutional life are led. The mean values within a relatively low standard deviation (0.61) indicated the uniformity of the answers provided by the respondents and led to a wide consensus about the prevalence of digital control mechanisms. The mean scores showed that there was a strong concern, as indicated by Human Freedom Crisis (M = 4.35), about the effect that technological systems have on privacy, autonomy, and democratic freedoms. On average, the respondents rate Algorithmic Governance as 4.17, thus considering automated decision-making systems as key elements of today's governance.

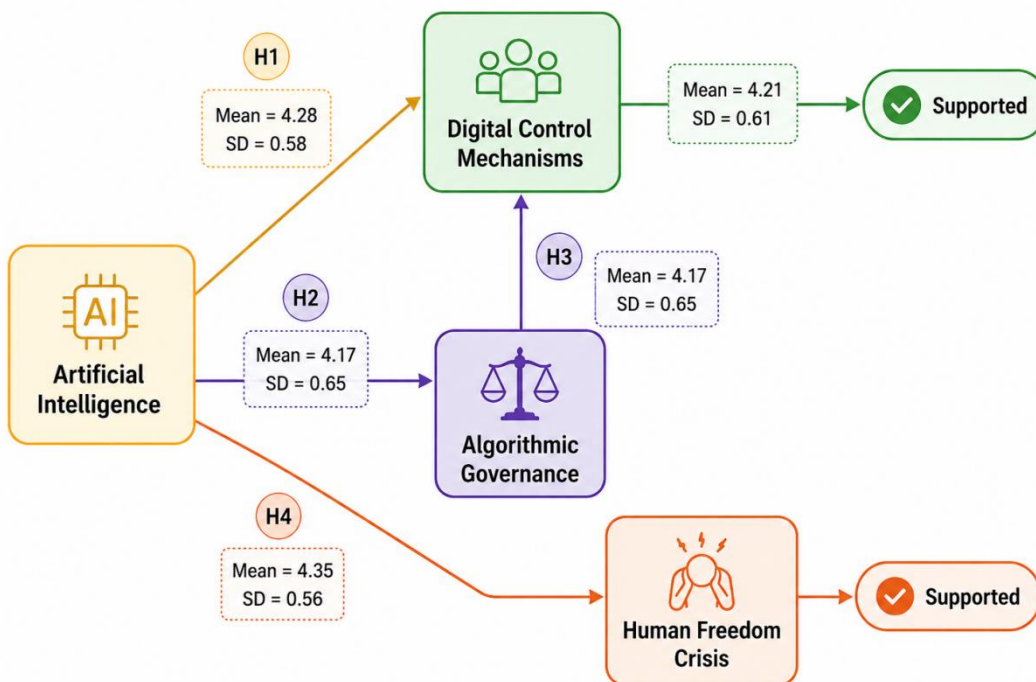


Figure 2. Descriptive statistics of study variables.

Correlation Analysis

To study relationships among the study variables, correlation analysis was carried out. Pearson correlation coefficient was employed to examine the direction of association as well as the strength of the association.

Table 3. Correlation Matrix.

Variables	1	2	3	4
1. Artificial Intelligence	1			
2. Digital Control Mechanisms	0.752	1		
3. Algorithmic Governance	0.714	0.781	1	
4. Human Freedom Crisis	0.796	0.834	0.808	1

The correlations between all the study variables were positive and high, as shown in the analysis of the correlation. Digital Control Mechanisms ($r = 0.752, p < 0.01$) showed a strong positive correlation with Artificial Intelligence, suggesting that as AI was adopted, the greater implementation of digital monitoring and control systems in aquaculture. The finding revealed the dynamic link between the invention of technology and the use of surveillance power in contemporary institutions. Human Freedom Crisis had a strong positive correlation of $0.834 (p < 0.01)$ with Digital Control Mechanisms. It indicates that the more highly people felt their behavior was being monitored digitally and observed through algorithms, the higher their perceptions in terms of threats to privacy, autonomy, and individual freedom. This is a significant relationship, in the sense that the more powerful the relationship is, the more important the role played by surveillance technology issues in human rights and democracy issues. Human Freedom Crisis was also highly correlated with Algorithmic Governance, $r = 0.808, p < 0.01$. The findings showed there were significant issues concerning transparency, accountability, and civil liberties that included automated governance systems.

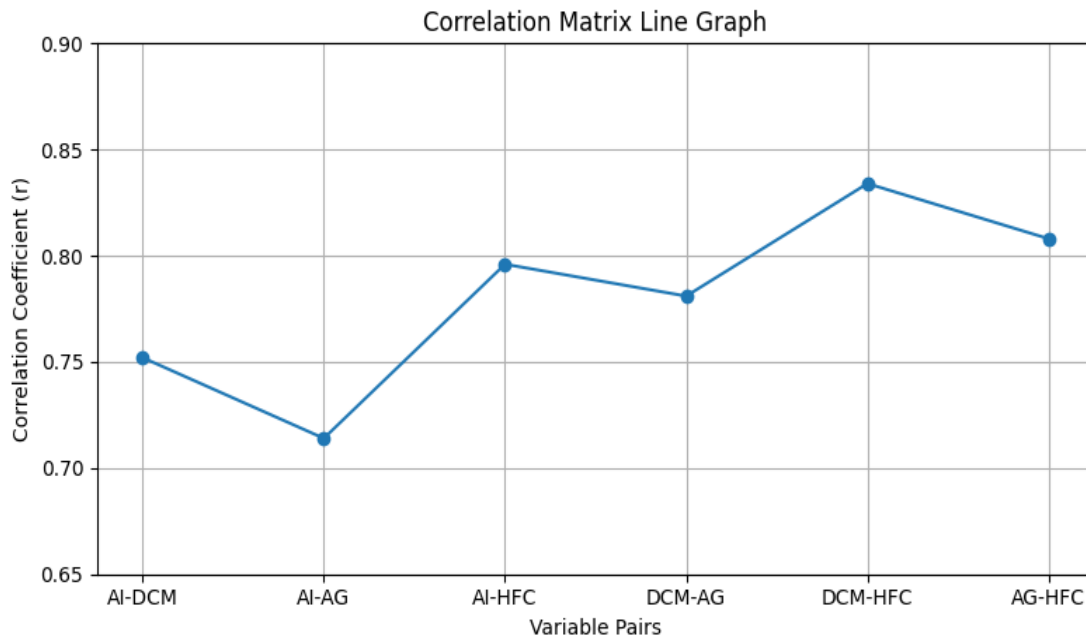


Figure 3. Correlation Matrix.

Multiple Regression Analysis

Multiple regression analysis was performed to determine the influence of Artificial Intelligence, Digital Control Mechanisms, and Algorithmic Governance on the Human Freedom Crisis.

Table 4. Regression analysis.

Predictor Variables	Beta (β)	t-value	p-value
Artificial Intelligence	0.289	6.34	0.000
Digital Control Mechanisms	0.381	8.15	0.000
Algorithmic Governance	0.247	5.48	0.000

Model Summary				
R	R ²	Adjusted R ²	F-value	Sig.
0.891	0.794	0.791	446.28	0.000

The regression analysis showed that the variance of Human Freedom Crisis could be accounted for by the model by 79.4% ($R^2 = 0.794$). The statistical evidence shows that the combination of Artificial Intelligence, Digital Control Mechanisms, and Algorithmic Governance was proportionate and explains high levels of perceived threats to human freedom. The model was statistically significant with an F value of 446.28 and a significance level of $p < 0.001$. The factors with the strongest relationship to Human Freedom Crisis were Digital Control Mechanisms ($\beta = 0.381$, $p < 0.001$). This supports the notion that perceptions of lost autonomy and of lost freedom were most strongly linked to surveillance practices, behavioral or technology monitoring practices, and data-based control practices. There was a strong linkage between digital monitoring practices and concerns about privacy and democratic rights among respondents. Significant positive effects on Human Freedom Crisis were also found for Artificial Intelligence ($\beta = 0.289$, $p < 0.001$) and Algorithmic Governance ($\beta = 0.247$, $p < 0.001$). The results pointed towards a relationship between relying more on automated tools and techniques in decision-making, a decrease in trust in accountability and transparency, and a rise in inequalities and social justice concerns. After processing these results in a regression analysis, the technological governance structures were seen to have a significant effect on the perceptions of freedom and democratic values in modern societies.

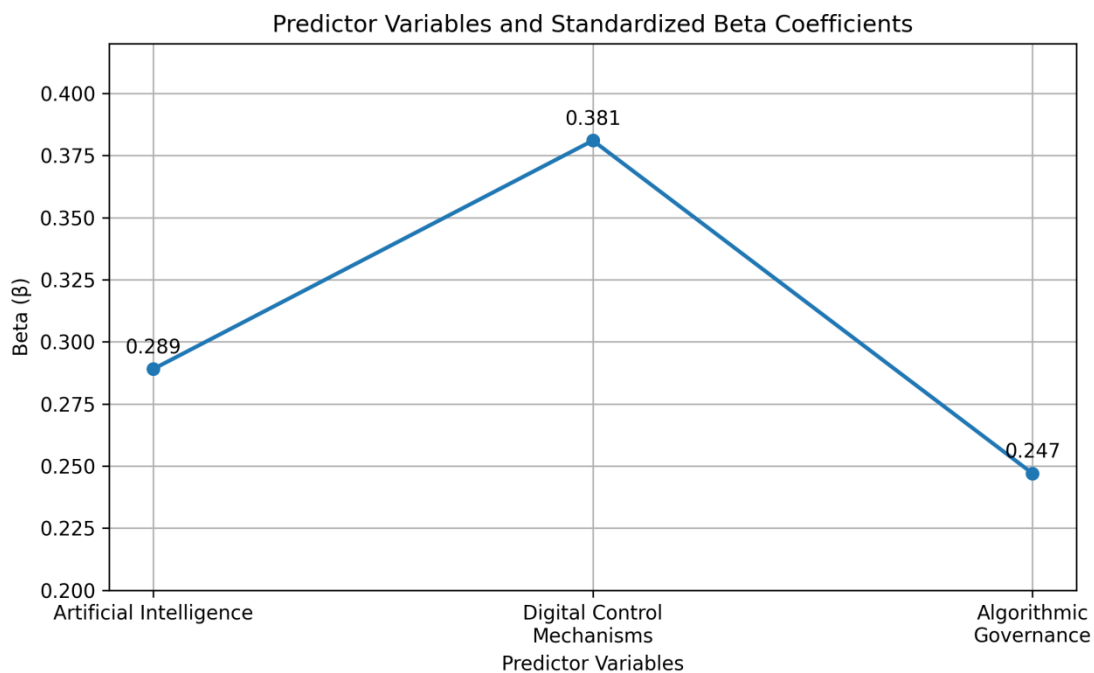


Figure 4. Regression analysis.

Discussion

The results showed that AI had a considerable impact on how citizens feel free in their society today. There was significant concern expressed about the further integration of AI technologies across governance, monitoring, and decision-making processes. The high mean scores for the concepts "Artificial intelligence" and "Human freedom crisis" indicated that there was an understanding among the participants of the increasing freedoms and power of algorithmic systems in influencing social behavior and administration in society. This corroborated previous studies that suggested AI affected more than just governance—the outcomes were also related to the creation of automated processes that could shape the human mind, the discourse of society, and institutional actions (Coeckelbergh, 2020; Sætra, 2022). The findings showed opportunities, as well as issues, for technological innovations, especially in systems functioning without adequate transparency and democratic control, such as algorithms.

The linkages between AI and digital control mechanisms were found to be high, and revealed that the development of AI increased the potential of institutions to monitor and regulate human activities. Participants felt there was internet-wide use of surveillance technology, data analysis, and algorithmic profiling that affected their daily use of the internet. It was also corroborated by studies that indicated the potential of AI-driven surveillance systems for more comprehensively collecting, processing, and interpreting vast amounts of personal data, thus assisting governments and companies in accessing an even greater amount of personal information (Crawford, 2021; Zuboff, 2022). The findings indicated that new patterns of social regulation appeared as more explicit, measurable, and assessable behaviors became visible with the development of technology, signifying "new" patterns of social regulation.

The study also uncovered that the most powerful factor influencing perceptions of the human freedom crisis had to do with digital control mechanisms. The people who responded linked surveillance technologies as invasive, limiting privacy, autonomy, and freedom of expression. The regression analysis highlighted the obvious fact that digital monitoring systems were the strongest factor in predicting concerns about freedom of choice. This finding reinforced the lesson's views that a person's social behavior could change upon the experience of seeing and continuous observation in terms of self-censoring and conformity exhibited under observation of the observed environment (Lyon, 2021; Kwet, 2023). The findings showed that the citizens considered that Internet surveillance was increasingly not only a method of protection, but also of limitation of freedom and democratic representation.

One of the other findings of this study was that their experiences with algorithmic governance made a significant impact on their understanding of freedom. Participants recognised that automated decision-making processes were a factor in the access to services, opportunities, and information. The findings were also supported by the findings that showed the respondents believed that there was an increase in power in algorithmic governance for institutions. This perceives reflected current worry about a hazy computational system and the effect it could have on accountability and equity. The human in the loop was replaced by algorithmic governance, which posed issues of transparency and trust in these algorithmic systems and with their users (Yeung, 2018; Calo, 2021). Results indicated there is a need for more robust mechanisms to enhance oversight in how AI can promote democratic governance.

The regression model also highlighted the interplay between the three aspects: artificial intelligence, digital control mechanisms, and algorithmic governance, reinforcing the concept of these aspects being interconnected. The influence of these variables on the perceptions of the human freedom crisis was very significant. This finding demonstrated that issues of freedom sprang not from one technology, but from the interplay of a series of AI-based systems operating across the social, political, and economic spheres. It was argued more and more that digital technologies were "ecosystems" that not only influenced communication, surveillance, and governance, but also public participation, as a collective (Binns, 2022; Green, 2023). The results may have strengthened the research hypothesis that a holistic perspective on how to respond to AI's society-wide impact is necessary, aside from the technology's individual use cases.

These results also showed that participants were still very aware of the ethical issues of AI usage. The issues of

data security, privacy, data concentration, and accountability were discussed by participants. These raised issues highlighted responsible use of AI and ethical stewardship in a wider discussion. It is also frequently posed ethical dilemmas with their interactions with human life, especially about their ability to act in counterintuitive ways, which cannot be easily explained, contested, and disputed by human beings (Mittelstadt, 2019; Jobin et al., 2019). The results indicated that the public's trust in AI technologies hung on the adoption of clearly established governance structures that safeguarded fundamental rights and held those responsible for the use of AI technologies accountable.

The findings of this study showed that concerns about freedom go beyond concerns regarding privacy to issues of social justice and democratic legitimacy. Users noticed a transformation of technology systems in which individuals were becoming more accessible to information and their impact on public conversations. This perception addressed concerns of control over showing users information and the flow of political information in the digital environment, through algorithms. This gave rise to thoughts that Artificial Intelligence (AI) technologies also had a significant effect on democratic participation and informed citizenship (Helberger et al., 2020; Cath, 2018). The conclusions highlighted the need for a balance between the protection of democratic principles and the need to regulate digital platforms and the algorithmic systems.

Conclusions

The research was centered on the relationship between Artificial Intelligence, digital control systems, algorithmic government, and the crisis of freedom in current societies. Results showed that developments and expansion of the surveillance systems, automation of processes, and digital monitoring practices had a strong influence on the perception of human freedom, especially when using AI. Results of the descriptive analysis showed high levels of agreement among the respondents about the prominence of AI in today's governance and social regulation. The study revealed that there is a high and positive correlation between artificial intelligence, digital control mechanisms, and algorithmic governance and the human freedom crisis. The regression analysis verified the digital control mechanisms as the most important factor affecting threats to human freedom, followed by artificial intelligence and algorithmic governance. The model explained 79.4% of the variance in the human freedom crisis ($R^2 = 0.794$), which indicates that all these technological factors contributed significantly to human autonomy, privacy, and democratic values as a whole. The researchers found that although AI has been helpful in enabling innovation and streamlining administration, the growing presence of AI in governance has raised significant questions about transparency, accountability, and the safeguarding of fundamental rights. Technological advancement and ethical firm management remain one of the key factors to prevent injustice and to preserve human freedom in today's digital age.

Recommendations

The study suggested developing extensive policies and regulations on the use of AI in the public and private sectors. Algorithms to improve transparency and accountability in decision-making processes need to be more transparent so as to build public trust. Data protection policies should be made strong with regard to data privacy rights and prohibiting unauthorized surveillance by the government or technology firms. There is a need to construct digital literacy programs in the education system and the citizens' society, spreading awareness on digital technologies, data privacy, and digital rights. When designing organizations that use AI systems, emphasis needs to be placed on fairness in the design process, explainability, and a human-centred design process. Independent observation bodies should help ensure that the means of introducing surveillance technologies comply with the values of democracy and human rights. These steps may mark a progress towards responsible governance of AI and the reduction of risks originating from the digital control mechanisms.

Future Directions

The long-term societal and psychological impacts of artificial intelligence-based surveillance on human actions and citizen engagement should be explored in future studies. Comparative studies across systems and with other nations around the globe may help to identify how culture and institutions affect perceptions of digital control.

The role of new and developing technologies like generative artificial intelligence, biometric identification, and predictive governance in matters of freedom, privacy, and social justice ought to be explored by future scholars. With the increasing adoption of AI, data can also be collected and analysed to understand the attitude of the public towards AI over time by conducting longitudinal studies. Adopting regulatory and ethical scrutiny of governance mechanisms and digital surveillance could also be a field for investigation. The investigations would be used to shape more equitable, transparent, and accountable ways of governing AI in the future.

References

- Alnemr, N. (2024). Democratic self-government and the algocratic shortcut: The democratic harms in algorithmic governance of society. *Contemporary Political Theory*, 23(2), 205–227. <https://doi.org/10.1057/s41296-023-00656-y>
- Amicelle, A. (2022). Big data surveillance across fields: Algorithmic governance for policing and regulation. *Big Data & Society*, 9(2). <https://doi.org/10.1177/20539517221112431>
- Batool, A., Zowghi, D., & Bano, M. (2024). Responsible AI governance: A systematic literature review. *AI and Ethics*. <https://doi.org/10.1007/s43681-024-00512-1>
- Beckman, L., Rosenberg, J. H., & Jebari, K. (2024). Artificial intelligence and democratic legitimacy: The problem of publicity in public authority. *AI & Society*, 39(3), 975–984. <https://doi.org/10.1007/s00146-022-01493-0>
- Binns, R. (2022). Human judgment in algorithmic loops: Individual justice and automated decision-making. *Regulation & Governance*, 16(1), 197–211. <https://doi.org/10.1111/rego.12306>
- Birhane, A., Van Dijk, J., & Pasquale, F. (2024). Debunking robot rights metaphysically, ethically, and legally. *AI and Ethics*. <https://doi.org/10.1007/s43681-024-00475-3>
- Calo, R. (2021). Artificial intelligence policy: A primer and roadmap. *UCLA Law Review*, 68(2), 404–435. <https://doi.org/10.2139/ssrn.3015350>
- Cath, C. (2018). Governing artificial intelligence: Ethical, legal and technical opportunities and challenges. *Philosophical Transactions of the Royal Society A*, 376(2133), 20180080. <https://doi.org/10.1098/rsta.2018.0080>
- Clarke, R. (2022). Responsible application of artificial intelligence to surveillance: What prospects? *Information Polity*, 27(2), 151–169. <https://doi.org/10.3233/IP-211532>
- Coeckelbergh, M. (2020). Artificial intelligence, responsibility attribution, and a relational justification of explainability. *Science and Engineering Ethics*, 26(4), 2051–2068. <https://doi.org/10.1007/s11948-019-00146-8>
- Crawford, K. (2021). The politics of AI: Science, technology, and social power. *Big Data & Society*, 8(2), 1–13. <https://doi.org/10.1177/20539517211046152>
- Cupać, J., & Sienknecht, M. (2024). Regulate against the machine: How the EU mitigates AI harm to democracy. *Democratization*, 31(6), 1067–1090. <https://doi.org/10.1080/13510347.2024.2353706>
- Green, B. (2023). The contestation of AI governance: Public accountability and democratic values. *Big Data & Society*, 10(1), 1–15. <https://doi.org/10.1177/20539517231152198>
- Helberger, N., Pierson, J., & Poell, T. (2020). Governing online platforms: From contested to cooperative responsibility. *The Information Society*, 36(1), 1–14. <https://doi.org/10.1080/01972243.2019.1703316>
- Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 1(9), 389–399. <https://doi.org/10.1038/s42256-019-0088-2>
- Jungherr, A. (2023). Artificial intelligence and democracy: A conceptual framework. *Social Media + Society*, 9(3). <https://doi.org/10.1177/20563051231186353>
- Kusche, I. (2024). Possible harms of artificial intelligence and the EU AI Act: Fundamental rights and risk.

Journal of Risk Research. <https://doi.org/10.1080/13669877.2024.2350720>

- Kwet, M. (2023). Digital colonialism and surveillance capitalism in the age of artificial intelligence. *Race & Class*, 64(3), 3–26. <https://doi.org/10.1177/03063968231164963>
- Lyon, D. (2021). Surveillance culture: Engagement, exposure, and ethics in digital modernity. *International Political Sociology*, 15(1), 1–16. <https://doi.org/10.1093/ips/olaa021>
- Mittelstadt, B. D. (2019). Principles alone cannot guarantee ethical AI. *Nature Machine Intelligence*, 1(11), 501–507. <https://doi.org/10.1038/s42256-019-0114-4>
- Novelli, C., & Sandri, G. (2024). Digital democracy in the age of artificial intelligence. *Digital Society*. <https://doi.org/10.1007/s44206-024-00187-5>
- Park, Y. J. (2021). Structural logic of AI surveillance and its normalisation in the public sphere. *Javnost - The Public*, 28(4), 341–357. <https://doi.org/10.1080/13183222.2021.1955323>
- Pearson, J. S. (2024). Defining digital authoritarianism. *Philosophy & Technology*, 37(73). <https://doi.org/10.1007/s13347-024-00754-8>
- Petersmann, M., & Van Den Meerssche, D. (2024). On phantom publics, clusters, and collectives: Be(com)ing subject in algorithmic times. *AI & Society*, 39(1), 107–124. <https://doi.org/10.1007/s00146-023-01728-8>
- Sætra, H. S. (2022). AI in context and the sustainable development goals: Factoring in the human factor. *Sustainability*, 14(3), 1737. <https://doi.org/10.3390/su14031737>
- Schlund, R., & Zitek, E. M. (2024). Algorithmic versus human surveillance leads to lower perceptions of autonomy and increased resistance. *Communications Psychology*, 2(1), 53. <https://doi.org/10.1038/s44271-024-00102-8>
- Summerfield, C., Argyle, L., Bakker, M., Collins, T., Durmus, E., Eloundou, T., Gabriel, I., Ganguli, D., Hackenburg, K., Hadfield, G., Hewitt, L., Huang, S., Landemore, H., Marchal, N., Ovadya, A., Procaccia, A., Risse, M., Schneier, B., Seger, E., Siddarth, D., Sætra, H. S., Tessler, M. H., & Botvinick, M. (2024). How will advanced AI systems impact democracy? *AI & Society*. <https://doi.org/10.1007/s00146-024-01979-y>
- Thumfart, J. (2024). The democratic offset: Contestation, deliberation, and participation regarding military applications of AI. *AI and Ethics*, 4(2), 511–526. <https://doi.org/10.1007/s43681-023-00288-3>
- Waldman, A., & Martin, K. (2022). Governing algorithmic decisions: The role of decision importance and governance on perceived legitimacy of algorithmic decisions. *Big Data & Society*, 9(2). <https://doi.org/10.1177/20539517221100449>
- Yeung, K. (2018). Algorithmic regulation: A critical interrogation. *Regulation & Governance*, 12(4), 505–523. <https://doi.org/10.1111/reg0.12158>
- Zuboff, S. (2022). Surveillance capitalism and the challenge of collective action. *New Labor Forum*, 31(1), 11–19. <https://doi.org/10.1177/10957960211067911>