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AI AND DECISION-MAKING: A SWOT ANALYSIS FOR FUTURE PERSPECTIVES IN PUBLIC ADMINISTRATION

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Abstract
This study investigates the transformative impact of artificial intelligence (AI) on decision-making processes, with a particular focus on public administration. Traditionally grounded in human judgment, decision-making is being reshaped by the rapid advancement of AI technologies. The paper traces the historical evolution of AI, from early expert systems to current adaptive models, emphasizing its growing capacity to analyze complex data and support managerial decision-making. Through a SWOT analysis, the study evaluates AI's strengths—including speed, accuracy, and enhanced transparency—and addresses critical concerns such as algorithmic bias, ethical risks, and the potential erosion of human strategic capacity. The findings suggest that while AI can significantly improve decision-making in public administration, it should serve as a complement rather than a replacement for human judgment. The study concludes by highlighting the necessity of ethical frameworks and regulatory oversight to ensure the responsible integration of AI in governance.
Keywords: AI in Decision-Making and Public Administration; AI Ethics and Accountability; Decision-Support Systems; Human-AI Collaboration

1. INTRODUCTION

Decision-making is a complex phenomenon that spans a wide range from the daily life of the individual to the functioning of society. People are constantly faced with decision-making throughout their lives and this process is influenced by numerous factors in their environment. However, the act of decision-making basically expresses the intention to achieve a specific goal (Nutt and Wilson, 2010: 3). For this reason, decision-making has been the subject of research in different academic disciplines and has been addressed in various aspects in fields such as psychology, medicine, neuroscience as well as philosophy, sociology and public administration (Winterfeldt, 2013; Khishfe, 2012). This interdisciplinary interest has enabled the concept of decision making to be examined from different perspectives and enriched its meaning. However, this has also made it difficult for the concept to have a single and generally accepted definition. First of all, it is necessary to outline the general framework of the concept of decision-making and then discuss it in the context of public administration.

The concept of decision-making is rooted in the Latin verb “decido”, which means “to cut, to eliminate” (Adair, 2010: 28). Over time, the term has been translated into English and French as “decision-making” and “prise de décision”. The concept implies that at the moment a decision is taken, one option should be preferred, and other alternatives should be ignored. In this framework, the decision-making process involves making a specific choice between two or more options (Robbins and Coulter, 2012: 179). From a broader perspective, decision-making can be defined as determining the necessary elements for an action. Ultimately, the decision-making process involves the stages of evaluating possible options and implementing the most appropriate one of these options to achieve a determined goal (Foley and Wurmser, 2004: 35).

In the field of management sciences, the decision-making process is handled in an organizational context. Leaders and administrative units at the management level make decisions to solve the problems they face. In this process, decision makers analyze the situation they are in and develop appropriate strategies to achieve the goals they set (Ashmos & Reuben, 1991; Dutton & Webster, 1988). In the process of strategy development, certain choices are made, and these choices form the basis of decision-making mechanisms. However, unlike other academic fields, it is seen that detailed and comprehensive studies on artificial intelligence and decision-making processes within the framework of management sciences are more limited (Bozeman & Pandey, 2004; Wise & Freitag, 2002; Sitkin & Weingart, 1995; Sitkin & Pablo, 1992).

This study aims to analyze the opportunities of using artificial intelligence at a time when the use of artificial intelligence in public administration is becoming increasingly widespread. The question of where artificial intelligence, which has recently been included in almost every aspect of life and whose impact is also seen in public administration, can take public administration and decision-making studies is becoming increasingly important. Therefore, this study aims to question the place of artificial intelligence in public administration and decision-making, and to analyze its potential and risks. In carrying out these analyses, the SWOT analysis method, which is an appropriate method for the subject, has been preferred.

SWOT analysis makes it possible to mutually address the strengths and weaknesses, opportunities and risks of the issue under consideration (Miranda et al., 2022, Leigh, 2009). Thus, it is thought to contribute to the exploration of the subject under study in all its aspects. In this study, in which artificial intelligence-based applications in the world literature are discussed in terms of public administration and decision-making processes, firstly, the factors affecting decision-making, decision-making stages and decision-making models are examined. Then, the SWOT analysis of artificial intelligence related to decision-making is analyzed. The study is concluded with the title of findings and conclusion.

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1.1. Elements of Decision Making and Factors Affecting Decision Making

Decision-making is a phenomenon that is addressed in a wide range from the daily life of the individual to organizational processes. This process consists of basic elements such as the existence of a decision maker, a problem to be solved, strategies, alternative solutions and making a choice among these alternatives (Kozioł-Nadolna and Beyer, 2021; Bouyssou et al., 2013).

The factors affecting the decision-making process are quite diverse. The process has a two-way structure: individual and organizational. Psychological and social factors at the individual level, and human factors and institutional dynamics at the organizational level directly affect the process (Nooraie, 2012). In addition, natural factors such as time also play a decisive role in decision-making processes (Al-Tarawneh, 2012). In this respect, time is an important factor that puts pressure on decision makers. Organizations may need to make decisions under time pressure in order to survive and achieve their goals. When time is flexible, decision processes are evaluated in more detail, whereas when time is limited, decisions are made more quickly and individually (Pollay, 1970: 459).

Information is another critical factor in the decision-making process. Although it cannot be said that information directly shapes decisions, decision makers' level of access to information and their ability to process this information determine the accuracy and effectiveness of decisions. When organizational structures experience limitations in accessing and evaluating information, decision processes may be negatively affected (Chang and Wang, 2009).

Personal values and ethical factors are among the factors that directly affect the perspectives of decision makers. Personal characteristics, character structure and ethical values of decision makers determine the form of decisions they make (Baymur, 1994: 253; Hamarta, 2004: 3). Likewise, the personality traits of decision-makers can affect how decisions are shaped and cause the process to proceed more individually or collectively (Avşaroğlu & Üre, 2007: 93-94).

Communication within the organization is another important determinant in decision-making processes. In organizations with strong communication, identifying problems, providing information flow and generating alternative solutions are realized more systematically, while structures with weak communication may experience inefficiency and uncertainty in decision-making processes (Kurt, 2003: 14).

Recently, artificial intelligence has attracted attention with its impact on decision-making processes. While the integration of artificial intelligence into decision-making mechanisms contributes to more efficient and faster processes, investment areas are also expanding to reflect these expectations (Yılmaz, 2024: 17). The potential of AI in areas such as health (Kumar et al., 2022), transportation (Jevinger et al., 2024),

crisis management (Sun et al., 2020) and resource management (Shen et al., 2021) is evident, and its use in areas such as local governments (Yigitcanlar et al., 2021), energy management (Danish and Senjyu, 2023) and public relations (Načiniaková & Matúšová 2023) is becoming increasingly common.

2. DECISION MAKING STAGES

Decision-making processes in public administration have been systematized and treated as a process, especially with the work of Herbert Simon (1960). Decision-making is not a single action, but a process consisting of successive stages. Although it has been divided into different stages by various thinkers in different periods, in general terms, this process has similar characteristics.

The first stage of the decision-making process begins with the realization of the existence of a problem (Noone, 2002: 28). Identifying the problem is a critical stage that determines the direction of the decision (Schermerhorn et al., 2002: 114). According to Simon (1960), the process involves monitoring economic, political and social conditions, identifying solution alternatives, evaluating possible outcomes and selecting and implementing the most appropriate alternative.

In the very early stages of the decision-making process, named identification and definition of the problem, decision-makers determine which issue to put on the agenda. Especially in public administration, this process is shaped by societal expectations, political pressures and media debates (Turpin and Marais, 2004). Following the problem classification stage, decision makers draw a comprehensive framework by analyzing the problem's drivers, spheres of influence, and interested parties (Newman, 1979: 122).

At the stages of development and selection of alternatives, the decision maker identifies possible solutions and enters the evaluation process. The identification of alternatives is supported by the effective use of information repositories for public institutions. In the selection phase, the decision-maker strives to choose the most feasible alternative, taking into account possible costs and impacts (Krstić, 2022). Every decision carries the risk of pleasing one group and displeasing another (Saaty, 2005).

When the decision maker implements the chosen option, the process focuses on the implementation and monitoring stage, so the feasibility of the decision is tested (Almeida and Báscolo, 2006). In public administration, decisions are implemented through public institutions and decision-makers monitor and evaluate the outcomes of decisions. If the intended results are not achieved, the decision may need to be revised (Zonta et al., 2017).

In conclusion, decision-making in public administration is a dynamic process consisting of certain stages. Defining the problem, developing alternatives, making a choice, implementation and monitoring are

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complementary processes. Public administrators are influenced by various internal and external factors in the decision-making process and the process requires continuous evaluation.

3. DECISION MAKING MODELS

Decision-making studies in public administration continue with the introduction of certain models by researchers. The models put forward on decision-making include criticisms of the models that before, but they can also address new dimensions of decision-making. While all of these models do not eliminate one another, it is not possible to talk about a complete commitment to one of the models in decision-making processes in practice. In other words, decision makers may use a mixture of the theoretical approaches listed as decision-making models when faced with concrete situations. In this respect, it is not possible to say that any decision maker is blindly committed to a particular decision-making model.

Many models of decision making have been proposed, and many criticisms have been put forward on these models. While these criticisms have sometimes led to the emergence of new models, sometimes the criticisms have enriched the models to which they belong. For this reason, it is not possible to include all of the decision-making models and their criticisms in this study. Instead, the basic decision-making models within the scope of artificial intelligence and decision-making, which is the general subject of the study, will be discussed.

3.1. Rational Decision-Making Model

The rational decision-making model was introduced by Herbert Simon in an effort to improve on Weber's rational organization model (Parsons, 1995: 273). This model argues that decision makers should act with logic rather than emotions and impulses when choosing between alternatives (March and Simon, 1975: 235). Emphasizing that organizations should also be structured rationally, the model aims to ensure that decision processes are carried out in the best interests of the organization (Simonsen, 1994: 5; Parsons, 1995: 272). In the rational model, the decision-making process consists of four basic stages: defining the problem, diagnosing it, identifying alternatives, and implementing the most appropriate option (Mintzberg & Westley, 2010: 88; Leoveanu, 2013: 44).

The model assumes that decision makers have sufficient capacity to access and evaluate information (Robbins, 2002: 72). However, Simon acknowledges that decision makers will not have access to all alternatives and will experience limitations in information processing. For this reason, he argues that the most perfect decision is not possible, but it is sufficient to make satisfactory decisions (Fişek, 1975: 186-187).

3.2. Bounded Rationality and Its Criticisms

Simon revised the classical rational decision model and developed the concept of "Bounded Rationality". This approach argues that decision makers cannot know all alternatives and cannot fully predict the outcomes of the alternatives. It also argues that decision makers have the flexibility to evaluate and implement multiple alternatives simultaneously (Hill, 2005: 146-147; Simon, 1972: 161-162).

Although the model assumes that leaders will always prioritize the interests of the organization, it faces criticism that decisions may serve individual interests (Hill, 2005: 146-147). Individual experience, values and personal preferences may be influential in decision-making processes. Moreover, decision-makers are influenced not only by organizational factors but also by politics and competition among leaders and interest groups. The fact that multiple decision processes need to be managed at the same time indicates that time and resource constraints can affect decision quality (Leoveanu, 2013; Etzioni, 1967: 385). The rational decision-making model offers a perspective that does not ignore the limitations of decision makers while prioritizing logical analysis and organizational interests. However, it should be kept in mind that factors such as external pressures, individual factors and time constraints may affect decision processes.

3.3. Incremental Decision-Making Model

Charles Lindblom is one of the strongest critics of Herbert Simon's Rational Decision-Making Model. According to him, the rational model has limited validity in practice. The Incremental Decision-Making Model, which he developed in line with these criticisms, suggests that decision makers make decisions with small and gradual changes by making use of past experiences (Lindblom, 1959, 1979; Allen and Breena, 2009: 11).

According to this model, the decision maker acts on the basis of previous and successful decisions in order to overcome the uncertainty arising from the available information and the breadth of alternatives (Hill, 2005: 148). Thus, the decision-making process is less risky and faster (Stewart et al., 2008: 94). Moreover, this method facilitates the acceptance of alternatives by increasing consensus among stakeholders (Lindblom, 1959: 79-81; Dye, 2011: 18). However, Lindblom does not claim that all policies and decisions are shaped by incremental methods. He mentions two cases where the model can be deviated from. The first one is about large-scale reforms or fundamental changes. Such decisions can create high resource requirements and organizational stress, making them less likely to succeed. The second is about exploring new alternatives. Previously unconsidered options may be more effective than existing solutions, in which case the incremental model may be inadequate (Lindblom, 1959: 79-81).

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However, the incremental model has some limitations in a rapidly changing world. When new and large-scale problems are encountered, it may not be enough to proceed with small changes (Dror, 1964: 153-154). Organizations may resist innovations over time and lose their flexibility by becoming overly dependent on existing methods (Allen and Breena, 2009: 12). This situation makes it difficult for organizations to adapt to major changes and may pose serious risks in the long run.

3.4. Mixed Scanning Decision Making Model

The Mixed Scanning Decision Making Model was developed by Amitai Etzioni in 1967. The model aims to balance the rigid mechanistic structure of the Rational Decision-Making Model and the aspects of the Incremental Decision-Making Model that resist innovation (Smith and May, 1980: 154). According to Etzioni, "scanning" refers to the processes of accessing, analyzing and evaluating information (Köseoğlu, 2013: 256). This method aims to soften the over-controlled structure of the rational model by making the decision-making process both flexible and systematic (Altunok and Metin, 2003: 99). At the same time, it tries to ensure that general strategies are developed through screening methods for new situations encountered by the incremental model.

The mixed model adopts a rational approach for basic decisions and an incremental approach for marginal decisions. However, how to distinguish between basic and marginal decisions is controversial. According to Etzioni, basic decisions are few but of great importance, so rational analysis can be applied to them. However, when it comes to the details, incremental methods are required (Etzioni, 1967: 388-389). This model offers a hybrid approach that aims to manage decision processes in a balanced way. The combination of rational and incremental methods allows decision makers to analyze in detail and act flexibly.

3.5. Garbage Can Decision Making Model

The Garbage Can Decision Making Model was developed by Michael D. Cohen, James G. March and Johan P. Olsen as a critique of Herbert Simon's Rational Decision-Making Model. The model emphasizes limited access to information and the differences in goals, objectives and values within the organization (Ansell, 2001: 5884). The name of the model has been used to explain complex organizational and decision structures where organizational anarchy prevails. Uncertain information flow, low technology utilization, complex decision preferences and variable stakeholder involvement are the key components of this model (Lipson, 2004: 12).

Problematic preferences, uncertain technology and unstable participation are the key elements that determine the decision process in the Garbage Can Model. Problematic preferences are based on the

fact that individual and organizational goals are not always compatible. Even if decision makers act in line with the overall goals of the organization, not all alternatives and preferences may move in the same direction. Uncertain technology implies that decision processes in organizations are usually shaped by trial-and-error methods, experience-based practices and pragmatic solutions. Organizational management culture and methods may not be formed due to insufficient institutionalization of technology. Unstable participation emphasizes that it cannot be known in advance exactly which stakeholders and participants will be involved in decision processes. Each decision process may involve different participants for different alternatives (Cohen et al., 1972: 1; Peters, 2002: 8-11).

The Garbage Can Decision Making Model argues that organizations and decision processes should not be confined within uniform, hierarchical structures. Since each organization has its own unique conditions, decision-making processes cannot be explained by a standard model (Peters, 2002: 7). Therefore, the decision processes of organizations are shaped according to the conditions they are in (Bendor, Moe, & Shotts, 2001: 174). This model provides an important framework for understanding decision-making processes, especially in complex and uncertain environments. It suggests that decision processes should be flexible and dynamic as the internal dynamics and external conditions of organizations change.

4. DECISION MAKING AND ARTIFICIAL INTELLIGENCE IN PUBLIC ADMINISTRATION

Today, the development of artificial intelligence is causing great debate in terms of its impact on the labor market and decision-making processes. There are concerns that artificial intelligence will leave millions of people unemployed in many fields of work. Similar concerns were observed during the Industrial Revolution. It is argued that these concerns have been largely alleviated thanks to the new areas of employment that have emerged (McClure, 2018).

Decision-making processes have not yet been completely transferred to artificial intelligence. However, artificial intelligence plays a supportive role in many stages of the decision-making process and is used effectively in data analysis. Although it is thought to strengthen elements such as impartiality, fairness, efficiency and accessibility, the issue of how artificial intelligence will be supervised within the framework of public interest, ethical values and human rights is an important area of debate.

4.1. The Place, Importance and Impact of Artificial Intelligence in Decision Making

The relationship between artificial intelligence and decision making started with the first artificial intelligence program developed by Newell and his team in 1956 (Russell and Norvig, 2021: 17; McCorduck, 2004: 123). During this period, Herbert Simon aimed to use artificial intelligence as a tool to make sense of human behavior and decision processes (Augier and March, 2001: 401). Although the

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idea that artificial intelligence can think like a human goes back to Leibniz, the first theoretical foundations date back to Turing's 1936 paper "Computable Numbers" (Boden, 2006: 120). The Dartmouth Conference in 1956 was a turning point in the literature when McCarthy used the concept of artificial intelligence and Herbert Simon also attended the conference (Smith, 2006: 4; Boden, 1996: 142).

Initially, artificial intelligence was developed as expert systems that could perform sequential operations but could not adapt to environmental variables (Haenlein & Kaplan, 2019; Köylü & Önder, 2017). Simon's work emphasized the limits of human rationality and revealed that artificial intelligence can play a supportive role in decision processes (Buchanan, 2006: 57). In recent years, artificial intelligence has developed the ability to analyze human behavior through modeling and simulation and has been used in a wide range of fields, from individuals' consumption habits to their political preferences (Barth and Arnold, 1999: 334). Expert systems contribute directly to human decision-making processes by being used in areas such as medical diagnosis and military analysis (Shortliffe, 2014: 67).

The most advanced type of artificial intelligence is systems that can learn to learn. These artificial intelligences go beyond the information taught and reach human-like interpretation capacity (Barth and Arnold, 1999: 334). These developments show that artificial intelligence has the potential to become an active actor in decision-making processes, going beyond being merely a decision-supporting tool.

The role of artificial intelligence in the decision-making process is not limited to functions such as consultancy, expertise and data presentation, but also raises the question of whether it can have the ability to make decisions independently (Lai and etc, 2023). In AI-supported decision-making processes, it is aimed to create an impartial and controlled structure based on rules and principles (Claudé and Combe, 2018: 18).

If the stages and elements of decision-making processes are analyzed correctly, it may become possible for artificial intelligence to learn this process and make human-like decisions (Bazerman and Moore, 2009: 2-3). Equipped with value judgments, artificial intelligence can assume an important role in critical areas of public administration such as protecting public welfare, protecting minority rights and supervising administrative processes (Jacob et al., 1988: 26). In this context, it is argued that artificial intelligence has the potential to create an error-free administrative mechanism. It is aimed to develop a decision-making system that is free from human errors and provides maximum efficiency by preventing public administrators from making decisions that are not in the public interest (Önder & Köylü, 2018).

A comprehensive assessment is required to better understand how artificial intelligence is positioned in decision-making processes and the potential and risks it carries in these areas.

4.2. Strengths and Opportunities of Using Artificial Intelligence in Decision Making

Artificial intelligence plays an increasing role in decision-making processes and significantly transforms management processes with the support it provides to decision-makers. Especially in public administration, the opportunities offered by artificial intelligence in terms of carrying out decision-making processes more efficiently, quickly and accurately attract attention. However, the effects of AI-supported decision-making mechanisms on the understanding of management are not limited to providing information, but also shape the decision-making approaches of managers and policy makers.

Especially in the rational decision-making process, the level of information possessed by the leader is of great importance. How decision makers collect, process and evaluate information directly affects the success of the process. Artificial intelligence offers the greatest support at this point by accelerating access to information and facilitating the analysis processes (Phillips-Wren, 2012). Artificial intelligence, which can compile the information that humans reach as a result of long research and evaluations in seconds, saves time for decision makers and offers the opportunity to evaluate options in a wider framework. However, artificial intelligence systems that can learn not only collect information, but also have the capacity to interpret this information within certain contexts and to model alternative outcomes. However, it is questionable whether the values, judgements and interpretations developed by the learning artificial intelligence are objective (Rhem, 2021).

Time stands out as a critical variable in decision-making processes. It is of great importance that a decision is taken on time as well as its accuracy. Artificial intelligence not only provides information, but also supports the time management of decision makers by analyzing and predicting data at different stages of the decision process. The speed and capacity provided by artificial intelligence offer great advantages to decision-makers, especially in times of crisis when decisions need to be made quickly or in decision-making processes based on large-scale data analysis (Hossain et al., 2023). Artificial intelligence support in processes such as evaluating alternatives, analyzing possible outcomes and making the optimum choice among decision options increases the efficiency of decisions (Lai, 2023).

However, the incremental decision-making model relies on decision makers to make decisions based on past experiences and small changes. One of the biggest shortcomings of this model is that it does not provide a decision-making mechanism for new problems encountered. Artificial intelligence can make an important contribution to the incrementalist model at this point. By analyzing past data, it can offer solutions for similar situations and help policymakers make decisions in line with their past experiences (Chen, 2023). Through simulations and predictive analyses, it can model possible future scenarios based on past examples and provide a more flexible framework for decision-making processes. In addition,

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artificial intelligence can contribute to making the model more effective and applicable by ensuring that the incremental model is supported by rational processes in terms of marginal decisions.

Considering the garbage can model, the biggest advantage of artificial intelligence is that it allows for a more comprehensive involvement of stakeholders in decision-making processes. AI systems that can mimic human behavior and value judgements can simulate the views of relevant stakeholders instead of direct participation in the decision-making process. This can increase impartiality and inclusiveness, especially in decision-making processes with broad participation. By analyzing the expectations and demands of stakeholders, it can offer a more holistic perspective to decision-makers. If artificial intelligence is coded by its developers in line with the principle of impartiality, it can adopt an unbiased and objective approach in these processes. However, if certain biases are included during coding or if it is trained with incomplete data, question marks may arise about the objectivity of decision recommendations (Zhang et al., 2023).

In general, artificial intelligence makes significant contributions to reduce various constraints of decision-makers. It accelerates decision-making processes and increases efficiency with the support it provides in the processes of compiling information, creating and evaluating alternatives, analyzing the effects of preferred policies and negotiating with stakeholders. However, beyond this, artificial intelligence that can learn can enable decision makers to focus on more strategic and technical issues by taking over the daily routine operations of managers (Duan et al., 2019). This can improve time management in management and allow for more complex problems (Jarrahi, 2018).

From the perspective of organizations, artificial intelligence can increase the capacity of institutions to achieve their goals. While public institutions have difficulty in adapting to rapidly changing world conditions, artificial intelligence-supported analyses and predictive modelling can make management processes more flexible. Especially in the transformation of rigid and bureaucratic management structures, artificial intelligence can enable faster change by providing data-driven and innovative solutions (Holmström and Magnusson, 2025). For government policies to be successful, the ability to accurately analyze social changes and evaluate demands in a timely manner is necessary. Artificial intelligence can be used as a tool that strengthens organizational capacity at this point.

The complexity of modern societies makes decision-making and policy-making processes more complicated. It is becoming increasingly difficult for decision makers to analyze the long-term effects of their decisions. Factor and stakeholder analyses offered by artificial intelligence offer significant advantages to decision makers at this point. By better identifying who the stakeholders inside and outside the organization are, decision makers can better assess the social impacts of their decisions (Bokhari and Myeong, 2022). In addition, AI-supported communication systems can strengthen the bond between

managers and employees (Montez, 2022). In public institutions, awareness-raising and training programs for decision-making processes can be carried out more systematically with artificial intelligence elements.

Finally, artificial intelligence has the potential to enable citizens to participate more actively in governance processes which being more important in recently (Aydın, 2021; Belli & Aydın, 2019). In terms of monitoring, auditing and transparently presenting decisions to citizens, AI-based systems can strengthen the principles of accountability and transparency in governance (de Fine Licht and de Fine Licht, 2022; Bignami, 2022). In particular, making complex technical issues understandable is one of the most important contributions that artificial intelligence systems can provide. In terms of governments, artificial intelligence can make management processes more systematic and economical. Artificial intelligence-supported analyses can make management processes more effective in terms of efficient use of public resources, determination of priorities and correct resource allocation (Charles etc, 2022).

4.3. Weaknesses and Threats of Using Artificial Intelligence in Decision Making

While the use of artificial intelligence in decision-making processes provides many benefits such as accelerating management processes, supporting them with data analysis and providing decision alternatives, it also poses a number of risks and challenges. Especially in a wide-ranging and human-centered field such as public administration, the integration of artificial intelligence can lead to some fundamental problems. From ethical issues to data security, from ignoring the human factor to loss of experience, many factors are among the challenges that AI-supported management systems may face.

Firstly, the objectivity of artificial intelligence systems is a controversial issue. Although artificial intelligence algorithms are thought to produce objective and rational decisions, these systems are ultimately coded and developed by humans. Therefore, it is possible that artificial intelligence may be biased in its decision-making processes or have tendencies reflecting a certain point of view (Ntoutsi et al., 2020). The development team programming an AI system may unwittingly incorporate their own value judgements, cultural codes and beliefs into the algorithms (Zuiderveen Borgesius, 2018). In areas such as public administration, where impartiality and fairness are essential, biased decision-making mechanisms programmed consciously or unconsciously can lead to serious problems. This can lead to the deterioration of equality in public services, discrimination of certain groups, and manipulation of political processes (Araujo, 2020).

In addition, artificial intelligence-supported management systems carry the risk of ignoring ethical values. Public administration is not only a field focused on efficiency and performance, but also a structure shaped by social responsibility, public interest and ethical principles. However, artificial intelligence systems are inherently incapable of internalizing ethical codes and social values (Huang, 2022). For example, an

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artificial intelligence system that proposes a fast and cost-effective solution in public services may not consider the impact of this decision on human rights, social justice or disadvantaged groups. The fact that artificial intelligence acts only on the basis of quantitative data while forming decision recommendations may cause the human sensitivity that forms the basis of managerial ethics to be disabled (Bostrom, and Yudkowsky, 2018).

Another important problem of AI-supported decision-making mechanisms is the possibility of not fully grasping the public interest. Public welfare and interest are abstract and variable concepts that are often shaped by the experiences, value judgements and social contexts of managers (Kuziemski, and Misuraca, 2020). However, artificial intelligence relies solely on available data and algorithms when assessing public interest decisions. This may cause artificial intelligence systems to ignore or misinterpret public welfare when forming decision recommendations (Carney, 2020). For example, a cost reduction policy determined to increase public welfare may actually lead to a decrease in service quality and citizen satisfaction in the long run. Disregarding the human factor and the experience of decision-makers may undermine the social benefit, which is one of the main objectives of public administration.

However, the integration of artificial intelligence technology into management processes may also lead to the disregard of the human factor in organizations. Management sciences and organizational behavior theories have long emphasized that the human factor is an indispensable element in management processes. Human is not only a decision maker in an organization, but also an emotional, social and cognitive being. However, the increased involvement of artificial intelligence in management may lead to negative effects in terms of organizational culture and employee motivation. The distancing of managers and employees from decision-making processes may lead to a weakening of organizational belonging and a decrease in decision-making competencies (Schwarz etc., 2022). Considering that public services are directly orientated towards human beings, disregarding the human dimension of artificial intelligence may have serious consequences in terms of efficiency and quality.

Another risk is that it is difficult to check the accuracy of the data provided by artificial intelligence. Artificial intelligence systems can provide information to decision makers by analyzing large data sets, but it may not always be possible to check the accuracy and reliability of this information. The data analyzed by artificial intelligence may be incomplete, inaccurate or manipulated (Busuioc, 2021). This may cause managers to make decisions based on wrong information (Hogan-Doran, 2017). Especially in areas such as public administration, which involves large and multi-stakeholder processes, decisions based on incorrect information can have great social impacts. Additional audit mechanisms will be needed to test the accuracy of the information provided by artificial intelligence systems and to detect false information.

However, since these additional audits will require time, cost and human resources, new bureaucratic burdens may arise in decision-making processes.

Another problem that may arise with the use of artificial intelligence is the difficulty of managers and employees in management positions to gain experience (Valenzuela et al., 2024). In traditional management processes, lower-level managers gain experience with simple decision-making processes and become involved in more complex processes over time. However, the proliferation of AI-supported management mechanisms may cause managers to become overly dependent on artificial intelligence and lose their individual decision-making skills. This may cause the management staff to lack experience in the long term and weaken their ability to make independent decisions in crisis situations.

Another important weakness of AI-supported decision-making mechanisms is that they cannot adequately manage extraordinary situations that require strategic flexibility (Patria, 2021). In crisis and emergency situations in public administration, managers usually resort to intuitive, creative and flexible decision-making skills. However, AI systems may be limited in managing such complex and unpredictable situations (Weber and Noizet, 2018). For example, in the event of a major natural disaster or political crisis, data-driven analytical approaches alone may not be sufficient. Characteristics such as empathy, solidarity and leadership displayed by human managers in times of crisis cannot be fully imitated by artificial intelligence.

Finally, AI systems run the risk of over-prioritizing organizational goals. Since AI is mostly programmed in line with efficiency and performance criteria, it may put social and human factors in the background in decision-making processes. This can lead to an overemphasis on rational approaches in public administration and rigid implementation of organizational goals (Wirtz and Müller, 2019). However, public administration is not only a system based on efficiency; it is also based on values such as social welfare, justice, transparency and participation.

5. FINDINGS AND CONCLUSIONS

When the strengths and weaknesses, potentials and risks are considered together, it is obvious that there is a need for many studies in the fields of artificial intelligence and decision making. Although the literature on this subject is still developing, technological innovations and advances that take place every day add much different meanings to these studies. When the findings obtained are evaluated in general.

The most fundamental element in management and organization processes is human. It is not possible to talk about organizations and management mechanisms without the human factor. However, in the

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traditional management approach, the approach that human beings must be in the decision-making position has started to be questioned with the development of artificial intelligence.

TABLE 1 - SWOT ANALYSIS: EFFECTS OF ARTIFICIAL INTELLIGENCE ON DECISION-MAKING PROCESSES

Strengths	**Weaknesses**
Capacity to increase speed and efficiency in decision-making processes.	Impartiality may be a problem in value and target setting processes.
Ability to perform big data analyses quickly	Decision errors may occur due to biased data usage.
Ability to generate, classify and compare alternatives.	Limited ability of artificial intelligence to make ethical decisions.
Potential to analyze the interests of different social groups by generating various scenarios.	Risk of ignoring public welfare and interests.
Reducing human errors and saving time by automating bureaucracy.	Developing analytical autonomous approaches by ignoring human reality and heuristic factors.
Supporting decision-makers in transparency and accountability.	Lack of verification of the accuracy of the information obtained
Capacity to offer alternative solutions to alleviate environmental pressure	Risk of weakening the transfer of experience and organizational memory among staff.
Potential to provide maximum benefit by coordinating the decisions of different management units.	Changing traditional management approaches by transforming organizational culture.
Evaluating the views of different stakeholders by increasing participation	Disabling human skills in strategic decision-making processes
	Decision-making processes are becoming detached from human nature due to excessive technicalisation.
Opportunities	**Threats**
Optimizing management processes by providing speed, accuracy and detailed analysis to decision-makers.	Systemic problems that may lead to the prioritization of private interests over the public interest.
Improving management processes by offering alternative solutions for different decision models.	Loss of strategic thinking by decision-makers due to over-dependence on artificial intelligence.
Contributing to the evaluation of alternatives by supporting the rational decision-making process	The emergence of accountability problems due to the lack of transparency of algorithms.
Increasing the adaptation of organizations to changing conditions by making decision processes more flexible and adaptable.	Increased risks related to data security and privacy.
Creating a more holistic management approach by integrating the decisions of different decision units	Slowing down decision-making processes due to over-analyzing alternatives.
Providing more reliable data to decision makers by reducing technological uncertainties.	Detachment of decisions from the social context by excluding the human factor.
Developing more comprehensive management strategies by utilizing global policy examples	The emergence of unpredictable social consequences as a result of insufficient ethical supervision of artificial intelligence.
Improving public administration processes by increasing accountability and transparency in management.	Artificial intelligence-based decision-making processes have become too technical and complex for managers.

Source: own processing

While the substitution of machines for human labor has become widespread in many sectors since the Industrial Revolution, it is uncertain whether a similar transformation will occur in management processes. The ambivalence towards entrusting artificial intelligence with an independent and autonomous decision-making mechanism in management processes still persists. However, it is clear that managers and

employees are increasingly benefiting from AI-supported consultancy and analysis services. This is an indication that artificial intelligence will become an important actor in management activities in the medium and long term.

When the contributions of artificial intelligence to decision-making processes are examined, it is seen that it offers great advantages especially in the fields of information access and analysis. Decision makers can greatly benefit from artificial intelligence in areas such as goal setting, data processing, alternative generation and solution analyses. Especially thanks to its capacity to quickly process large data sets, artificial intelligence can evaluate details that human decision makers may overlook and generate alternative scenarios. It can provide a broader perspective in decision-making processes by making simulations that take into account the interests of different social segments. In addition, artificial intelligence can minimize administrative failures caused by human error by routinising bureaucratic processes in public administration. In addition, it is expected to provide significant savings in factors such as time, budget and cost in decision-making processes.

Decision-making mechanisms becoming more effective can help organizations to adapt to changing conditions more quickly. Flexibility is of great importance in today's management approach and artificial intelligence can increase the adaptability of organizations. In particular, it can help managers to implement the principles of transparency and accountability more strongly. By providing objective and data-driven analyses of decision processes, it can prevent decision mechanisms based on personal interests. At the same time, it can create a more isolated and objective decision-making environment by contributing to the reduction of environmental pressure on decision-makers.

On the other hand, it should not be ignored that artificial intelligence involves various risks and limitations in decision-making processes. One of the primary issues is the extent to which AI can be involved in decision-making in an unbiased manner. As they are programmed by humans, AI systems may contain certain biases and draw erroneous inferences when datasets are incomplete or biased. This can lead to serious problems, such as the inability to maintain impartiality in decision-making processes. The extent to which the alternatives offered by artificial intelligence coincide with public interest and ethical values is also debatable.

Ignoring the culture and human factor within the organization is also one of the risks that the use of artificial intelligence may bring. In management processes, not only data-based rational analyses but also human emotional and ethical values should be taken into consideration. When artificial intelligence-supported management approach excludes the human element, it may have negative effects on the motivation and commitment of the personnel within the organization. In the long run, this situation may cause the organizational culture to change and human-oriented approaches to remain in the background.

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One of the biggest risks of artificial intelligence-supported decision-making mechanisms is that it makes it difficult for human managers to gain experience over time. A large part of decision-making processes at management levels is based on experience and intuition. Artificial intelligence systems do not have sufficient flexibility in terms of transferring experience and preserving corporate memory. This may disrupt the manager training processes and weaken the strategic thinking capacities of human managers.

In addition, in public administration and organizational decision-making processes, artificial intelligence may overemphasize the goals set and ignore human factors. Although increasing rationality in management is an important development in terms of efficiency, due to the nature of public services, it is not possible to evaluate them only on the basis of efficiency and performance criteria. The human factor in public administration is a determining factor in the decision-making process, and it is uncertain whether artificial intelligence will take this factor into account sufficiently.

Considering all these advantages and risks, artificial intelligence is not expected to completely replace humans in decision-making processes. However, it is unthinkable for managers not to benefit from the information and analysis support provided by artificial intelligence. In the future, the role of artificial intelligence in management will gradually increase and it will be used as a tool that improves the managerial capacity of decision makers. Nevertheless, in this process, it is of great importance that artificial intelligence is supervised in terms of ethics, impartiality and human values.

In conclusion, AI-supported management systems have the potential to make decision-making processes faster, more efficient and systematic. However, in this transformation process, the human factor should not be completely excluded and artificial intelligence systems should be audited within the framework of ethics and public interest. Artificial intelligence should be considered as a consultant that supports decision-making processes, but the final decision-making authority should remain with the human.

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