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INVESTIGATION OF CHALLENGES AND ADVANTAGES IN IMPLEMENTING ROBO JUSTICE AND AI- CASE STUDY ABOUT LEGAL SYSTEMS IN ITALY AND UZBEKISTAN

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Abstract

Thesis is associated with the introductory scenario of this research which is focused on the challenges and benefits of AI and robot justice practices in legal companies. The aim of this research along with objectives has been mentioned that is to identify the challenges in the process of implementation of AI and Robo-justice about legal system in Uzbekistan ad Italy. A critical discussion of research has been designed which is also highlighting the significant chances of this study.

In the second chapter, a literature review is conducted on the research topic and the review revealed several important facts like, the use of artificial intelligence is rapidly increasing within the judicial system but the complete use of AI is still not familiar because of several limitations. The literature review has also highlighted that there are several advantages of using AI and robo-justice in the legal system along with some potential limitations. This review also emphasised on the fact that proper implementation of AI and robo-justice in the legal system requires extensive research

Introduction

In this recent era of technological dynamics "Artificial Intelligence and Robotics" are the two most essential elements in order to upgrade technological advancements. In this research, a clear outline has been designed about the recent growth of AI and Robo Justice in order to manage transparency in legal entities. According to the statement of Wang (2020), it has been evaluated that the overall market shares of "Robo Justice" surpassed $18.71 billion in 2021 and it is expected to be developed up to $28.10 billion in 2022. Campbell, (2020) demonstrated that the overall AI market in the judiciary system has also increased up to 35.9% in 2020. These two technological advancement tools further managed to enhance the judiciary service and increase transparency declaring any notice.

Italy is one of the biggest countries which has complained about AI practices in its legal compliances in recent times. Application of AI practices in legal entities Italy further managed to expand its legal judiciary process in recent times. According to Carter *et al.*, (2020), overall AI marketing in Italy has increased up to 27% which is equivalent to €380 million in 2020. Prediction development and differentiation of case outcomes have been easily accessible with this AI practice in Italy. On the other hand, Kuppala *et al.*, (2020) demonstrate that "2022 article IV consultation" has included the considerations of AI practices in legal compliances.

Legal and judicial aspects of AI and Robot Justice

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This research focuses on the implementation trends of AI and Robot Justice in the legal and judicial services of Uzbekistan and Italy in recent times. In this recent era of technological upgradation, legal entities and operations have also been engaged with AI practices, especially in developed countries. In order to manage transparency and increase sustainability in legal compliances it is important to develop technological changes with legal barriers. Morison and Harkens (2019) demonstrated that the "Principle of Equality" is the basic practice associated with AI all over the world which also manages to increase transparency. Increasing accuracy in judicial operations and legal declaration further increase sustainability for the future as well. Apart from AI practices, "Robo Justice" is another essential technological upgradation which is also aligned with the judicial system of Uzbekistan. Overall market share has been surpassed by up to $40 million, especially in the judicial system of Uzbekistan.

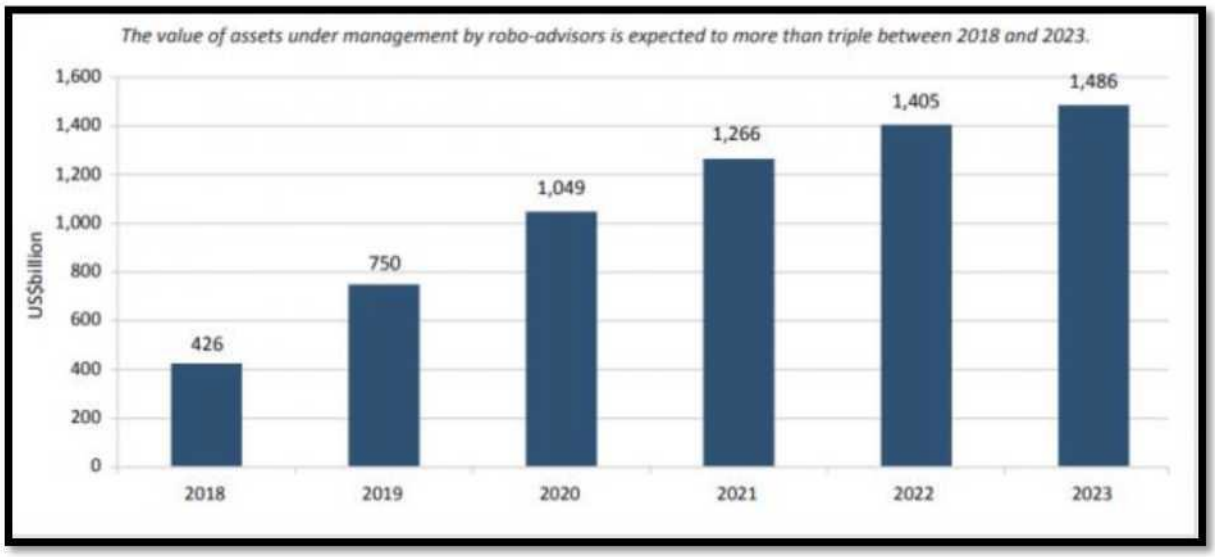

Figure 1.1: Robo Advisory market growth

(Source: Justcoded, 2022)

Figure 1.1 demonstrates the recent growth of the Robo advisory market all over the world which also highlighted that this technological trend is also managed in the legislative segment as well. According to the critical review of this figure, it has been adjusted that $1486 billion of the global robo-advisory market is expected to be developed. Due to the massive inclination of market share of robo advisory services, it is strategically managed to increase accuracy and operational sustainability in the legal entities as well. Apart from the robo- justice scenario, the application of "Artificial Intelligence" is another viable element that is also managed to be engaged with the compliances of Initial judicial operations.

In the current times, the use of artificial intelligence is extensive and computerization and legal informatics are improving very rapidly. The use of artificial intelligence in the legal system is one of the most debated subjects and the law researchers and the global AI researchers are working on developing AI system models in the legal system (Europarl.europa.eu, 2023). Presently, the creation of a well-functioning AI-based system can be ensured by creating a system which can perform numerous adjudicating activities. According to Dymitruk, (2019), there are some key steps to use artificial intelligence within an organisational procedure and these are as follows. Firstly, the difference between artificial intelligence and machine learning

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should be understood. During this process, the ways AI can improve the business needs to be recognised. AI is mainly used to increase the productivity of a system along with saving time and increasing accuracy. According to de Sousa *et al.,* (2022), in the case of the legal system, the professionals need to deal with large datasets for reaching a decision and in such cases, artificial intelligence can help the professionals to deal with datasets from different electronic databases.

The second step of the implementation of AI is about understanding and organisational needs. For example, the expected results need to be decided in the very beginning along with the obstacles that can appear in the process. The third step is about deciding and prioritising the areas where AI will be implemented (Europarl.europa.eu, 2023). For successful implementation of artificial intelligence, the system should be strong from the inside and in the fourth stage the internal strength of the organisation or system should be assessed. According to Xu, (2022), artificial intelligence is supposed to be applied in the legal system which is why law researchers and experts should be directly involved in the process of implementation of AI in the legal system. Data preparation is a very important step in the process and it is generally observed that when artificial intelligence is applied for the first time to a system then always the professionals start with small. This is because the use of AI is very new in every area and the exact result is unknown to the world. The small-area implementation helps in assessing and understanding the aspects well. According to Zlatescu and Zlatescu, (2019), these are the stages and facts of AI implementation that are highlighted from the existing pieces of research and these are applicable to the entire judiciary system across the world. If the judiciary system of Italy and Uzbekistan are focused on, then Italy is a member of the European Union and the decisions of the union get imposed on the country. The "European Commission for the Efficiency of Justice (CEPEJ) " looks after the judiciary system of the member countries and the organisation has already adopted five fundamental principles named the "European Ethical Charter on the use of AI in the judicial systems and their environment". According to Fagan and Levmore, (2019), the purpose of this charter is to design and deploy an integrated legal system with artificial intelligence for providing justice to the common people. On the other hand, the judiciary system of Uzbekistan is controlled by the “Oliy Majlis of the Republic of Uzbekistan” and this is an underdeveloped country. There is no such evidence of using artificial intelligence or the robo-justice system, within the legal system of the country.

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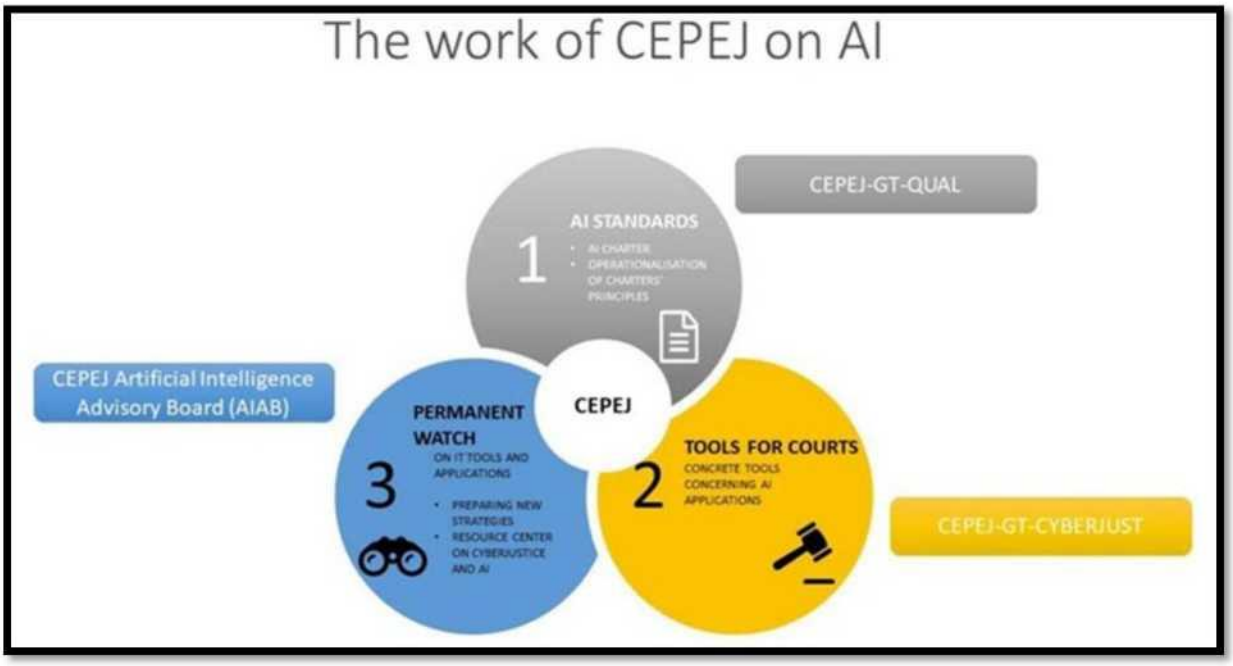

Figure 2.1: The use of artificial intelligence in the judicial system (Source: de Sousa *et al.*,

According to the existing literature, there are mainly two possible areas of AI implementation and these are as follows. The first area in which artificial intelligence is applicable is focused on creating a system which can adjudicate in the judicial procedure without the assistance of a human judge. The second area in which artificial intelligence is applicable is focused on creating a supporting system for the human judge from which they can avail analysis of the judicature, find relevant provisions and get other assistance. According to Abiodun and Lekan, (2020), currently, the process is mainly focused on creating the second system which is the "judicial decision support system or (JDSS)". Both the systems that are proposed contain some potential risks but the first one possesses higher risk compared to the second one. This is because in the first process, the entire system is automated and there is no scope for rectifying a dispute by a human judge.

In other areas where artificial intelligence is used, it is not observed that systems supported by AI are capable of analysing every critical and unique situation. From that perspective when a judiciary system runs depending on artificial intelligence completely then accuracy can be a significant concern. From the study of Mingtsung and Shuling, (2020), it is proved that law professionals who use this AI-supported system usually lack in performing legal reasoning without the support of the system and in the case of jurisdiction, this can cause huge problems.

It is also a proven fact that professionals tend to use these automated systems for reducing the efforts required for the decision-making processes. Excessive dependence on the "judicial decision support systems or (JDSS)" can cause problems in the lives of the common people and the challenges associated with the use of AI and robo-justice are discussed in the following section. According to Ulenaers, (2020), overall there are two models of automation and the use of AI and robo-justice can present similar results for both the cases. In both the cases the systems and algorithms are the authors of the judgement of a legal situation. Concerning this

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area in 2018, the "Committee of Experts on Internet Intermediaries (MSI- NET)" prepared the "Algorithms and Human Rights: Study on the human rights dimensions of automated data processing techniques and possible regulatory implications" (Europarl.europa.eu, 2023). In this process, the committee also presented a clear difference between a fully-automated decision-making system and a semi-automated decision-making system. However, none of the systems is fully proven and for the assessment of the efficiency of these systems, further research is required.

Conclusion

According to the “European Ethical Charter on the use of AI in the judicial systems and their environment” there are five principles of using artificial intelligence in the judicial system and associated environment and these principles are as follows. Another thing that needs to be noted is that these principles are strictly followed within the judicial system of Italy. According to Chatziathanasiou, (2022), the first principle is the "Principle of respect for fundamental rights" and this is for ensuring that the designing of the system by integrating artificial intelligence is compatible with the fundamental rights within the country. The second principle is the "Principle of non-discrimination" and this is for preventing any type of intensification between groups or individuals (Europarl.europa. eu, 2023). The third principle is the "Principle of quality and security" and this ensures that the decision-making processes are completely data-driven and datasets are collected from dependable sources. The fourth principle is the "Principle of transparency, impartiality and fairness" and this deals with the data processing method and ensures that data processing happens in a fair way. The last principle is the "Principle under user control" and this ensures that the users can choose the options from the automated decisions generated by the systems (Europarl.europa.eu, 2023).

These are the major initiatives taken by the "European Commission for the Efficiency of Justice (CEPEJ)" and currently these are being applied in Italy. In the following section, some aspects of these principles are discussed elaborately. The first principle intends to ensure that all the legal proceedings come to an end within a proper timeline. In the case of manual judgement, it is observed that some legal situations take very long to get resolved. According to Morkhat, (2019), in those cases, automated systems can become highly beneficial for the common people. However, this process also contains some limitations and some major elements of the fair decision-making process cannot be maintained in this way. For example, the fair decision making-process includes the elements like impartiality, clarity, respect and being heard (Europarl.europa.eu, 2023). This means in the manual judicial system both parties get a chance to present their opinions even during the proceedings but in an automated system this is difficult.

The other principle is the "Principle of non-discrimination" and in this regard, the use of tools like HART, and COMPAS are mentioned. According to Zalnieriute and Bell, (2020), these are effective but from previous experiences, it is clear that these systems or tools possess discriminatory approaches. COMPAS is mainly based on machine learning and statistics and that is why it completely denies the idea of "legal individualisation" and this is not acceptable in the legal system. Another principle, the "Principle of quality and security" creates guidance for the decision-making processes in the judicial system and this is mainly based on three steps (Europarl.europa.eu, 2023). Firstly, decision-making should be based on certified data sources. The legal models should be created in a multi-disciplinary manner and the entire process needs to be conducted within a secure technological environment.

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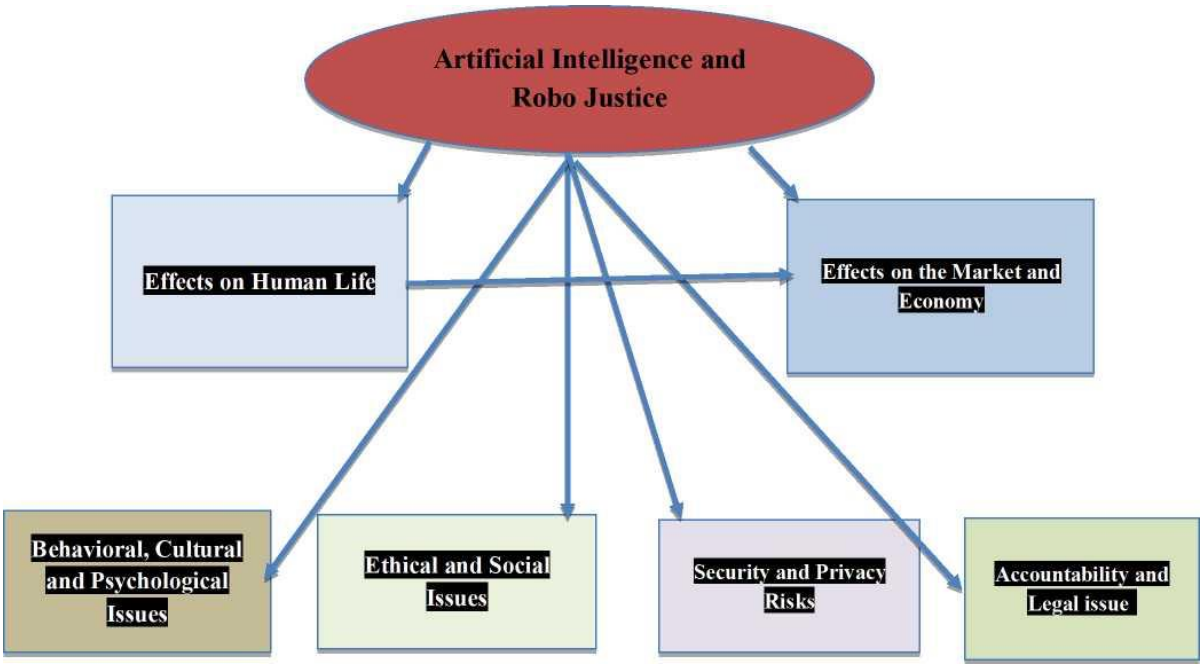

Based on the given conceptual framework, the dependent and independent variables of the research are shown. In this aspect, the dependent variables are Artificial Intelligence and Robo Justice implementation in law functions. Association with AI and Robo Justice with market and economy has been interrelated variables. On the other hand, AI and Robo justice implementation depends on behavioural, cultural and psychological aspects as well as it needs ethical and social connection to avoid issues (Cerneviciene and Kabasinskas, 2022). Consequently, security and privacy and accountability and legal aspects also indulge challenges in the implementation process. Thus, all these variables are need to be evaluated and maintained while adopting AI Robo in legal systems in Italy and Uzbekistan.

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