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# Cybernetic Contributions of Artificial Intelligence to Economic Development in Romania

**Abstract.** *The purpose of the article is to identify the economic development alignments of Romania using AI in a cyber regime, with influences on modern economic growth. The main contribution of the article is to research the perspective of using AI for economic development, with the case study of the Romanian economy. In this way, we arrive at the understanding of the interdisciplinary complexity of AI applied in the process of economic development. The process of cybernetisation of the current level of management in the Romanian economy and reaching the higher integrated level using AI is analysed. The answers received through the interview regarding the role, position, and future of AI are extensively interpreted, respectively, the data obtained from the survey is used and processed. Through the theoretical and practical results obtained from the research, it is concluded that the developers of strategies, tactics, and programmes, decision-makers and practitioners have a decisive role in the introduction and use of AI in the modern economic development of Romania. Embedding AI across sectors can bring significant benefits to the economy, but it is important that it is carefully managed and implemented to maximise benefits and minimise potential risks and challenges. Automating repetitive processes, reducing costs,*

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*increasing efficiency, advanced data analysis, operating with IT decisions, identifying forecasts and trends, risk management, cyber security, and improving strategic decisions, all reach new achievements in the development of the new economy in Romania. The article concludes that Artificial Intelligence (AI) offers competitive advantages and solutions for the economy. AI can help improve business operations, increase efficiency and maximise profits.*

**Keywords**: *Artificial Intelligence, economic development, ultra-compact economic space, the rise to ultra-power.*

**JEL Classification:** A12, C53, C81, F63, O11.

## 1. Introduction

In 1992, Al. Gore, the vice president of the USA, launched the concept of the "information highway" (Yusufali, 2014). Europe reacted to this challenge by writing the Report entitled "Europe and the global information society. Recommendations for the Council of Europe" (European Commission, 1994). Shortly after, the first European action plan for the information society was drawn up, entitled "Europe's Road to the Information Society" (European Commission, 1994c). Currently, each European country, including Romania, has its own strategy for the information society (World Bank, 2021). This favourable current for development establishes directions of advance towards the informational society based on knowledge (Hadad, 2017).

In the economic development of an entity (company, country, region) it is appreciated - more and more assumed - that currently the main determining factor in the growth of the economy in the long term is the introduction and use of AI, respectively, the continuous accumulation of knowledge (Government of Romania, 2024). The previous solutions obtained in the productive-economic structures become "cybernetic tools of actionable heritage", possibly to be used by reiteration (reloaded, respectively off-loaded). AI targets intelligent cyber-economic behaviors through autonomous operationalisations, to achieve specific development objectives (European Commission, 2018).

The essential contribution of the present article is to position the research in the perspective of the articulation between AI and economic development. In this way, in the Romanian economy, the interdisciplinary complexity of AI applied in the economic development process is understood. With the help of AI, relying on a new type of cybernetisation in the economy in Romania, we witness the mastery of the possible common informational overload, perceived as limiting for the construction of the decision.

## 2. The updated characterisation of the presence of AI in the Romanian economy

Some analyses of Romania's economy show that due to the extensive use of AI in the business environment, an increase of 12-13.5% can be registered until 2030 (Economica.net, 2024). There is a Plan of 5 billion euros, (1 billion euros used in the

development of the digital skills of the population), for digitisation (the creation of a specific digital ecosystem) and for the introduction of AI, which can lead to increases of up to 10% in the revenues of organisational entities from Romania's economy.

Finally, government programmes must include the issue of AI with strategic projects using Big Data and IoT. Therefore, IoT, AI, robotics, large volumes of data, connectivity, these are generators of new superior technological emergence trends for "Industry 4.0" in the Romanian economy. AI and Cyber Security intersect, and both provide functionality to technologies at programmed parameters. We observe that AI, in a certain way, can change the logic of economic life in Romania. The correlation of economic transformations with technological changes is given by the dynamics of companies, the trends and the impact of technical progress, especially the wider use of AI.

## 3. Review of the scientific literature

Current concerns regarding AI at the European level and its reflections in the economy are significantly addressed both regulatory and institutional (European Commission, 2018; Simion & Popescu, 2023), excellence and trust in AI (European Commission, 2020c), work data (European Commission, 2020b), coordination and action plans (European Commission, 2020a; European Commission, 2021). In the specialised literature, economic development based on the influences given by AI has a wide representation.

Rohman et al. (2023) presents a comprehensive analysis of the contribution of AI to global economic development (the implementation of AI has a positive impact on productivity and efficiency, leading to a significant increase in GDP). In the same context, Qin et al. (2024) deals with the articulation between AI and economic development. The authors state that AI is a subdiscipline of computer science with the role of data processing and feature identification alongside human intelligence. Sabil et al. (2023) formulate a relevant theoretical framework to identify best practices and key strategies for the implementation of AI in the economy through the efficient management of human resources.

Korinek and Stiglitz (2021) describe the requirements for reforms of the global economic governance system to more widely share the benefits of AI with developing countries. Some authors (Aghion et al., 2008) find that AI can change the process by which new ideas are advanced and the way in which new technologies are created is reconsidered; AI is creatively contributing to solutions to complex economic problems.

The development of AI has exerted a great influence on all fields, which also affects the world economy. He (2019) concludes that currently, most researchers use the neoclassical growth model or the task-based model to explore the ways in which AI exerts radical influence on economic variables.

The role of AI on ecological economic development is also studied in the specialised literature; as such, it is proposed to recognise the bidirectional influence

of AI: 1) on the market of natural resources and 2) on the total productivity of green (ecological) factors, formalising mathematical theoretical models, conducting empirical tests, and exploring impacts from the internal ecological environment of the organisational entity. (Chang et al., 2023).

Mannuru et al. (2023) explores the potential influence of generative AI on developing countries, considering both positive and negative effects in various fields of information and industry. For example, in Romania, AI in digital marketing is in an early phase of development. (Simion and Popescu, 2023).

On the other hand, behavioural economics proposes to combine concepts from psychology, sociology, and neuroscience with classical economic thinking and AI aims to create intelligent machines that can imitate human cognitive abilities. Aoujil et al. (2023) performs a significant bibliometric analysis of the literature on AI and behavioural economics, on trends in the field. The issue of economic development with the relevant involvement of AI in the economy is treated in the specialised literature under different alignments of quantitative and qualitative coverage and operationalisation.

Aghion et al. (2018) focus on the process of economic development under AI, and Peres et al. (2020), as well as Vyshnevskyi et al. (2019), Sharabov and Tsochev (2020), Dopico et al. (2016), together with Trifan and Buzatu (2020) describe the participation of AI in the advance towards Industry 4.0. The same problems of transformation towards Industry 4.0 under the influence of AI can also be found in the articles of the authors Mhlanga (2020), Vogt (2021), who talk extensively about AI, machine learning, large series data, digitisation of human-robot interactions.

The impact of AI on society (Makridakis, 2017), intelligent thinking (Lu et al., 2018), the ethics of governance and economic development under the influences given by AI (Cath, 2018), are topics that complete the knowledge of the involvement of AI in the economy. The requirements for intelligent manufacturing (Li et al., 2017), innovation and performance design (Verganti et al., 2020; Shakir et al., 2019; Samid, 2021; Buhmann and Fieseler, 2021; Haefner et al., 2021; Hutchinson, 2021), are pressing topics in which AI occupies the central place of study. A significant association with the consequences of AI implementation is, in general, the workforce, human resources in the new operational economic framework. (Frank et al., 2019; Aghion et al., 2019). Mainly, the participation of AI in the process of economic development, from the global level to the enterprise level, is widely found in the specialised literature, due to the conventionally considered positive influences in the basic socio-economic structures. (Davenport and Ronanki, 2018; Bécue, Praça and Gama, 2021).

The results of the bibliometric analysis suggest that the number of publications in the field has grown exponentially in recent years.

## 4. Data description and methodology

The methodology of the present research involved the use of a questionnaire with synthetic questions, the answers contributing to the imperative and legitimacy of the introduction and use of AI in organisational entities that have a representative commitment to the development of the Romanian economy. Companies' perception of AI technology was examined using single-choice, multiple-choice questions (yes, yes/no, no), and respondents' assignment of related importance coefficients.

The questionnaire was distributed to 39 companies in Romania (sample selected from contact lists) with activities that include AI, between September 2023 and February 2024. The collected responses had 6 positions considered invalid, and processing and analysis were not affected as trends. The quantitative research methodology was resorted to using a survey structured on the perspectives on the perceptions of decision-makers from organisational entities in the Romanian economy regarding the introduction and use of AI and its impact on economic development.

The questions and objectives of the research proved to be defining for the validation of the criteria for the inclusion of AI in the global economy and in that of Romania, but obstacles to the implementation of AI were also identified with recommendations to overcome them.

## 5. Results and discussion

### *5.1 The ultra-compact economic space and the lifting to ultra-power*

An economic space, like the one in Romania, can be called super-compact if there are economic sub-databases in its composition; for each meaning, the consistency of the representation of the new productivity and competitiveness is covered, always having the sub-coverage of at least two meanings out of the total.
We specify that the state of ultra-compactness in Romania's economy is in its infancy. The normativity of such a space shows that if it is super-compact, it is always compact. In economics and general management, the formalisation of compact linear orders is aimed at when elaborating decisions.

To the extent of their common (trivial) attraction, it is well known that self-saturation of meaning can occur. Any trivial element of the local economy was in its original stage non-trivial, unusual, quasi-new. There is no purely non-trivial element. An original approach like the one above leads to the conclusion that any economic space, including the one in Romania, under AI, is subject to quasi-continuous compactification. AI plays a decisive role in this type of evolution, in the conditions where the notion of managerial/economic creative excess is introduced for the first time, possibly generated in an accelerated manner by the introduction and use of AI.

### *5.2 AI in modern economics and management*

The multitude of perspectives for AI and new procedures for economic settings through the presence of AI in the local economy requires critical reflections on its

degree of accuracy/truthfulness, by evaluating the indexical function of images as a means of presenting economic premises in the public space. For example, it is appreciated that the perspectives of immersive structural-economic environments in a national economy should be outlined. (Chomsky et al., 2023).

Large-scale exploitation of AI starts with training systems for intelligent investigation and playback. The goal is to reach "AI systems with human-competitive intelligence", blurring the boundaries between artificiality and human intelligence.

Based on the recognition of the Romanian economic model, the aim is to generate the "most likely" answer for the productive processes at different levels, starting from the "gross correlation". Through explanatory or presumptive reasoning, explanations must be "created", deductions, consequences assessments, and hypotheses for various solutions in the process of economic advancement.

The scheme houses the basic cognitive system in the economy with complex managerial states, virtually converted by AI to "hypertexts" with information in circular flows; with the help of AI, virtual "depths" are assigned to it.

We affirm that in Romania the process of economic and managerial knowledge goes from the identification of states in schemes to the construction of the multidimensional infrastructure of more in-depth knowledge of the organisation and management of the domestic economy.

The conceptual framework related to the manager in the local economic structures is completed by meta-cognitiveness, through the concept of "self". (figure 1).

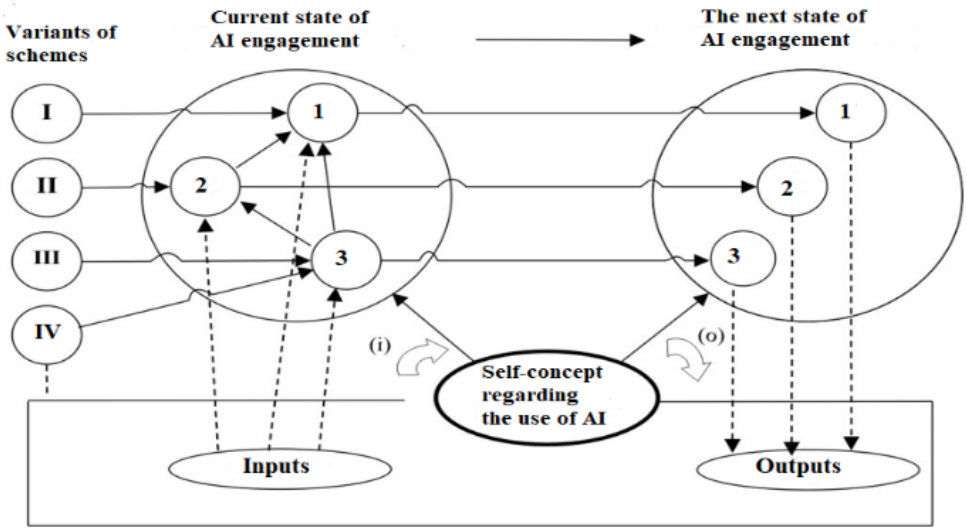


**Figure 1. The self-conception contribution of AI to obtaining outputs from variants of complex operations to hypertechnologies in the ultra-compact economic space of Romania**

*Source:* Authors' own creation.

Alexander and Dunmall (2003) introduced the notion of self-axiom, which refers to a condensed (concentrated) axiomatic content of dynamic global/national economic states, characterised by constraints, found in highly ordered "maps" of states. This thesis can be extrapolated as valid for the concerns regarding the future economic development of Romania.

### *5.3 The costs of introducing and using AI*

Considering two organisational entities, the need for costs for the introduction of AI, denoted $C_1(t)$ and $C_2(t)$ can be found. This approach demonstrates that the costs of introducing and using AI in the economy should not be an obstacle for decision-makers, because the advantages of the results are covered. There are differences between the introduction costs related to the part of the "iceberg" costs ($C_i^1$ and $C_i^2$) and between the basic costs ($C_b^1$ and $C_b^2$). (Figure 2)

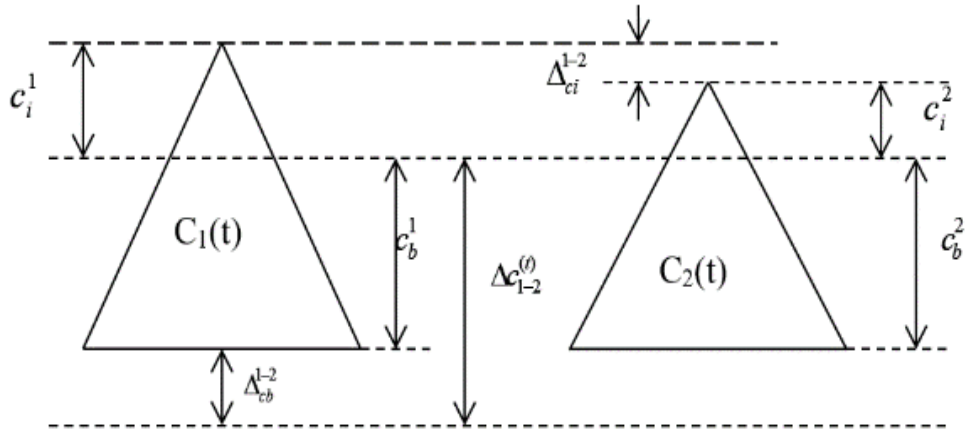


**Figure 2. Differentiating elements, marking the "iceberg" and basic costs for the introduction and use of AI in organisational entities in the Romanian economy**
*Source:* Authors' own creation.

Conventionally acceptable costs (lower in comparable terms) for the introduction and use of AI in the economy determine the increase in transactions and implicitly the agglomeration of enterprises with commitments to implement and operationalise AI. It follows that, in fact, with all the heterogeneity of costs, it is found that the economic agglomeration under the influence of the use of AI, at a certain level reached by transactions, tends towards a specific dynamic balance. As such, the expenses regarding the introduction and use of AI in the Romanian economy are not imperative as long as the meanings, results (outputs), once decided and implemented this approach, are superior, characterised by efficiency, certainty and sustainability.

The state of competition using AI is manifested by taking into account the trends given by the following system of inequalities:

$$\begin{cases} C_i^1 > C_i^2 \\ C_i^1 - C_i^2 = \Delta_c^{1-2} \\ C_b^1 < C_b^2 \\ C_b^2 - C_b^1 = \Delta_{cb}^{1-2} \\ \Delta_{c_{1-2}}^{(t)} = C_b^1 + \left(C_b^2 - C_b^1\right) = C_b^1 + \Delta_{cb}^{1-2} \\ C_i^1 + C_b^1 = C_1(t) \\ C_i^2 + C_b^2 = C_{2<}^{t>} \end{cases} \quad (1)$$

### *5.4 Cybernetising the current level of management in the economy and reaching the integrated higher level by using AI*

In the conditions by which Romania's economy is characterised by extensions and restrictions, the development on cybernetic methodological bases of access and operationalisation of AI was conceived. (Figure 3)

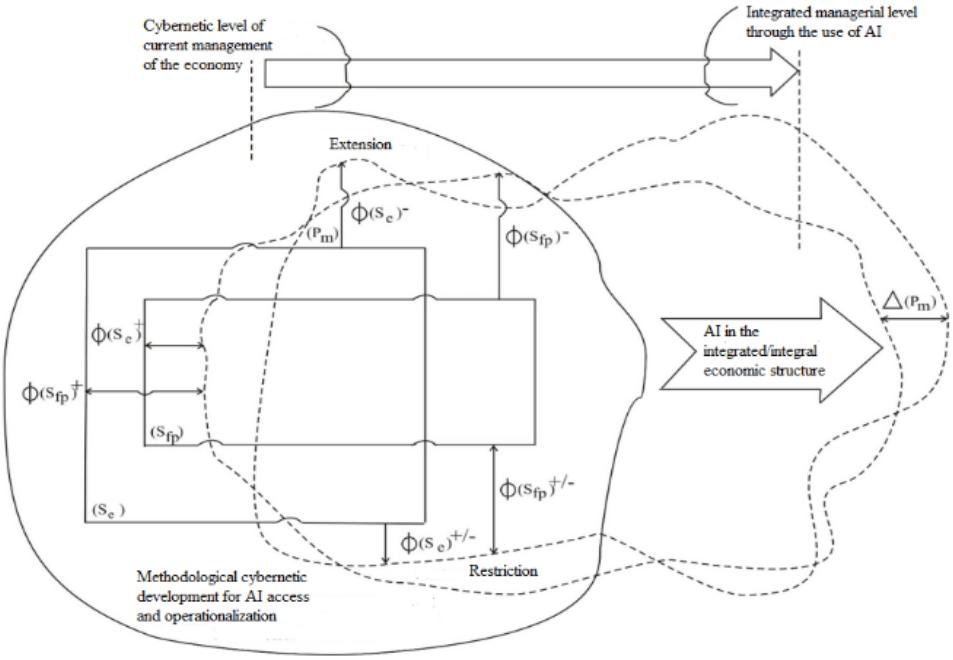


**Figure 3. Cybernetisation of the current level of economic management up to the higher level of integrated/integral management using AI in the Romanian economy**

*Source:* Authors' own creation.

The meanings of the notations are:
*($P_m$) = economic sub-structures and the labor market geared by AI;*
*($S_e$) = the system of knowledge and economic-cyber training for operationalisations with AI in the Romanian economy;*
*($S_{fp}$) = the system of training/professional adaptation of human resources towards AI;*
*$\Delta(P_n)$ = the dynamics of economic sub-structures and the labor market driven by AI;*
*$\Phi(S_e)^+$; $\Phi(S_{fp})^+$ = positive correlations of the training system for the use of AI, respectively of the cyber-managerial training of human resources;*
*$\Phi(S_e)^+$; $\Phi(S_{fp})^-$ = negative correlations of the training system for the use of AI, respectively of the cyber-managerial training of human resources;*
*$\Phi(S_e)^{+/-}$; $\Phi(S_{fp})^{-/+}$ = mixed correlations of the training system for the use of AI, respectively of the cybernetic - managerial training of human resources;*

It is useful to design such a new, original model of the development and diversification of cyber-managerial training offers through the operational presence of AI.

### *5.5 Conducting the interview and processing the obtained data*

In this framework, we generated questions as elements of critical inquiry for AI in the Romanian economy. As part of the scientific investigation, responses were received from a number of 39 companies from the domestic economic environment for 12 types of queries to enterprises with an object of activity in the field of AI. (Table 1)

**Table 1. Responses received to queries from 39 entities whose business is the operationalisation of AI in the Romanian economy**

| No. | Interrogation | $N_i$ | Non | Yes/ Non | Yes | $N_o$ | M | $A_{ms}$ |
|---|---|---|---|---|---|---|---|---|
| 1. | Roadmap for expanding AI deployment | 28 | 4.30 | 8.90 | 9.80 | 3 | 0.89 | .023 |
| 2. | Aligning people, process and technology for success with example use cases | 19 | 6.33 | 8.31 | 7.95 | 1 | 0.67 | .043 |
| 3. | How to accelerate organisational creativity and innovation with AI | 29 | 4.31 | 8.56 | 9.81 | 1 | 0.76 | .055 |
| 4. | AI regulation in Romania | 39 | 0.00 | 0.00 | 10.00 | 1 | 0.98 | .089 |
| 5. | Preparing technologies for integration and interoperability with/through AI | 31 | 4.28 | 6.31 | 9.87 | 2 | 0.87 | .073 |
| 6. | Responsible implementation of AI in business | 27 | 4.29 | 6.22 | 9.62 | 1 | 0.76 | .046 |

| No. | Interrogation | $N_i$ | Non | Yes/ Non | Yes | $N_o$ | M | $A_{ms}$ |
|---|---|---|---|---|---|---|---|---|
| 7. | The influence and power of AI in marketing | 19 | 6.33 | 5.34 | 7.36 | 2 | 0.56 | .045 |
| 8. | Retraining the workforce in cases of digitisation and business transformation under AI | 18 | 7.01 | 5.33 | 7.28 | 1 | 0.55 | .044 |
| 9. | AI data management, overcoming quality, integrity and security challenges | 32 | 4.25 | 8.61 | 9.88 | 1 | 0.65 | .088 |
| 10. | Reconsidering business value under AI | 31 | 4.26 | 8.60 | 9.87 | 1 | 0.54 | .073 |
| 11. | Investment market perspectives shaped by / through AI; where expenses are foreseen and why | 33 | 4.11 | 8.62 | 9.91 | 2 | 0.78 | .078 |
| 12. | Protecting AI systems, combating data and security risks | 34 | 4.10 | 7.87 | 9.95 | 1 | 0.89 | .069 |

*Source:* processing/calculations carried out by the authors based on the basic data of the 39 AI companies, Bucharest National Institute of Statistics, 2023/2024.
[0,00 – 1,00] = weighting coefficients (importance);

*Remarks:*
$N_i$ = current number of enterprises of which with multiple objects of activity (including AI); Non; Yes/No; Yes; $N_0$ = number of observations/queries; M = the mean of the values of the importance coefficients; $A_{ms}$ = mean standard deviation.

Examining the trends of possible non-alignment with AI in the Romanian economic environment, it turns out that the main obstacle, according to the answers received, refers to the staff's concerns for dynamising successful processes and technologies, the number of examples of use cases being still unsatisfactory (Figure 4).

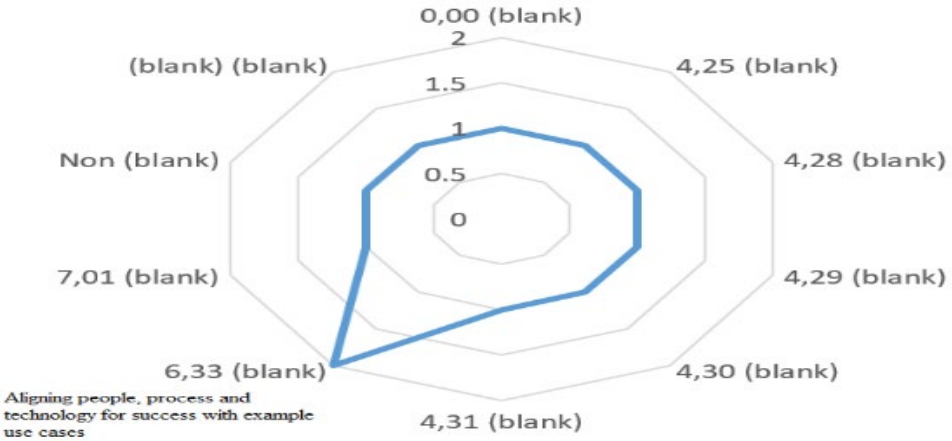


**Figure 4. The main obstacle regarding the introduction of AI in the Romanian economy given by the insufficient alignment of personnel to promote processes and technologies for success**

*Source:* Authors' own creation.

The shared answers (intermediate attitudes, yes/no) show that the affecting value for the introduction of AI is the one related to the inconsistency of the possession of roadmaps for expanding the implementation of AI, while the regulation (legislation) of AI in Romania is appropriate, having the lowest value of affect (Figure 5).

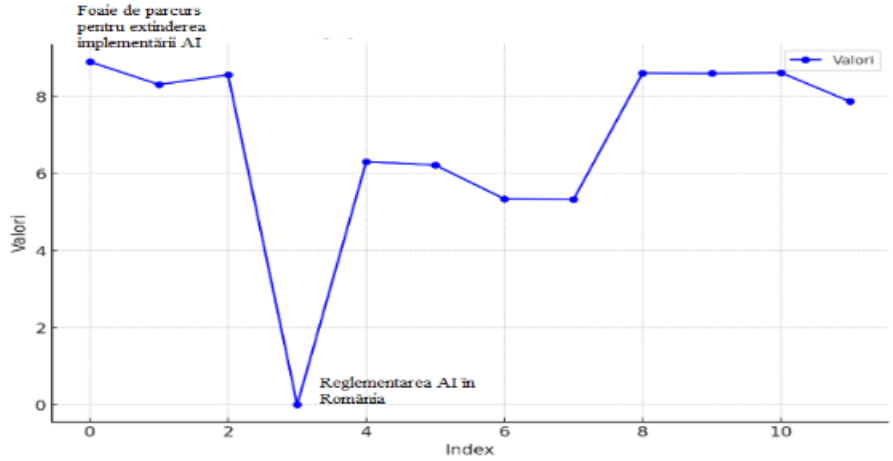


**Figure 5. The inconsistency of the possession of roadmaps and the representativeness of the regulatory framework (legislation) for the introduction of AI in the Romanian economy**

*Source:* Authors' own creation.

The most relevant positive situation, of not affecting the general trend of introducing AI, is given by the fact that neither the conjunctural lack of roadmaps in

the field in enterprises, nor the low, contextual alignment of personnel to processes and technologies suitable for operationalisation through AI, does not change the general framework of intentions and concerns for the intelligent development of Romania's economy. (Figure 6)

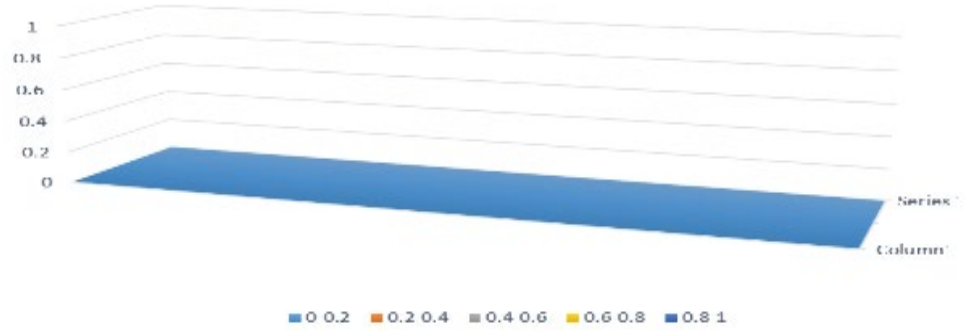


**Figure 6. Flattening barriers to AI usage intentions and concerns in the development of Romania's economy**
*Source:* Authors' own creation.

In relation to the average of the coefficients of importance obtained from the answers, the data was grouped for interpretations.
The histogram ranges for the mean data are as follows: Range [0.5-0.6): 3 values (0.56; 0.55; 0.54); Range [0.6-0.7): 2 values (0.67, 0.65); Range [0.7-0.8): 3 values (0.76; 0.76; 0.78); Range [0.8-0.9): 3 values (0.87; 0.89; 0.89); Range [0.9-1.0): 1 value (0.98).
Most of the values are concentrated in the higher ranges (0.7-0.8 and 0.8-0.9), indicating that the most common values are in this range.
The ranges [0.5-0.6; 0.7-0.8 and 0.8-0.9) have the highest frequency with 3 values, suggesting that most values are in these ranges.
The range (0.9-1.0) has the lowest frequency, with only 1 value, indicating that this rarity means solution/resolve.

The distribution appears to be skewed, with an accumulation of data toward the middle ranges. There is no uniform distribution; values are more concentrated in specific ranges. There is only one outlier data point, in the range [0.9-1.0), which is the largest (0.98). This might be considered an outlier/abnormal, but in a small data set, it is less significant because it shows consistency through resolution, resolution. The data reflect measurements or observations in the context provided by the respondents and indicate a positive trend or high performance in the field.
Since these data represent the performance of a system (AI in the Romanian economy), the distribution suggests that most of the performances are high. In a small data set such as this, the variability can be influenced by a few extreme observations. For example, the value of 0.98, which is higher than most values, may bias the interpretation. The range of 0.98 is a remarkable data point and does not distort the statistical analysis; this is a normal value with a special explanation for the higher value.

The responses received, assimilated as variables, represented a model subject to testing, respectively, the verification of statistical hypotheses. The rejection or acceptance of the hypotheses was carried out with the help of statistical tests. In essence, the objective was to compare the values, in which case the errors are identified. The latter were tested as evolution (appearance, amplitude, frequency, mode of propagation, etc.). Noting with ($O^i_e$) the values transmitted by the respondents from the 39 companies, respectively estimated, through modelling, always expected the forecasted values ($O^i_p$), respectively, the theoretical or projected ones.

The absolute error ($E_a$) is as follows:

$$\left(E_a\right)=\left|O_e^i-O_p^i\right| \tag{2}$$

and the relative one ($E_r$):

$$\left(E_r\right)=\frac{\left|O_e^i-O_p^i\right|}{O_p^i}\cdot 100 \tag{3}$$

On this occasion, a threshold of significance and a level of significance were identified. It was possible to formulate at least two hypotheses ($I_1$, $I_2$), namely:

$$\begin{cases} I_1 : O_e^i \approx O_p^i \\ I_2 : O_e^i \neq O_p^i \end{cases} \tag{4}$$

For an absolute ($V_a$) or relative ($V_r$) value, the modeling of equivalence between ($O_e^i$) and ($O_p^i$) was carried out.

It was useful to approach at least two formulas for choosing hypotheses, namely:

- Hypothesis $I_1$ is accepted if:

$$\begin{cases} V_a \leq v_a \\ V_r \leq v_r \end{cases} \tag{5}$$

where ($v_a$) and $v_r$ are values of random, respectively non-systematic differences;

- Hypothesis $I_2$ is accepted if:

$$\begin{cases} V_a \rangle v_a \\ V_r \rangle v_r \end{cases} \tag{6}$$

in which case ($O_e^i$) and ($O_p^i$) have significant differences, the possibility of admitting equivalence being removed.

The test above is that of "errors", marking the differences used in the decision-making process of the option for one value or another of the answer-variable in the interview. From a digital perspective, strategic axes such as: 1) digital public administration, 2) digital economy, 4) digital education, and 5) cyber security are considered.

It is concluded that Romania must align with the trends of introducing and using AI, with a framework for adopting technologies appropriate to the general context in the field. [54]

### *5.6 Transformations in the field of human resources under the influence of the introduction of AI*

Human resources have been found to undergo accelerated transformations in terms of the new skills that have emerged with the use of AI in economic processes for development (Figure 7).

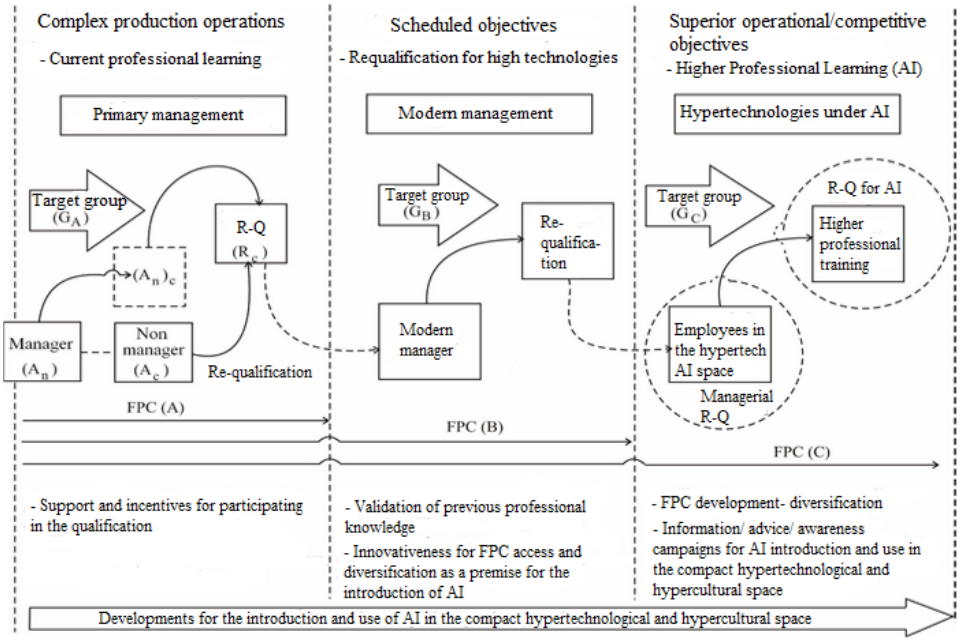


**Figure 7. The evolutionary process of introduction and use of AI in the Romanian economy**
*Source:* Authors' owns creation.

In addition, increasing the training capacity and the level of training of personnel in the field of AI is a specific objective of the national strategy. The impact of AI on the global and Romanian economic environment is based on rapid technological advances. More than 60% of jobs in advanced economies are in the process of change, due to transformations and improvements in economic structures (Adigwe et al., 2024). Some surveys show that organisational entities that have introduced AI in at least one function have grown by 56%, compared to 50% a year ago (McKinsey & Company, 2021), and respondents highlighted that at least 5% of revenue can be attributed to AI.

## 6. Conclusions

The results of the scientific investigation reveal that the use of AI decisively influences organisational competitiveness. It is already characteristic for most Romanian employees to accept the use of AI, the desire to learn new skills.

Among respondents, 70% believe that Generative AI (GenAI) offers opportunities to acquire new skills and creativity, and 40% expect salary increases (PwC, 2024). In proportion to 87% of the workforce, they confirm the adaptation to the new context, considering that GenAI increases efficiency.

We advance the proposal for the establishment of the Romanian digital identity framework (RO-E-identity bill) for economic entities, with an increased emphasis on cyber security from the perspective of the fruition of investment efforts in terms of countering risks with the use of AI.

For Romania, in our opinion, the strategy in the field must be applied in its entirety and within the assumed deadlines, to synchronise with developments on a European and global scale (Government of Romania, 2024).

We appreciate that AI will transform Romania's economic environment through the new skills of understanding, capitalising and adapting/rallying to the advance generated by digitised hyper-technologies. The future holds the direction for AI to become adaptive intelligence, combining the power of real-time internal and external data with decisions and scalable computing infrastructure. We emphasise that it would be possible to accelerate the formulation of application scenarios and build a nationally competitive AI industrial cluster. The theoretical and practical results of the research are useful for persuading decision makers to use AI in modern economic development.

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