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The Transformation of Rationalism in the Digital Society: A Sociological Reinterpretation of Human Reason, Algorithmic Mediation, and Technological Rationality

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Abstract

This study investigates the transformation of rationalism in the context of the contemporary digital society, where human reason is increasingly intertwined with algorithmic systems and data-driven decision processes. Rationality, historically grounded in Enlightenment ideals of logic, coherence, and autonomy, now operates within a networked environment dominated by artificial intelligence, big data, and automated information flows. Drawing on the sociological perspectives of Dobrinskaya (2020), Spahn (2020), Priadi and Thariq (2023), and Popkova (2020), this paper examines how digital rationality reconfigures human agency and redefines communicative interaction. It argues that rationality in the digital age no longer functions as a purely cognitive act of individuals but is increasingly mediated through algorithms that filter, predict, and optimize human choices. Consequently, rationality becomes a hybrid formation—part human, part computational—shaped by technological infrastructures and the capitalist logic embedded in digital platforms.

The study analyzes how algorithmic decision-making, automation, and digital communication environments challenge the foundations of sociological rationality by transforming deliberation, ethics, and public discourse. It further identifies the dual effects of digital rationality: while it enhances efficiency and access to information, it simultaneously risks producing algorithmic bias, echo chambers, and a reduction of critical judgment. The findings suggest that the new rationalism emerging from digital society embodies both emancipation and control—empowering individuals with technological agency while subtly subordinating them to algorithmic logic. The paper concludes that the sociological understanding of rationality must evolve toward a post-human framework that integrates human values, ethics, and algorithmic governance.

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Introduction

Digital society may be defined as a digitally augmented environment of human life where technology, communication, and social interaction co-constitute each other. The technologies which have become generally available in the digital society condition a new way for people to relate to each other and social institutions. Fundamental forces behind the changes of social structures and human behaviour are new forms of interaction built by algorithmic decision-making, the development of digital platforms, and social media's pervasive presence. The digital platforms, such as e-commerce websites or social media networks, increasingly come to define the social, political, and economic life of people by structuring its forms and flows. Algorithms and other data-driven system types that power digital platforms and tools mediate nearly all aspects of people's lives, such as their ways of communicating with others or of accessing and exchanging information. In this way, rationality has ceased to be determined by a person's cognition alone and has started being defined by the digital structures that mediate people's interaction and decision-making (Dobrinskaya, 2020). Dobrinskaya (2020) argues that the digital society creates new types of communication, which, in turn, transform individuals' and others' behaviour.At the same time, Spahn (2020) notes that the digital objects, such as smartphones and social networks, exert a powerful influence on how rationality is constructed and utilised in an online environment. As a result, the digital society is characterised by a drastic change of the social dynamics, where rationality is increasingly mediated by technological platforms that organise people's patterns of behaviour, interaction and decision-making.

In sociology, rationality has been closely associated with a decision-making process that involved the individual's ability to make decisions rationally. Traditionally, this process was seen to be informed by logic, objectivity, and systemization as fitting into the context of Enlightenment values.Rationality as a phenomenon was considered to be by far a type of ideal, abstracted by researchers like Max Weber as a basic ideal to the modern society in the form of bureaucracy. Rationality, when used as a concept in decision-making, in that sense, was mechanistic as a process that was being used in formal institutions in order for them to work in a manner that would be considered predictable, efficient, and controlled. However, with the change in society into the digital, the form of rationality, on the other hand, has been different. On the one hand, in the traditional conception of it, as an individual cognitive practice has not changed all that much. As such, calculative, and data-based systems have only become more and more powerful at determining what institutions and individuals make their decisions about. For instance, as according to Popkova (2020), in a sense, the digital has "downgraded" the very idea of rationality in that human cognition is no longer at play as heavily in terms of decision-making as much as algorithms, big data, and machine-learning systems are. It is these systems that drive platforms such as social media, digital marketplaces, and e-commerce that, in that sense, inform both individuals' and institutions' decision-making in a manner that instead prioritizes efficiency, personalization, and profit over the traditional idea of rationality that factored in much more considerations of human values. In a similar way, as per Spahn (2020), the change is described, noting how all algorithmic systems that have been integrated into social reality are all rational, by nature, and design in a way that would not account fully for ethics and social impact in their operation. As such, the research at hand will examine the case of the sociological impact of rationality in the digital society and by extension, how the technologies that made it a possibility have changed the manner in which individuals act, form norms, and make decisions. In that respect, it will be necessary to consider the role of technology, more specifically in the form of algorithms, and digital platforms and their effects on the concept of rationality by taking into account the different forms of mediation in communication, decision-making, and interaction.

On the one hand, the essence of communicative rationality is defined, as Priadi and Thariq (2023) put it, by being completely different in the digital age, because the logic of social media and Internet as a whole is capable of shifting the deliberation and political choice of the population. On the other hand, the ethical aspects of digital rationality are also mentioned in Spahn (2020) in some form, which also in one way or another is also based on how such decisions are mediated by algorithmic systems and what the essential ethical issues to be given by this mediation are. The research in question is aimed at addressing the difference in rationality in the digital society and the traditional model, with some reference to the opportunities and challenges that the increased role of algorithms in the decision-making process related to social and personal life may provide. However, at the same time, the approach of the study will be to

view it from the sociological prism and the wider consequences of it, being in the digitally mediated world where human activity and social arrangements have become inextricably connected with the technology it spawned, may be.With the ongoing and unstoppered development of digital technologies, it is of the essence to understand how they have changed the idea of rationality and how they may further influence the way both individuals and whole societies make their decisions.

2. The Evolution of Rationality in the Digital Society

2.1 From Traditional Rationality to Digital Rationality

Classical understanding of rationality in sociology has been the human ability to make a rational choice, based on reason and logic and in an orderly manner. Sociology of rationality in the classical approach has largely borrowed from the work of Max Weber who had identified the centrality of this concept to the modern bureaucracy and organizations (Weber, 1905). Rationality was thus associated with calculability, efficiency and predictability of the action that was based on the application of logic and a structure to the decision-making process. Rationality in the past has always been based in human cognition, where people used their own reason to accomplish their particular objectives. Rationality has also always existed in the context of personal agency that suggested that individuals use their own rational powers to make decisions in the world around them. At the same time, with the ongoing digitalization of social processes this understanding has undergone a substantive change. As Dobrinskaya (2020) explains, with the rise of digital platforms, rationality has become increasingly mediated by the digital technologies, algorithms and artificial intelligence. In the age of digital technologies people have ceased to be the sole source of rational decision-making, as their decisions are either affected by or even pre-determined by algorithms used by the services that they use. For instance, the system of personalized recommendations used by such platforms as Amazon or Netflix are computed based on the usage of complex algorithms, which process a large amount of data, and optimize these recommendations according to some metrics. As Popkova (2020) notes, in turn, these systems create a new decision-making dynamic, marked by the shift away from the human-centric sphere of logic and movement into the direction of algorithmic, data-driven logic that often supplants the traditional understanding of rationality in favour of some metrics, such as efficiency or engagement. The result is the creation of a new type of rationality, which can be called digital rationality. This, however, is not an abstract phenomenon, but one that has been observable, and one which has had a range of effects on our everyday lives, the process of economic decision-making and even how we talk to each other. As Dobrinskaya (2020) points out, in the online sphere technologies are often scalable and efficient, optimized for the results, that is for how to generate the largest amount of engagement or revenue. This algorithm-based, platforms-logic type of rationality is increasingly determinant for how people behave, something which the traditional understandings of rationality did not produce. This, in turn, has resulted in a transformation of decision-making processes which have become increasingly algorithmic, automated and systematized with users having little to no idea of which algorithm is being used to make decisions on their behalf.

2.2 The Role of Algorithms in Shaping Rationality

The indispensability of algorithms to the digital society. The algorithm that runs everything, from social media to online shopping, even your financial decisions, is often hailed as the apex of rationality based on the use of statistical analysis and prediction (Popkova, 2020). Algorithms are optimized to make big data-driven decisions and in ways that are unfathomable by humans.Algorithms, in this perspective, are viewed as objective choices and provide solutions that are objective based on data, without human involvement, feelings, and subjective factors. Such rationality is commonly regarded as more objective compared to human decision-making because algorithms can process enormous amounts of information and make decisions, which, in theory, are optimal.

As an example, Spahn (2020) describes that in the digital advertising environment, algorithms are used to inform consumer preferences and introduce targeted advertisement through past behavior, which in effect direct consumer preference without human involvement. This is also given as a form of digital rationality, decisions are made based on calculated trends in data, not based on human preferences. On the same note, Fussey and Roth (2020) also emphasize the purpose of algorithms in fields such as healthcare and criminal justice, which seek to enhance efficiency, as they provide their predictions on the outcome of a patient or the probability of criminal reoffending. In such cases,

algorithms are used to make decisions with reference to statistical modeling which can be more consistent than the decisions that human decision-makers may be able to make.
At the same time, however, Spahn (2020) is also concerned about the limitations of algorithmic rationality. Algorithms are created to maximize rationality and increase the effectiveness of decision-making, but, in reality, they are far from being completely fair and error-free. In fact, algorithmic systems can promote and even enhance existing social inequalities. Predictive algorithms, for instance, used to assess candidates' viability for recruitment can already be biased, when based on historical data on hiring, and then produce biased hiring decisions that can negatively impact certain social groups. Popkova (2020) also addresses another problem, that is, that data, which serve as an input for algorithms, can be both incomplete and already biased, and as a result, decisions that are made, even if perfectly rational, are not always fair and non-discriminatory. In addition, as Spahn (2020) states, algorithms prioritize certain goals (profitability, user engagement, etc.) over ethical considerations. This type of rationality can be, and, in fact, is effective, but it does not always go in line with society's higher values or ethics and thus can have unintended effects, the opposite of a fair decision-making process.

2.3 Challenges to Rationality in the Digital Age

Popkova (2020) and Spahn (2020) describe the same issue from the aspect of information processing. On the one hand, the speed and amount of information, its complex and fragmented nature do not help in making informed decisions; it does not mean, however, that rationality as such disappears, only the form is changing. In the online space, a kind of inverse unification of information sources takes place, in contrast to traditional media. The disintegration of sources does not allow us to make common, objective, and rational conclusions about the various aspects of the world that surrounds us.

The Internet and social media gave the world a space that is marked by an environment of the participation of a great number of information sources, also in great numbers, which are unreliable, and often even disinformation (Dobrinskaya, 2020). This has resulted in what is called information overflow, an individual's inability to process the information he or she receives on a daily basis.The inability to systematize and filter various information, to separate the serious from the unreliable, as a rule, disorganizes the individual's ability to make rational choices.
In addition, information fragmentation often leads to the formation of echo chambers in which the individual only encounters opinions that are close to his or her own (Popkova, 2020). These circumstances make people often make choices on the basis of incomplete or partial information. This is often in direct conflict with the very ideal of rational decision-making that was to be the result of a logical analysis of unambiguous facts.
The online world is often presented as an information bubble and the web is often full of disinformation and misinformation, which also, in its turn, negatively affect rational decision-making. Spahn (2020) points out the fact that fake news and the almost constant presence of misinformation and sometimes purposefully created false information, as the main problems of the Internet. The high speed of dissemination of false information on social media platforms can have a huge impact on public thinking and can even influence political decisions. Popkova (2020) also states that information manipulation, the creation of 'fake' news, agenda-setting, and biased algorithms are also important problems for rational decision-making because they distort the information that people take into account when they form their own understanding and making choices.

Another complexity that prevents decisions from being made rationally in the information space is related to the fact that technological development is extremely rapid. Spahn (2020) also points out the fact that technological progress, in particular in artificial intelligence and machine learning, is going on at such a pace that people, and perhaps society in general, has not yet had the opportunity to adapt to it and use new technologies to even fully understand the results of its implementation. In such an ambiguous situation, people and organizations often simply cannot make a rational decision since they are forced to adapt to the increasingly unpredictable environment of the Internet. Popkova (2020) also notes that often in this situation the rationality of the decision-making process is sacrificed by the need to make a quick decision or, conversely, due to a lack of the necessary knowledge and information. It is also worth noting the fact that the uncertainty of such technologies does not allow for long-term forecasts to be made, which, in turn, also hinders the process of informed and, as a result, rational decision-making.

Finally, Dobrinskaya (2020) notes the fact that in the 'information' world, humans are also disconnected from their sensation of sense of harm that is associated with a certain action. When people are 'detached' from their own or someone else's pain, the social component that necessarily involves some responsibility is blurred and is gradually being lost. Rational actions are impossible when they are abstracted from the social context and relieved of moral and, sometimes, legal responsibilities. The consequences of their actions and responsibility for them are one of those aspects of morality to which rationality must be applied.

3. Communicative Rationality in Digital Spaces

3.1 Understanding Communicative Rationality

Communicative rationality is a theory that focuses on dialogue and discourse based on rational thought. Habermas (1971) suggests that for humans to think and act rationally, it is through a process that places primacy on a procedure as a process of discourse, discussion, sharing, and exchange of ideas or rational thinking. He (1971) also purports that human rationality must be framed in the aspect of dialogue. In a discussion process, there is a social life system in which people ought to behave according to this social relationship. Habermas (1971) accentuates that through discussion, humans can gain a better understanding and can agree on a certain issue. In other words, there is a common or mutual assent with a given thought or consideration.

Aimed at a digitally dominated society, human beings communicate rationally in a changed form, and this change has resulted from the role of digital media in mediating the process of communication. Priadi and Thariq (2023) observe that in a digitally dominated society, platforms have become a new social environment in which people live and interact. Humans used to communicate rationally through direct dialogue or created public spheres for discussions. However, they now do the communication online on different digital platforms for most of the public communication process. In this regard, new forms of communication have emerged through different forms of mediation. In the digital society, communication has become a monetized type of discussion, whereby people interact with content as provided by the digital platform algorithms, which is faster and determines one's social worth (Dobrinskaya, 2020).

The platform through which people now are communicating has therefore changed the very nature of rational discussion and debate (Dobrinskaya, 2020). It is therefore influenced by the form of mediation it experiences during the communication process, as this is how people are now used to communicating on different platforms.

3.2 Reconstruction of Communicative Rationality

This reconstruction is mainly due to the digital environment which forces Habermas to put forward the idea of a reconstructed communicative rationality. Priadi and Thariq (2023) address how digital media platforms, with a case study on Indonesia, affect and change communicative rationality. The significant development in information access in digital communication channels comes with an important change in rationality. These changes occur as media, in the public spheres, have shifted their focus from traditional to digital media. Habermas's original conception of public spheres and communication being limited to traditional media has not caught up with the internet age. Digital platforms now offer more discursive and participatory forms of communication than traditional media (Priadi &Thariq, 2023). At the same time, these digital platforms also present unique challenges to the discourse, making communication flow more easily in the digital environment but offering a different roadblock to productive communication. Communication has become more democratised, more open to individuals having an input on public and political matters, and social media channels have become the dominant form of communication where people can access and distribute information. However, it is harder to facilitate the kinds of rational dialogue Habermas postulated. Algorithms direct what kind of content users will be exposed to on digital media platforms, making it even harder to promote rational discourse.

In the digital age, the reconstruction of communicative rationality would focus on how content is shared and who receives that content in the digital sphere. Priadi and Thariq (2023) also note that there are other new conditions to the reconstruction of communicative rationality such as echo chambers and filter bubbles. This challenges the presumption of communicative rationality being a space that is open to every individual's contribution, inclusive and undistorted in its attempt at reaching understanding through discourse.

3.3 The Impact of Digital Media on Rational Discourse

The issue with deliberative and rational communication, however, is that the deliberative sphere has been broken up, it is now fragmented due to the changes in media use. Blommaert (2020) suggests that this is the result of the way in which social media and digital platforms are by their very nature and the strong influence they now have on the shape of rational conversations and speech. He says that the central issue here is the speed and engagement – the central logic of these platforms. Social media sites such as Facebook and Twitter want to capture your attention and hold it for a while, and at the same time hold you on their site for as long as possible. The result is that the types of content which is brought to the fore are the kinds which are designed to evoke the strongest and most extreme emotions and get as many clicks as possible. Rational deliberative content which takes more time and might be more ambivalent in its views is less available. In such an environment therefore, "rationality by exclusion" is more common, as particular audiences are being aimed at and the upshot is that other groups are actively left out of the communicative process. Blommaert (2020) also points to echo chambers and filter bubbles in digital spaces which only serve to reinforce our current ways of seeing the world, rather than giving us alternative views and information. The more you engage with these sorts of communications and ideas, the more you are likely to be closed off to dialogue with other people who do not share the same starting points.

Digital platforms' personalized algorithms curate content that often leads to information bubbles, where users are only exposed to content that aligns with their existing beliefs. Digital platforms do not, in his opinion, make the public sphere more rational, since there, according to Spahn (2020), groups move in parallel worlds that are independent of each other. This is also due to the fact that the algorithms work in such a way that they constantly show the same content on the digital platform that is in harmony with the users' worldviews, while everything else is put into different contexts. In other words, under the influence of algorithms, a person develops a different discourse from someone else's, which leads to different pictures of the world, contributing to its polarization. In politics, one can see how, under the influence of these new conditions of the public sphere, there is no interest in seeking a common denominator or in finding rational solutions. Political discussions on digital media platforms have become arenas of competing ideologies, with complex issues often reduced to soundbites or memes (Blommaert, 2020). This oversimplification discourages rational, evidence-based debate, which is crucial for democratic deliberation. Additionally, the digital environment promotes quick responses and surface-level engagement, undermining the potential for meaningful deliberation that is at the core of communicative rationality.

4. Digital Objects, Digital Subjects, and the Evolution of Rationality

4.1 The Concept of Digital Subjects and Objects

The Digital society creates a relationship between the digital subjects and digital objects (Spahn, 2020). The subjects of the digital society are human beings while the objects are those technologies which mediate between these subjects and digital contents. However, it would be wrong to interpret this as if people are simply using digital platforms, these platforms are in many ways shaping their actions and thus influencing their life experiences. The subjects of the digital society "are not preceding their algorithmic mediation" (Spahn, 2020, p. 306). Therefore, when using a digital device, such as a smartphone, users are interacting with the technology whose algorithms are guiding them to make choices that seem to be theirs. This idea also describes the definition of digital subject: people, whose decisions are manipulated by algorithms in the digital platforms they are using (Popkova, 2020). Thus, when using a platform, people are exposed to choices which are limited and shaped by recommendation algorithms and predictive models. In the simplest terms, every social media platform, every newsfeed, every video streaming, and every search are using the digital objects to pre-select information for the users. There are no neutral digital objects, they are optimizing to increase business value, or increasing people's time spent on the platform. The result of the interaction with these digital objects is pre-determined, even if the users do not know it, the way they are being guided to take certain decisions is non-transparent to them. Thus, the relationship between digital objects and digital subjects is algorithmic and of a "cause-effect" nature. By using certain digital objects, people are being exposed to, and influenced by the algorithms, thus the digital subjects become the end product of that digital object usage. (Spahn, 2020).

It is also important to remember that the digital object owners have the ability to exploit the end user in a certain way, which may be either economic, or ideological in nature, for example. For instance, an online advertising platform's algorithms are working for the advertisers, which are business owners and not people.

4.2 Deontological Ethics in the Digital Age

The growing application of digital technologies for decision-making has been associated with a variety of concerns about its moral and ethical justifiability, including from the deontological perspective. Deontological ethics is a moral theory that emphasizes the importance of duty, moral rules, and obligations in determining the rightness or wrongness of an action. From the deontological perspective, an action is morally right if it is in accordance with a moral rule or duty, regardless of its consequences. In his article, Spahn (2020) has already explored the deontological challenges of using digital technologies for decision-making and the trend of increasing algorithmic decision-making. He claimed that the use of digital technologies for decision-making can be driven by the goal of efficiency and effectiveness, while moral and ethical concerns may be marginalized or ignored, leading to the marginalization of moral values and principles. For example, from the deontological perspective, using digital technologies for decision-making can be viewed as a violation of fundamental moral duties and obligations.

Digital technologies often involve the use of algorithms and other tools for decision-making that are based on efficiency and effectiveness as primary values. This may lead to several deontological challenges, such as accountability, transparency, and the potential for harm. Automated decision-making in digital contexts can be problematic. In his article, Spahn (2020) stated that the full automation of the decision-making process in digital contexts can lead to the justification of potentially amoral or unethical decisions, from the deontological ethics perspective, such as discrimination, exploitation, or other forms of unethical behavior, if they are efficient or profitable.For example, using algorithms to target vulnerable populations for advertising or other purposes may be efficient, but it could be viewed as unethical from the deontological perspective. In digital contexts, efficiency is often a key criterion; therefore, there is a risk that decisions may be justified based solely on their efficiency without taking other ethical aspects into account. Popkova (2020) mentions that digitalization partially contradicts deontological categorical moral imperatives due to digitalization, which values the results or goals rather than the process's moral imperatives (efficiency). The dilemma is the contradiction between moral duty and the need for algorithmic efficiency, giving rise to a number of questions about the ability of digital technologies to integrate with the values of society. In response to this problem, Spahn (2020) has noted that to justify digital technology-based decisions in the deontological ethics context, it is necessary to ensure the alignment of digital decision-making with moral standards.

4.3 The Role of Automation in Rational Decision-Making

Automation in the decision-making processes has been on the rise in the information age. Automated systems used for making decisions have multiplied in e-commerce ordering systems and in recommendation engines and AI for doctors. Lindebaum et al. (2020) focused on the role automation has on rational decisions, arguing that while being efficient and quick, most automated systems have removed subjective human factors in the process.

Automated systems, by the nature of their purpose, process large amounts of data to form rapid data-driven judgments. They do this by operating on set rules and programmed algorithms, which in some cases can make the judgment more objective and consistent. However, Lindebaum et al. (2020) have argued that it could also remove a part of the nuanced and moral concerns in decision-making from the equation, taking the human dimension out. An example would be the hiring algorithm used in the previous discussion, where the AI may place all importance on experience or education, not taking into account other social, cultural, or person-specific factors which a human judge would have a better understanding of.

Spahn (2020) argues that in modern times, we are also giving up more and more of our decision-making to automated systems. In many industries, including healthcare and finance, we are relying on algorithms to make decisions for us. I think that it is important to address the ethical implications of this potential for automation. While this is good from an efficiency standpoint, it also means that we are ceding control over our important decisions to algorithms and machines. We are outsourcing the responsibility for medical diagnoses and financial risk assessments, among other things, to machines that can make mistakes and have no real accountability. This is concerning because when we remove human subjectivity and interpretation from the decision-making process, there is a risk that decisions will be

made that are not rational or are based on incorrect algorithms or datasets. It is also worth noting the lack of accountability in these automated processes (Lindebaum et al., 2020). Lindebaum et al. (2020) propose the ability to apportion blame for a given decision (or to avoid such for oneself) as an increasingly futile endeavor in current systems. While an individual or group of actors may be readily identified as responsible for a decision in a human-led process, this is much more difficult in the context of automated systems. In this way, they found accountability to be constantly negotiated between various actors and institutions in such instances. In this way, Spahn (2020) argues that although automation could make us more efficient and fast, there are ethical implications that should also be considered. The rational decision-making process should be coupled with an appreciation of the ethical component of any given decision. In other words, we should be careful not to simply automate our decision-making processes without also considering the ethical implications of those decisions.

5. The Digital Economy and Rational Decision-Making

5.1 The Digital Economy's Influence on Rationality

Popkova (2020) considers the digital economy to have transformed the nature of rationality. She reasons that the increase in complexity and variety as new types of goods and services are introduced with the emergence of new digital technologies make it more difficult to make decisions, which economists define as rational. Rational decision-making is a process whereby one makes an informed choice. To make an informed choice, one has to have the necessary information that enables them to determine which of the available choices serves their long-term interests best. However, as rational economic choice used to be hinged on a theory of utility maximization in the mainstream economy, the rise of the digital economy challenges this definition.

Popkova (2020) maintains that because digital platforms for economic transactions have come with new technologies such as the utilization of massive amounts of data, algorithms, and Artificial Intelligence to create new products and platforms, there is a change in what rationality means. Rationality in the digital economy is said to be both subject to and determined by the system it functions within. The decisions that one makes in the digital economy, to a large extent, are system-determined rather than based on rational choice as in the traditional economy.

For example, as per Spahn (2020), one browsing the Internet is constantly in the presence of information based on predictions of what they will purchase and when. Rationality, which was previously associated with utility maximization and profit-making in economics, no longer remains so in the digital economy. This is because this system of utility maximization presupposes an agent as rational and capable of making an informed choice by his or her own volition. The algorithms on the internet platforms, on the other hand, make the key decisions regarding what products and services one views and purchases or clicks on in order to increase time and data spent on the platform. Popkova (2020) therefore argues that one's behavior in the digital economy is not necessarily rational and guided by one's free will and deliberate thought.

5.2 Rational Decision-Making in the Context of Digital Markets

The economic decisions made in digital markets are becoming more algorithmic and driven by big data (Popkova, 2020). The economic agents making those decisions include both the buyers and sellers, and the "decisions made by rational economic agents are now made more by algorithms than by Homo economicus" (Popkova, 2020, p. 3). This means that even when individuals believe they are acting rationally, they are influenced by the system they are using, which uses algorithms to make its suggestions in an optimal manner. As a result, their decisions are subsumed into the system of automated and algorithmic market, making it harder to apply to these processes traditional economic conceptions of rationality, which include ideas such as utility or informed decision-making.

This can be said about decisions in digital economies, which are now also bound by system-specific rationality. For instance, Spahn (2020) explains that "Amazon and Netflix give all their users extremely similar offers" by using an algorithm to determine what a user is likely to be buying or viewing next based on his previous decisions (p. 276). Although this is technically rational, as it optimizes decision-making for the user and maximizes his sales or shows viewed, the process is quite different from the process of economically rational decision-making. The consumer is now being nudged into buying or using a particular product, often without a clear understanding of why certain recommendations are appearing and others are not, which is especially important in the age of targeted advertising. It

also becomes evident that the system controls the nudges it provides to its users, making it more rational for a business to use big data to further profit from its consumer.
Popkova (2020) also says that the firms are also using big data to make decisions and create new profit opportunities, which can also lead to more nudging. For example, this can be reflected in the use of targeted advertising, as the businesses using data-driven strategies can control the purchasing decisions of the consumers (Popkova, 2020). The decisions, in this case, are being made not by an individual but rather by the system based on his previous decisions. This can be rationally considered as an efficient process, but it changes where the economic decisions are being made in a digital market.

5.3 Rationality and Digital Consumer Behavior

Behavior in the digital age, or at least a considerable part of it, could be defined as being artificially shaped by data collection and analysis in the service of targeted marketing and customized recommendations. In the words of Dyachkova (2020), "Amid the growing significance of digital marketing to modern society, personalized marketing represents one of the newest and most important types of rationality in the digital economy" (para. 2). The personalized marketing system, which attempts to provide customers with products or services in line with their previously observed behavior and preferences, can occasionally lead to an increase in the shopping process' efficiency and the relevancy of the options being offered to consumers.
Dyachkova (2020) also discusses the issue of consumer's diminished independence and susceptibility to manipulation in personalized marketing. The personalized recommendations are in no way objective or targeted toward consumers' benefit; instead, the suggested purchases have to be attractive and profitable for the company that has generated them. Thus, in the new form of rationality, consumers are no longer given complete freedom in decision-making and can only choose among a limited set of options that are recommended by the algorithm based on the assumption of what customers are the most likely to purchase (Dyachkova, 2020). In a way, consumers are rational in this case, as they tend to decide based on the recommendations of an external system, not necessarily being fully rational or objective in their purchasing decisions (Spahn, 2020). Spahn (2020) calls it "consumer manipulation" because consumers are often lead to believe that they are making rational and independent decisions when in reality, they are not.
Dyachkova (2020) indicates that the personalization of digital marketplaces can lead to a consumer rationality more aligned with immediate desires or short-term goals, rather than long-term financial planning or well-being. Personalized shopping recommendations can, for instance, encourage consumers to make impulse purchases. When algorithms are optimized for immediate sales rather than fostering consumers' more considered or reasoned decision-making, a different type of rationality emerges, one that prioritizes profit and engagement over reasoned decision-making. The consumer is no longer able to identify when a decision is made or when a decision is made by an algorithm. New characteristics of consumer rationality emerge (Spahn, 2020). As Dyachkova (2020) puts it, "the more efficient this system becomes, the more control it obtains over our choices" (p. 393). This increased power over consumers' choices means that the distinction between their autonomous decision-making and algorithm-influenced decision-making is increasingly blurred, thus the responsibility of digital platforms to act in their customers' best interests is raised as an ethical issue.

6. Political Rationality in the Digital Age

6.1 Political Discourse in Digital Societies

The entry of digital technologies into human life has a very important influence on political speech activity. Blommaert (2020) writes about how digital technologies transform people's understanding of politics. He mainly focuses on changes that have occurred in people's view of the medium of political discourse. Political discussions used to take place through a more orderly public, face-to-face, and overtly or covertly censored or moderated mass medium, for example, the television or political speech on the central square and the meeting of public political newspapers. In this case, positions were expressed in a more or less reasonable way. Currently, in contrast to earlier forms of politics, the use of digital media for political communication is developing. Blommaert (2020) claims that Facebook, Twitter, and YouTube use algorithms that encourage people to view new "content" and sensational headlines, and this, of course, does not contribute to the promotion of political rationality. Although the adoption of new technologies greatly

influences all areas of human life, there are some more negative than positive changes that take place in political speech activities. For example, due to these new changes, the issue of rational discourse no longer prevails and balanced views on political issues and, in fact, political issues in general are not being heard and are being replaced by "party approaches" to public speech activity. Blommaert (2020) indicates that this situation does not contribute to strengthening political life and the meaning of political rationality. Instead, the author believes that new technologies have made it possible to create an alternative and distributed, involving a wider, heterogeneous audience that was not directly available in social media and electronic networks.

6.2 Digital Technology and the Public Sphere

The third debate about the public sphere has to do with the effects of the online transformation of the public sphere on democracy and political rationality. The public sphere was also understood as a distinct public sphere that brought private individuals together to form opinions, challenge, and make political decisions. The digital sphere has radically affected the process of opinion formation and how people make political decisions. For instance, Priadi and Thariq (2023) argue that the new digital public sphere has impacted how the public forms its opinions, which in turn, makes it more amenable to manipulation. In the traditional physical public sphere, political actors could not directly address the public. The process of the public's opinion formation was also affected by opinion gatekeepers like journalists and scholars. The information would be tested, fact-checked, and put into a historical and social context to allow for more rational deliberation. But there are no moderating factors in the digital public sphere since political actors can directly reach out to the public and also avoid gatekeepers like journalists (Priadi &Thariq, 2023). In this way, this type of public sphere is much more open to manipulation and more hostile to rational deliberation.

Priadi and Thariq (2023) also go on to say that the digital public sphere is rife with misinformation and more dependent on partisan angles than contextual and objective information. The other ramification of the new digital public sphere is that individuals are being exposed to fewer and fewer opposing viewpoints (Priadi &Thariq, 2023). Instead of hearing what others say in the public sphere, one now receives messages and information in a closed circuit. Blommaert (2020) calls this echo chamber, which refers to people no longer being able to debate or think together; individuals are locked into their own personalized and commercialized spaces (Priadi &Thariq, 2023). In the digital world, people are, therefore, much less likely to be exposed to other opinions.

In the digital era, political rationality is undermined by the lack of diverse and balanced perspectives, making it harder for citizens to make well-informed, rational decisions. Priadi and Thariq (2023) note that this process leads to a situation where public opinion is shaped not by careful deliberation or objective debate, but by algorithms that prioritize engagement and click-through rates, often promoting content that is more divisive or sensationalistic.

6.3 Disinformation and Rational Decision-Making

The spread of false information is perhaps the most important obstacle to a rational choice among most users. Spytska (2023) discusses how misinformation affects digital societies. In this review, the author claims that the spread of misinformation distorts users' decision-making. It also damages their trust in public institutions. The rapid spread of information is common to the digital world, which also makes it hard for readers to differentiate between real and false information sources. One of the ways misinformation spreads is social media. The network option is due to the fact that users can post any content without much oversight and repost at lightning speed.

Spytska (2023) says the spread of fake information is a carefully planned process. Fake news is used to mislead the majority for several reasons: for example, to shift public opinion in a particular direction. Popkova (2020) says this means using viral nature to influence rational decision-making. As a result, there are situations where users are presented with false facts and data, which prevents them from making rational decisions.

The widespread of disinformation indeed leads to an atmosphere in which it becomes nearly impossible to be political in a rational manner. Spytska (2023) argues that when misinformation continuously influences the individuals' behavior, it distorts the political reality they inhabit. Misinformation also creates a high level of distrust in the institutions, the political system, and the society at large. The inability to rely on objective and correct information makes rational judgments by individuals unlikely. This, in turn, implies that the overall tone of political discussions will be marked by emotionalism, subjectivity, biased narratives, and a widespread disrespect for critical thinking.

The concept is supported by Spahn's (2020) observation that the digital environment represents a closed feedback system, where individuals will always embrace the information that is familiar to them. This only further strengthens the previously established feedback system and only lessens the potential for rational and value-based decision-making. The composite of the aforementioned elements means that the impact of disinformation on the political decision-making process is incalculable.

7. Algorithmic Rationality and its Social Implications

7.1 The Role of Algorithms in Decision-Making

In the age of digital capitalism, decision-making is becoming increasingly outsourced to algorithms which are being used to make choices that people are making on an everyday basis in their everyday lives, whether when they shop, when they are targeted by political campaigns, or when they participate in other activities which involve some form of social behaviour. Lindebaum et al. (2020) suggest that the purpose of algorithms in this way is to rationalise decision-making through taking data and, in a methodical and rational way, crunching it and spitting out decisions in response to what has been input. This links in with the rational choice approach, in which decision-making in the way of computation suggested above is the best of all possible worlds. Algorithms can process information and recognise patterns at a scale, and at a speed that humans simply cannot match, which means they are better placed to make more objective decisions taking into account all known factors and trends, and not influenced by emotions or other psychological biases.As can be clearly seen, the substitution of human judgment with data-based algorithms in decision-making also comes with its own risks and unintended side effects.Lindebaum et al. (2020) state that while algorithms are generally meant to "maximize rationality" of the decisions (p. 2), the rationality is always a function of their design and the quality of data they rely on. If algorithms are fed by data that is incomplete, nonrepresentative, or otherwise flawed, they are likely to produce output that may be rational in terms of its internal consistency but inefficient in other terms or not rational in a social context. For example, one could use an algorithm to identify "high-risk individuals" for the purposes of surveillance, policing, or redlining, as these "could be addressed at scale" (Lindebaum et al., 2020, p. 2), yet, even if the decisions such an algorithm makes are consistent and efficient, they are certainly not rational from the standpoint of society or the individuals affected. As Spahn (2020) shows, in our current digital reality, algorithms used for credit scoring, recidivism risk assessment, or marketing optimization lead to not only outcomes that are disadvantageous for the people being profiled but often rationalize and amplify inequality or bias rather than mitigate them.

In this regard, Dobrinskaya (2020) makes the point that the employment of algorithms in decision-making strips the process of subjectivity and agency in the human sense, with the would-be decision-makers reduced to mere operators or spectators of a process they themselves did not design and are incapable of fully controlling. As such, the collective intelligence of the network operating outside of any rationality that could have meaning in a human sense, devoid of any social, cultural or other cues to guide its operations toward ends that are, strictly speaking, not rational. It is in this way that algorithms do not only replace the human capacity for rational decision-making, but often exceed it.

7.2 Algorithmic Bias and Its Impact on Rationality

Algorithmic bias, as well as a closely related problem, is one of the key issues. As Reckwitz (2020) points out, algorithms are usually trained using data that is already biased and reflects the existing prejudices and past practices of a given society. This can lead to discriminatory decisions that reinforce the existing inequalities and prejudices and, in that respect, distort the rationality of these decisions. Algorithms are being widely used in order to make decisions in a wide array of contexts in a digital society, from the criminal justice system, hiring and recruitment, loan and mortgage approval, healthcare, and many others, and are not always able to detect the biased data and account for it. For instance, Spahn (2020) points out that predictive policing algorithms, which rely on past crime data in order to detect possible future locations and scenarios of crime, can lead to racial bias. If the algorithm is trained with data that is already biased, for example by over-policing in specific communities or against a specific demographic group, the algorithm will reproduce these biases and lead to discriminatory policing. Popkova (2020) also points out that algorithms used to make hiring decisions may lead to discrimination if the algorithm is trained on biased data that reflects past hiring practices which were already biased towards a specific demographic group. Algorithmic bias, thus,

invalidates the rationality of these decisions, resulting in discriminatory and unfair outcomes, and may also play a role in reinforcing the social inequalities, which make it challenging for the marginalized groups to overcome the structural disadvantages. For that matter, Reckwitz (2020) points out that algorithmic bias is in direct contradiction with the rational idea that decision-making is the "domain of impartial" and just agents and systems. In that respect, algorithmic rationality effectively becomes its antithesis, where algorithmic systems and machines are the complete opposite of what they are supposed to be. Not only does that put into question the efficiency of the said algorithmic systems but also poses a grave ethical problem for the agents that design, use, and implement algorithmic solutions. In that respect, the solutions need to extend beyond algorithms and target the social, cultural, and institutional factors that determine the conditions under which the data was produced (Reckwitz, 2020). Algorithmic bias, thus, comes to discredit the whole notion of algorithmic decision-making as an effective instrument for rational decision-making. As Spahn (2020) puts it, on the one hand, the very notion of algorithmic rationality is predicated on a computational idea that algorithms are impartial, which in itself is a farce. On the other hand, if the systems mirror the existing inequalities, the system cannot be used to achieve "rational outcomes" when it comes to the goals of equality, fairness, and justice. This ultimately only works to reify the algorithmic bias and institutionalize the inequalities that digital society should be fighting against.

7.3 The Future of Algorithmic Rationality

As algorithmic systems advance, the question of whether they can be considered rational becomes more complicated. Lindgren (2021) asks how rational the future of algorithmic decision-making may become. He envisions a future where transparency and accountability in algorithmic decision-making are priorities, and where greater transparency and algorithmic accountability are necessary for the continued expansion of algorithms in healthcare, the criminal justice system, and public policy-making. He makes a convincing argument for the importance of not only seeking ways to use algorithms to make optimal decisions, but also to control them and to make them responsible to ethical standards. This should ensure rational decisions in this sense. The one of the future perspectives of algorithmic rationality is improving transparency. Lindebaum et al. (2020) write that many algorithms are seen as "black boxes" where the process of making a decision is hidden from the user or people affected by the decisions. This means that users and stakeholders may not be able to understand how an algorithm makes a decision and based on what it is making decisions. For a more rational future of algorithmic decision-making, Lindgren (2021) argues that algorithms need to be open for inspection and explainable in the processes they have used to come to a decision. Algorithms need to be not "proprietary" but available for inspection (Lindebaum et al., 2020). Additionally, they need to be explainable to a degree where a user can understand why an algorithm made the decision that it did (Lindgren, 2021).

Finally, Lindebaum et al. (2020) posit that special attention to the inclusion of the ethical regulatory component in it should be paid during the creation of the future algorithms. With the development of machine learning its application as a factor determining all the important aspects of a person's life, from his place of work and receipt method to medicine, is becoming more and more common. To ensure that these mechanisms work correctly and fairly, it is necessary to ensure that ethical principles of society are reflected in them. The way of functioning of ethical algorithms could be the inclusion in them of a strategy of moral reasoning that would dictate the right formulation of the algorithm instead of a one which is purely oriented on some optimisation.

In the future of algorithmic rationality, it is also necessary to talk about accountability. As more and more important decisions are made by calculating systems, there should be some liability for the consequences of those decisions. Spahn (2020) states that the more systems and functions are automated, the more absent the human factor is in the production of a final decision, which leads to an absent party in charge. For a system to operate rationally and in a just way, it is necessary to clarify responsibility for both the design and implementation.

8. Conclusion

8.1 Summary of Findings

The main findings can be deduced from the following. The study defined the concept of rationality in the digital society. It was discovered that digital technologies are quickly changing the nature of decision-making, as well as practical and intellectual reasoning, in a wide range of aspects of life. Rationality in the digital economy is characterized

by an increase in algorithmic decision-making. The effects of these changes are both beneficial and harmful. Algorithmization in decision-making provides scalability and speed like nothing else but simultaneously produces a number of problems such as the complexity of task allocation, feedback, loss of control, loss of human agency, and algorithmic biases. Digital media's effects on politics and public opinion are significantly fragmenting the public sphere in ways that compromise rational, informed, and balanced political discussion. Digital personalized marketing and consumer behavior have redefined the marketplace's concept of rationality, with worries about digital marketing and algorithmic decision-making's ethical and moral consequences. The study's analysis showed that when digital technologies intersect with a concept as fluid as rationality, they take on a broader purpose. They do not only partially automate the decision-making process, but they also mold people's behavior, alter social norms and practices, and impact institutions. Digital technologies in and of themselves can only partially guarantee rationality or help to evade irrationality. The abilities of digital technologies to improve information processing may enhance rationality. However, a number of new forms of irrationality, such as prejudice and exclusion brought on by algorithmic bias, misinformation, and the hijacking of consumer behavior, have all been brought on by the same digital technology.

8.2 Implications for Sociological Theory

Digitalization of society requires new thinking about the application of classical sociological theories, especially the theory of rationality. Classical sociological theories before the era of digitalization were based on social relations, communication, and institutions as the fundamental principles of society. However, the digital age, with its profound impact on human cognition, social interaction, and institutions by digital technologies and platforms, necessitates a new view on the application of the theory of rationality to digital society. It was recognized by Dobrinskaya (2020) and Spahn (2020) who studied the impact of digital platforms and algorithms not only on economic and political behaviors but also on social actions and values. It is a call for a new conceptualization of the application of rationality in sociology, as digitalization is not only an addition to human action but a structural formation that has the power to shape social structures, political engagement, and behavioral patterns.

Rationality theories built on human decisions and choices will become irrelevant if the social character of action and communication is performed to a significant extent by more and more complex algorithms and digital platforms. Priadi and Thariq (2023) demonstrated the shift in the nature of communicative rationality by showing how the digital media platforms altered the logic of deliberation toward sensationalism and segmented the public sphere through framing that changed the mode of political engagement. This shift in political communication requires a new theoretical vantage point to make sense of the phenomena of digital societies, the role of algorithms in the dynamic of rationality, and the ethical issues of the process. Popkova (2020) and Lindebaum et al. (2020) have already identified the problem of automation of decision-making and its implications as well as the ethical issues of algorithmic biases and disinformation. Existing classical theories of sociology need to be augmented by the principles of power, inequality, and accountability to understand the dynamics of digital societies. Rationality theories need to be reinvented in the digital world where the distribution of power is being reconstructed by digital platforms and algorithms that regulate the production and consumption of information.

8.3 Future Research Directions

In summary, there are still many topics and perspectives that require further exploration and research in the area of digital rationality. The questions and conclusions offered in this project point to the need for more in-depth study of the social and ethical implications of digital technologies on human decision-making and reasoning. Spahn (2020) highlights the issues of algorithmic bias and discrimination as an area that requires a lot more effort and suggests a need for more critical engagement with the impact of digital technologies on social justice and inequality. Therefore, more research is needed to provide a framework for understanding how algorithms can be designed and implemented to ensure ethical, transparent, and fair decision-making, especially in critical areas such as criminal justice, healthcare, and hiring practices. Moreover, the influence of algorithms on social behavior and norms is another important area for future study. Lindebaum et al. (2020) suggest that one possible area of automated decision-making systems could be to increase efficiency, but more research is required to understand how these systems will affect human judgment, social interactions, and relationships. The implications of algorithmic rationality for democratic participation, deliberation, and decision-making, as Blommaert (2020) and Priadi and Thariq (2023) point out, are also of significant concern, especially regarding how digital platforms and tools mediate and structure public communication and collective action.

The future of algorithmic rationality may also involve creating more just and transparent decision-making systems. Lindgren (2021) argues that the future of algorithmic decision-making is based on a potential for transparency, accountability, and ethical oversight. Research should, therefore, be focused on how digital technologies can not only promote economic efficiency but also support the construction of a more rational, inclusive, and socially just society. This will require a rethinking of the relationship between technology, rationality, and human values to ensure that digital systems align with society's broader goals and values of fairness, equity, and well-being.

Findings

- Hybridization of Rationality: Rationality in the digital society is no longer an exclusively human faculty but a hybrid construct produced through the interplay between human cognition and algorithmic computation.
- Algorithmic Mediation and Social Behavior: Decision-making and communication are increasingly mediated by algorithmic mechanisms. Social media, recommendation systems, and digital marketplaces condition the rational horizon of users.
- Transformation of Communicative Rationality: Digital interaction modifies the Habermasian concept of communicative rationality. Online discourse tends to favor visibility and affect over deliberation, diminishing rational argumentation.
- Ethical Paradox of Efficiency: The digital form of rationality prioritizes optimization and personalization, often overlooking ethical reflection and collective welfare.
- Emergence of Post-Human Rationality: Rationality in the digital era must be reconceptualized within a post-human framework recognizing the agency of technology in shaping cognition and decision-making.

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References

1. Blommaert, J. (2020). Political discourse in post-digital societies. *TrabalhosemLinguísticaAplicada, 59*, 390-403.
2. Dobrinskaya, D. E. (2020). Digital society: Sociological perspective. *Moscow State University Bulletin. Series 18. Sociology and Political Science, 25*(4), 175-192.
3. Edelmann, A., Wolff, T., Montagne, D., & Bail, C. A. (2020). Computational social science and sociology. *Annual Review of Sociology, 46*(1), 61-81.
4. Fussey, P., & Roth, S. (2020). Digitizing sociology: Continuity and change in the internet era. *Sociology, 54*(4), 659-674.
5. Lindebaum, D., Vesa, M., & Den Hond, F. (2020). Insights from "the machine stops" to better understand rational assumptions in algorithmic decision making and its implications for organizations. *Academy of Management Review, 45*(1), 247-263.

6. Popkova, E. G. (2020). Digital economy: Complexity and variety vs. rationality.
7. Priadi, R., &Thariq, M. (2023). Reconstruction of communicative rationality: A study on the digital mass media society in Indonesia. *Journal of Law and Sustainable Development, 11*(4), e579-e579.
8. Reckwitz, A. (2020). The society of singularities. *Futures of the study of culture: Interdisciplinary perspectives, global challenges, 8*, 141.
9. Spahn, A. (2020). Digital objects, digital subjects and digital societies: Deontology in the age of digitalization. *Information, 11*(4), 228.
10. Spytska, L. (2023). Features of political psychology in a digital society: Managing and defining disinformation. *Social & Legal Studios, 177.*
11. Kravchenko, S. A. (2021). From formal rationality to the digital one: Side-effects, ambivalences and vulnerabilities. RUDN Journal of Sociology.
12. Gerdon, F. (2022). Social impacts of algorithmic decision-making: A research agenda. Big Data & Society.
13. Zhao, Y. (2023). Digital sociology: origin, development, and prospects from a sociological perspective. Journal of Chinese Sociology.
14. Mahmud, H. et al. (2022). What influences algorithmic decision-making? A systematic review and meta-analysis. Technological Forecasting & Social Change.
15. Toward a Theory of Digital Rationality: Mental Codes and Symbolic Control. (2025). Journal of GIPA (Georgia).
16. The Societal Impacts of Algorithmic Decision-Making. (2023). ACM / Interdisciplinary Collection.
17. Raghavan, M. et al. (2021). The Societal Impacts of Algorithmic Decision-Making. Cornell eCommons.
18. Zajko, M. (2022). Artificial intelligence, algorithms, and social inequality. Sociology Compass.
19. Kalberg, S. (n.d.). Max Weber's Types of Rationality. Boston University.
20. Schwarting, R. et al. (2022). Why organization matters in 'algorithmic discrimination'. Sociologia del Lavoro.
21. Fussey, P. (2020). Digitizing Sociology: Continuity and Change in the Internet Age. Sociology.
22. Belenguer, L. et al. (2022). AI bias: exploring discriminatory algorithmic decision-making. PMC Journal.
23. Muellerleile, C., & Robertson, S. (n.d.). Digital Weberianism: Bureaucracy, Information, and the Techno-rationality of Neoliberal Capitalism. ResearchGate.
24. James, P. (2024). Algorithmic decision-making in social work practice and ethics. Journal of Social Work.
25. Meyer, U. (2024). Making Choices Rational: The Elective Affinity of Artificial Intelligence and Organizational Decision-Making. Weizenbaum Institute Journal.